An Investigation of Play and Literacy of Western Australian Indigenous Children

by

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Submitted in fulfilment of the requirements for the degree of

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DEAKIN UNIVERSITY

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SUMMARY OF THESIS SUBMITTED FOR THE DEGREE OF:

DOCTOR OF PHILOSOPHY

The research outlined in this thesis emanated from the concern of occupational therapists in Western Australia that there were no culturally appropriate assessments for Indigenous children. While the practice of using non-Australian assessments is widespread it is recognised this practice may place Indigenous children in a deficit model, and consequently they may be over-represented as requiring intervention. There has been very little research on the play, and particularly pretend play of Indigenous children, and there is a dearth of literature on the subject.

Through a series of seven studies, this thesis presents an investigation of Indigenous Australian children’s pretend play and literacy, and in doing so has highlighted that Indigenous children play differently to non-Indigenous children. The play of Indigenous children reflects their collective culture. The outcome of the studies is the development of the Indigenous Child-Initiated Pretend Play Assessment (I-ChIPPA) with the Play Partner Scale (PPS). The concurrent validity, construct validity and discriminant validity of the I-ChIPPA and PPS were examined and the results indicated that the assessments assess different aspects of pretend play and social pretend play. The I-ChIPPA measures quality of pretend play, and
the PPS measures the social interaction of children engaged in social pretend play. This thesis presents the first study of this relationship for Indigenous children. The results of the study indicated that pretend play, social pretend play and language have similar relationship as has been found in non-Indigenous Australian children.

Signed:  

Name: ALMA MARION DENDER

Date: 31 OCTOBER 2013
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PUBLICATION AND CONFERENCE PRESENTATIONS

Publication


Conference Presentation


CHAPTER 1

An Introduction to the Thesis

“Man’s progress rests squarely on a pedestal of accurate measurement.”

(Green, 1970).

The aim of this thesis is to describe the development of a culturally appropriate assessment for Australian Indigenous children living in rural and remote Western Australia, and establish the validity of this new assessment in relation to social peer play and literacy skills within this population.

Background

A renewed and increased understanding within the occupational therapy profession of the importance of play as a primary occupation of children has highlighted the need to understand how children play (Parham & Fazio, 1997). Burke (1998) emphasised the significance of play in development stating that play is the major means by which competence is developed in children as play is a child’s main purposeful activity.

In broad terms, play provides the child with the opportunity to learn about the world in which they live, and the physical, social, emotional skills and abilities with which to interact with, and within, the environment. Play allows a child to explore their
motivations and achievements and provides a stress free, non-serious experience where the process is more important than the product, and to master the “unmasterable” aspects of reality by framing it in an imaginary context (Burke, 1998). Numerous authors agreed that play activates a child’s sense of wonder and delight, allows the foundations of interpersonal and social relationship to develop, refines the skills of concentration, problem-solving and judgement, and contributes to overall physical, emotional and social well-being (Bergen, 2001, 2002; Bundy, 1991; Frost, Wortham & Reifel, 2012; Parham & Fazio, 1997; Rodger & Ziviani, 1999). More specifically play can be viewed as a window to child development, as participation in play and playful activities is related to development of a child’s cognition, social skills, and language (Eisert & Lamorey, 2010). Play, and its importance to the development and well-being of children, crosses geographical and cultural boundaries, and therefore understanding the cultural environment and context of play as the primary occupation of children is vital.

The shift to the view that play is important in itself within occupational therapy has redefined how therapists view play (Kielhofner, 2002; Parham & Fazio, 2008; Rodger & Ziviani, 1999). It is this change of focus which has caused therapists to question the reliability and validity of currently used assessments, and importantly, the cultural appropriateness of the existing assessment tools. Cultural knowledge, then, is crucial to underpin reliable and valid assessment.

Assessment of play has proven complex and difficult. There are few standardised assessments of play and only recently have “clinicians started to develop standardised play assessment techniques” (Gitlin-Weiner, Sandgrund & Schaefer, 2000, p. 8). Haight,
Parke and Black (1998) stated there had been increased interest by researchers in recent times in the cultural aspects of children’s play and its contribution to the development of cognitive skills, literacy skills and the ability of a child to socially interact. However there is a dearth of literature on the use of valid and reliable play assessment tools which take into account the cultural background and beliefs of particular groups within our societies. Central to the reliability and validity of an assessment tool is the cultural appropriateness or acceptability of the assessment to the populations with whom it is being used (Ball & Lewis, 2005; Hammer & Demmert, 2003). In this thesis the development of a culturally appropriate pretend play assessment is focussed on the Australian Indigenous children of rural and remote Western Australia.

It is important to recognise that the terms “Indigenous” and “Aboriginal” are used in reference to a diverse group of people. The terms Indigenous and Aboriginal, according to Dudgeon, Garvey and Pickett (2000) are often used synonymously, yet have different meanings to the people themselves. The word Indigenous is a generic term referring to Aboriginal and Torres Strait Islanders and their cultures. The term Aboriginal refers to those who are Australian mainland Aboriginal peoples who identify with, and are identified by Aboriginal communities as being Aboriginal (Dudgeon et al.). In this thesis the term Indigenous will be used.

In Western Australia (WA) there are approximately 16 000 Indigenous children under the age of 9 years, and this number is increasing annually (Australian Bureau of Statistics, (ABS) 2010). Geographically approximately 68% of the Indigenous population of Western Australia live in rural and remote areas (ABS). Community leaders and governments alike are concerned with research which shows that many Indigenous children have academic and
social difficulties. These concerns are supported by the data gathered through the National Literacy and Numeracy Benchmark assessments (ABS). The links between pretend play (that is, play which is imaginative, make-believe, symbolic, or fantasy play) and literacy development, particularly literacy related to oral language and narrative (Hall & Robinson, 2000; Pellegrini & Galda, 1993; Peter, 2003; Roskos & Christie, 2001), as well as the interface between pretend play and social interaction development (Christie & Johnson, 1983; Gitlin-Weiner, Sandgrund & Schaefer, 2000; Howes, 1985) are well researched in samples of children who are non-Indigenous. Colwell and Lindsey’s (2005) study of 60 children linked play, including pretend play, to social competence, supporting the evidence of previous research showing a positive relationship between pretend play and positive peer relationships. They found that increased time spent in pretend play increased the child’s acceptability to and friendship with peers, and adults rated these children as more socially competent. Studies by Guralnick, Connor, Neville and Hammond (2006), Whittington and Floyd (2009), Peter (2003), and Stagnitti, O’Connor and Sheppard (2012) have shown that children engaging in pretend play with peers, that is, social pretend play, are more likely to develop high levels of social competence. While there has been abundant research on these interrelationships in non-Indigenous cultures, little is known of the pretend play behaviours of Australian Indigenous children or the relationship between literacy, social development and pretend play for this group of children. Fasoli, Wunungmurra, Ecenarro and Fleet (2010) concurred that the play of Australian Indigenous children has been neglected.

The presumptions of the types, developmental progression and significance of Indigenous children’s play are primarily viewed from a non-Indigenous frame of reference by Western service providers such as occupational therapists and educators. This frame of reference has led to the belief that Australian Indigenous children will
benefit from play groups, play programmes and play interventions which replicate those provided for non-Indigenous children, and that literacy, and cognitive and social skills will develop as a consequence, leading to school success. The service providers’ lack of knowledge of pretend play abilities of Australian Indigenous children is compounded by a lack of culturally appropriate assessments. Therefore, occupational therapists, working with Indigenous children who are referred because of concerns for their development, in most situations, are armed with a Western theory base and without culturally appropriate assessments (McGarrigle & Nelson, 2006). The foundations of effective and valid intervention programmes is dependent on the development and administration of culturally appropriate assessments, which have been developed in cooperation with those for whom the assessment is being developed (Carter et al., 2005). There is an urgent need therefore to develop culturally appropriate valid assessments of pretend play for Australian Indigenous children.

The next section outlines what would be involved in the development of a culturally appropriate assessment.

**Assessment Development**

Streiner and Norman (2003) stated that measurement is a highly important part of any scientific research. The terms “measurement”, “evaluation” and “assessment” have been used synonymously in literature to describe the appraisal or judgement of a behaviour or set of behaviours. However they are subtly different with measurement being concerned with the application of an instrument or instruments to collect data for a specific purpose, and evaluation being generally based on the data collected through measurement, but
including a subjective component upon which to make decisions and judgements (Green, 1970; Mehrens & Lehman, 1978). According to Short-DeGraff and Fisher (1993, pp. 296-297) the use of numerous terms has led to confusion in the discussion on the development of assessments, the purpose of which is to “estimate or determine the significance, importance or value of behaviours”. Anastasi and Urbina (1997) supported the view that assessments are tools that are used to gain information that is objective and standardised in regards to samples of behaviour. Therefore, in this thesis the term assessment will be used to describe the process of data gathering and measurement of the behaviours of interest in this research.

Carter et al. (2005, p. 385) noted that either “new assessment tools need to be developed or existing tools require adaptation” when seeking culturally sensitive assessments. This is due to the principle constructs not being identical across cultures or subcultures (Pfeifer, Querioz, Santos, & Stagnitti, 2011).

The development of a new assessment which merely replicates another existing assessment is not only futile, but expensive in both resources and time, and when considered in in light of cultural validity, may be completely unsuited to the intended population (Carter et al., 2005; Streiner & Norman, 2003). Streiner and Norman (2003) and Geisinger (1994) strongly recommended the first step in developing an assessment is to investigate existing assessments and literature, and determine if they suit the purpose. In the steps to develop a culturally sensitive pretend play assessment for Australian Indigenous children, the first step was to explore existing assessments for appropriateness to the cultural context. When none was found, adaptation of an assessment was the next consideration.
Assessment in Cross-Cultural Contexts

One assessment cannot be applicable across all cultural contexts because a child’s behaviour is influenced by the culture in which they have been brought up (Anastasi & Urbina, 1997). The assessment itself is a product of the culture in which it was developed reflecting the values and knowledge and existing research of the culture of origin (Greenfield, 1997). Most of the assessments widely used by occupational therapists in Australia were developed for North American or British populations, and therefore reflect the Western cultural values, knowledge and communication of those cultures (Brown, Rodger, Brown & Roever, 2005; Geisinger, 1994; Nelson, Allison & Copley, 2007; Thorley & Lim, 2011). Results of cross-cultural research suggest that “familiarity with materials, and the content and structure of a task will influence whether the child’s performance is a true representation of his or her abilities” (Carter et al, 2005, p. 385). Hence assessment should reflect those things with which the child is familiar, both in content and structure, so as not to place the child in a failing situation, which is frequently the situation for Indigenous Australian children due to the lack of culturally appropriate assessment tools (McGarrigle & Nelson, 2006; Nelson, et al., 2007; Thorley & Lim, 2011).

There are few guidelines of how to develop culturally appropriate or culturally valid assessments (Carter et al., 2005; Geisinger, 1994). As Carter et al. stated one way forward is adapting a reliable and valid assessment which has been developed for a dominant cultural group within a country which has culturally diverse subpopulations. In adapting an assessment, the next question is whether the target population has a significantly different culture to that of the original population, and therefore warrants
adaptation of an assessment (Carter, et al.). There is little doubt that both the Indigenous and non-Indigenous populations in Australia regard the Indigenous culture as significantly different and unique to the dominant non-Indigenous culture, as the following excerpt from the Australian government stated:

Aboriginal and Torres Strait Islander cultures are complex and diverse. The Indigenous cultures of Australia are the oldest living cultural history in the world - they go back at least 50,000 years and some argue closer to 65,000 years. Culture is seen as the total ways of living built up by a group of human beings, which is passed from one generation to the next, given to them by reason of their birth.

In Australia, Indigenous communities keep their cultural heritage alive by passing their knowledge, arts, rituals and performances from one generation to another, speaking and teaching languages, protecting cultural materials, sacred and significant sites, and objects (Australian Government, 2011).

Geisinger (1994) stated that adaptations to assessments must take into account not only language but cultural differences of the original and target populations. Thomas et al. (cited in Pfeifer et al., 2011, p. 188) stated that assessments commonly used to evaluate people in Indigenous communities, do not take into account cultural differences and may “result in test bias, inappropriate application of normative data, or depletion of test construct validity and reliability”. Reliability and validity of assessments is now considered.
Reliability

Reliability is defined as the degree to which a measure is stable, consistent and dependable when it is repeated under identical conditions (Liamputtong, 2010). Reliability also refers to the degree of agreement between two independently derived sets of scores from the same assessment under different conditions (Anastasi & Urbina, 1997). Portney and Watkins (2009) stated that reliability refers to the extent to which an assessment is free from error, so that each time the person is assessed with the same assessment tool, they obtain a consistent score. The term reliability does not just apply to the instrument but also to the assessor’s consistency in the administration and scoring of an assessment and Liamputtong (2010) asserted that an assessment’s reliability can only be as good as the administrators and scorers of the assessment.

According to Streiner and Norman (2003, p. 126) reliability can be defined as the “reflection of the amount of error, both random and systematic, inherent in any measurement” which is essentially the corollary to a measure of consistency. For different populations, reliability must be measured as “the reliability is intimately linked to the population to which one applies the measurement” (Streiner & Norman, p. 130). Therefore it cannot be assumed that an assessment, which may have high coefficients of reliability, is reliable for a population that is different to another because the administration and scoring of an assessment may need to change.

Types of reliability.

There are two important types of reliability testing which will be discussed. These are test-retest reliability and rater reliability.
**Test-re-test reliability.**

Test-retest reliability concerns the stability of the assessment tool. That is, an assessment which is reliable will consistently obtain the same results when it is administered repeatedly (Portney & Watkins, 2009). In test-re-test reliability studies, the assessment tool is administered to the same sample group on two separate occasions. The conditions under which both tests are administered are kept as similar as possible (Mehrens & Lehman, 1978; Portney & Watkins). The time interval between tests must be appropriate so that the “underlying process” has not in all likelihood changed (Streiner & Norman, 2003, p. 138). This is important as there can be a “carry-over” effect where the first assessment has an effect on the second assessment’s outcome, for example where a person remembers the items on an assessment administered the previous day. Intervals should be long enough that the effects of memory, learning or fatigue are not influential, but short enough that there are few if any changes to the measured variable (Portney & Watkins; Streiner & Norman).

**Rater reliability.**

The assessors may be a source of variance which affects the reliability of the scores. Data can only be interpreted with confidence when the person who administers the assessment and records the outcomes is reliable (Portney & Watkins, 2009).

**Intrarater reliability.**

Intrarater reliability refers to the consistency and stability of the data obtained by one individual over two or more occasions of the assessment being administered and scored (Portney & Watkins, 2009). Sources of variance or error may be due to the assessor
changing the assessment in subsequent administrations, or applying a different standard to the assessment from one occasion to the next, therefore decreasing the stability of the data (Portney & Watkins).

*Interrater reliability.*

Interrater reliability is the variance that occurs when two assessors administer and score an assessment with the same group of subjects (Portney & Watkins, 2009). Training, equal skill levels and standardised procedures will minimise this variance, however two assessors may still not be in agreement about the quality, quantity or another characteristic of the variable being assessed (Portney & Watkins).

**Validity**

Validity is the fundamental ability of an assessment to measure what it purports to measure, its degree of usefulness in measuring what it is intentionally and specifically designed to measure (Angoff, 1988; Portney & Watkins, 2009; Streiner & Norman, 2003). Without validity, inferences cannot be drawn from the data of the assessment (Imms & Greaves, 2010). Wainer and Braun (1988, p. xvii) stated that “validity is the most important consideration of test evaluation. The concept refers to the appropriateness, meaningfulness and usefulness of the specific inferences made from test scores.” Validity implies that inferences can be made which discriminate, evaluate or predict between individuals with a degree of certainty that the assessment has measured what it purports to measure, and implicitly also that there is some degree of reliability (Portney & Watkins).
Types of validity.

Face validity.

This measure of validity is the least rigorous evidence to support an assessment’s validity (Portney & Watkins, 2009). Face validity is the appearance of validity, that is, the assessment appears to measure what it is supposed to measure, however it is considered not to have strong psychometric properties according to Wainer and Braun (1988). Face validity is difficult to apply a standard of judgement to, that is, how much face validity does an assessment possess (Portney & Watkins). Face validity can be based on the opinion of the assessor, suggesting that face validity is a subjective and scientifically weak form of validity (Portney & Watkins).

Content validity.

Content validity concerns the extent to which the assessment contains all the relevant and important characteristics, behaviours and information of the variable which it is intended to measure, and does not contain those that are irrelevant or unimportant (Liamputtong 2010; Portney & Watkins, 2009). Content validity therefore requires that an assessment does not contain factors that are irrelevant to the purpose of the assessment, for example, a test of pretend play should not contain items that assess muscle strength of the hands or be influenced by the child’s ability to write or read (Portney & Watkins). By having irrelevant or unimportant items in the assessment, the inferences that can be drawn from the scores will be limited or incorrect (Streiner & Norman, 2003).
**Criterion-related validity.**

Criterion-related validity is measured by correlating one assessment with another, where one of the assessments is considered to be a gold standard in assessing the variable of interest (Liamputtong, 2010). The gold standard assessment has established reliability and validity which allows correlation of the scores from both assessments to be made. If the correlation is high then the new assessment is considered to be “a valid predictor of the criterion score” (Portney & Watkins, 2009, p. 102). Criterion-related validity is frequently discussed as concurrent validity and predictive validity although Anastasi and Urbini (1997) stated that the interval of time between the target assessment administration and the criterion assessment administration is the main distinguishing feature.

**Concurrent validity.**

When the assessment of interest, for example a new assessment, is administered at relatively the same time as a gold standard assessment (criterion assessment) concurrent validity can be established (Liamputtong, 2010; Portney & Watkins, 2009). When high positive correlations between scores of the assessments are found, the evidence provides support for the concept that the new assessment measures similar constructs to the criterion, or gold standard, assessment (Liamputtong, 2010). This type of validity has particular usefulness in situations where a new assessment has the potential to be a viable alternative to others for reasons of economy, practicality, or safety (Portney & Watkins, 2009).
**Predictive validity.**

The second type of criterion-related validity is predictive validity which is the ability of an assessment to accurately predict the outcomes of another assessment at a future time (Liamputtong, 2010). Predictive validity is established by a target assessment being administered at a specified time, and after an interval of time, it is measured against the criterion score (outcome) and the relationship between the two is examined to determine if the target score has the ability to predict the outcome (Portney & Watkins, 2009). The main use of this type of validity is, for example, diagnostic tests where there is a significant wait before the outcomes of the test confirms or disconfirms the predictions (Streiner & Norman, 2003).

**Construct validity.**

Construct validity shows the ability of an assessment to measure an abstract or theoretical concept (construct) such as anxiety, pain or pleasure which are not easily observed or measured (Anastasi & Urbini, 1997; Brown, 2000; Liamputtong, 2010; Streiner & Norman, 2003). Streiner & Norman described a construct as being a “‘mini-theory’ to explain the relationships among various behaviours or attitudes.” (p. 179)

This thesis is concerned with pretend play assessment that is culturally sensitive to Australian Indigenous children. Such an assessment should have the qualities of reliability and validity for the population with which it is being used, to make clinically relevant, fair and equitable evaluations of children’s pretend play abilities. Therapists are cognisant of the importance of using reliable and valid assessments in their desire to provide well-evidenced practice (Rodger, Brown & Brown, 2005; Thorley and Lim, 2011). However, while Australian
occupational therapists have used what have been considered reliable and valid assessment tools in their assessment of children in Indigenous communities, none of these assessments has been developed or adapted for Australian Indigenous children. Most if not all the assessments used by therapists for the assessment of Indigenous children have been developed in Western countries, with non-Indigenous sample groups (Nelson, Allison & Copley, 2007). While most of these assessments can demonstrate high reliability, they cannot purport to have equally high validity for the Indigenous population in Australia when the definition of validity as previously discussed is applied. Validity is an important consideration in the development of the culturally appropriate pretend play assessment. Valid, culturally appropriate assessments are important as Indigenous leaders argue that existing assessments generally cast their children as “deviant” as they operate from a deficiency model (Ball & Lewis, 2005; Dudgeon, et al., 2000; Forbes-Harper, 1996; Godfrey & Galloway, 2004; Hammer & Demmert, 2003).

An assessment which is valid and reliable for an Indigenous population must contain items that are familiar to the Indigenous population group, and must take into account the cultural practices, values and beliefs of Indigenous people and recognise that the Indigenous culture is not homogeneous, and therefore may require further validation for other Indigenous sub-populations within Australia. The setting of the assessment, the tasks involved in it, the items and materials used, the administration methods should all be informed by the target population, and not be a reflection of the assumptions of the developer or his/her culture (Liamputtong, 2010). It is argued that assessment validity should have pre-eminence over reliability in the adaptation of an assessment for the Indigenous population as Wainer and Braun (1988) argued that validity was related to meaningfulness and usefulness of an assessment. In this way the assessment will become
clinically viable for therapists in Indigenous communities. In Australia there is only one pretend play assessment that is standardised and has been developed for the dominant population. This assessment is called the Child-Initiated Pretend Play Assessment (Stagnitti, 2007) and it is described in the following section.

The Child-Initiated Pretend Play Assessment

The Child-Initiated Pretend Play Assessment (ChIPPA) was developed to assess the play quality of Australian children (Stagnitti, 2007). Prior to this assessment there was no tool which measured both the conventional and symbolic play abilities of children aged 3 years to 7 years 11 months in one assessment.

The ChIPPA has both reliability and validity which will be discussed in more detail in Chapter 2 however the validity, in respect to its use in the Indigenous context was questioned in this thesis. Geisinger (1994, p. 305) stated that the continued validity and usefulness of the assessment tool must be carefully considered even when an assessment is “simply used with a population that differs qualitatively to the one for which it was originally designed”. He also commented that in adapting any assessment for use with a “new” population, those carrying out the adaptation hold greater responsibility to demonstrate its usefulness with that population.

This thesis presents a research project aimed at addressing the need for a culturally appropriate pretend play assessment. A series of seven studies were undertaken to determine the cultural appropriateness of the ChIPPA for Indigenous Australian children in the Pilbara region of Western Australia. In adapting an assessment such as the
ChIPPA, the actual components of the assessment, such as the play materials were examined for validity for an Australian Indigenous population. The content, and structure of the assessment tasks were also examined for appropriateness for an Australian Indigenous population.

**Significance**

This research is significant for three main reasons. The first reason pertains to the “current” literature on Indigenous children’s play and in particular pretend play. Whilst there is an abundance of research on the pretend play of Western children, and its links to literacy and social skill development, the corresponding body of literature on Indigenous children’s play is almost non-existent. The literature which can be accessed through extensive database searches, including anthropological databases, and through Indigenous-specific libraries, yields mainly anecdotal and historic literature on children’s play with very little based on any rigorous, ethnographic research. Much of the literature ignores or simplifies the play of Australian Indigenous children, in most part due to an anthropological focus on the work, lives and rituals of adults (Eickelcamp, 2010; Haagen, 1994).

Secondly, observation and analysis of Australian Indigenous children’s play and its place within the Indigenous culture has predominantly been viewed through a Western lens. There are researchers who question the validity of such a view (Fleer, 1996, 1999). By viewing Australian Indigenous children’s play through the Western theoretical lens the result has been to limit the understanding of Indigenous children’s play and place it within a Western framework. The view presumes the body of knowledge is more
complete than what this research will show it to be. Without further research into culture-specific pretend play behaviours, the body of knowledge upon which occupational therapists draw to compare typical and atypical play behaviours and development through assessment is possibly misleading. The research in this thesis will direct attention to the pretend play of Australian Indigenous children between the ages of 4 and 7 years, therefore contributing to a greater understanding of pretend play in the Indigenous Australian population in early childhood.

Thirdly there is a need for culturally appropriate Australian Indigenous assessments of play, and pretend play, upon which therapists can build appropriate interventions. Cherney, Kelly-Vance, Glover, Ruane and Rayliss (2003) asserted that assessment is an integral and essential part of early intervention services. Without an assessment tool which is appropriate to and accepted by the cultural group to whom it is being administered, the results may be of little value or may contribute to the cultural disadvantage (Anastasi & Urbini, 1997). A pretend play assessment of the Indigenous child’s self-initiated pretend play will allow the therapist to accurately measure the Indigenous child’s ability as a “player” within the context of the Indigenous culture and not in comparison to a non-Indigenous child.

Currently there is one standardised pretend play assessment which measures both conventional and non-conventional symbolic play within the same assessment, which is the Child-Initiated Pretend Play Assessment (ChIPPA) (Stagnitti, 2007). While this assessment was developed in Australia, none of the participating sample of children was Indigenous. Therefore there was a need to ascertain whether the ChIPPA in its current form would be a culturally appropriate assessment tool for Australian Indigenous
children. This research will examine the cultural appropriateness of the ChIPPA and lead to the development of a version of the assessment that is culturally appropriate and acceptable to an Indigenous population.

The research participants for the seven studies described in this thesis were recruited from two Indigenous communities and two Indigenous schools in the Pilbara region of northern Western Australia. Studies 1 and 2 Table 1.1 outlines the research participant groups for each study.

Table 1.1

Studies 1-7: Number and Location of Research Participants

<table>
<thead>
<tr>
<th>Study</th>
<th>Total Participants</th>
<th>Location and number of Participants</th>
</tr>
</thead>
<tbody>
<tr>
<td>Studies 1 and 2</td>
<td>23</td>
<td>Community 1 4</td>
</tr>
<tr>
<td>Study 3</td>
<td>14</td>
<td>Focus group 1 5</td>
</tr>
<tr>
<td>Studies 4, 5 and 6</td>
<td>43</td>
<td>School 1 26</td>
</tr>
<tr>
<td>Study 7</td>
<td>35</td>
<td>School 1 20</td>
</tr>
</tbody>
</table>
Overview of the Thesis

The first chapter of this thesis introduced the importance of a culturally appropriate pretend play assessment within the Australian Indigenous context. The importance of a valid assessment for the Indigenous population was argued. The applicability of the adaptation of an existing assessment in preference to the development of a new culturally appropriate play assessment for Indigenous Australian children was argued as being an appropriate approach because it is cheaper to develop and builds on already existing knowledge of the pretend play in non-Indigenous Australian children.

Chapter 2 presents an extensive review of literature pertaining to the current theoretical understanding of play, pretend play and its significance in child development. This chapter will review the interface between literacy and pretend play, and examine these topics in relation to Australian Indigenous culture. The concept of assessment in Indigenous cultures, including assessment of play and literacy, and social skills is discussed in relation to concepts of assessment in non-Indigenous culture.

Chapter 3 presents Study 1 which is the first study in the adaptation of the ChIPPA to be a culturally appropriate assessment. The examination of the play materials and administration for a culturally appropriate pretend play assessment is described. The contact with and involvement of the Indigenous communities are outlined. This chapter outlines the recruitment of participants, procedures, data analysis and results of the study. The implications of the findings of Study 1 are for further development of the consideration of social interaction within pretend play. This is explained in Chapter 4.
Chapter 4 presents Study 2. In this chapter the theoretical underpinnings of the significance and relationship of pretend play to social competence development is argued. Assessment of social interaction in pretend play will be outlined in this chapter. Chapter 4 examines the implications of social interaction on pretend play and the effects on the administration and scoring of the ChiPPA. Study 2 describes the beginning of the development of a measure of social competence within a pretend play context.

Chapter 5 presents Study 3. Study 3 describes the community consultation process in the refinement of the social verbs developed in Study 2, and in the final selection of the toys sets. Conclusions are made pertaining to the need for further development of the social scale for peer pretend play which is described in Chapter 6.

Chapter 6 presents Study 4. Study 4 names the social scale for peer pretend play as the Play Partner Scale (PPS). This chapter describes the process to determine the item selection for the PPS for clinical viability. Study 4 describes the analysis of the items of the PPS to determine construct validity of the PPS. Recommendations for the examination of concurrent validity of the PPS are made which are described in Chapter 7.

Chapter 7 presents Study 5 which examines the concurrent validity of the Play Partner Scale. The argument will be made that the PPS is measuring a different aspect of play to two other play assessments used in Study 5. Conclusion will be made that further examination of the validity of the PPS needs to be conducted to determine if the PPS can discriminate between two groups of players. This is described in Chapter 8.

Chapter 8 presents Study 6 which is focussed on determining the discriminant validity of the Play Partner Scale. This chapter describes the analysis of the factors of the PPS to
determine if the PPS has potential to discriminate between two groups of players within the pretend play context. Links will be made between quality of play, social interaction skills and language development which will be discussed in Chapter 9.

Chapter 9 presents Study 7 which explores the links between social pretend play and language in a sample of Australian Indigenous children. It will be argued that the results support the construct that children with higher scores on play ability would achieve higher level language development and have higher level social interaction skills in pretend play.

Chapter 10 is the discussion and conclusion of this thesis. This chapter outlines the key findings of the studies, including the development of the Indigenous-ChIPPA (I-ChIPPA), and the PPS. Insights into the pretend play of Australian Indigenous children in Western Australia, including the concepts of collectivism, Shared Symbolic Meaning and Shared Social Comfortableness are discussed. The relationship of pretend play, social peer play and language will be discussed. This chapter will also put forward the limitations of the study and the clinical implications in the fields of therapy and education. Finally the recommendations for future directions in research are made.
CHAPTER 2

A Literature Review of Play and Literacy and the Development of Play and Literacy Within the Australian Indigenous Culture

“That playing is a crucial factor of a child’s development is unquestionable. Play gives joy, the essence of play is meaningful and it contributes to the general development of the different aspects of personality. Play occupies a great part of the normal child’s life and most people recall their childhood as a playful time.” (Beyer & Gameltoft 1998, p. 13)

Introduction

In Chapter 1 of this thesis, the need for a culturally appropriate assessment of pretend play for Australian Indigenous children was discussed. Relevant and credible assessments are crucial for the provision of culturally appropriate, evidence-based services. In the development of a new assessment or an appropriately adapted assessment, the researcher first searches the literature to ascertain whether there are already assessments in existence (which fulfill the perceived need), and whether theory supports the use of these assessments (Streiner & Norman, 2003). Not only do the existing assessments and their supportive literature need critical review, but also the ethnography of the population group who are being targeted for assessment (DeVellis 2003; Streiner & Norman, 2003). Detailed knowledge of the subject area of interest is also critical to the development of any assessments to ensure validity. The first step in the development or adaptation of an assessment of pretend play for Australian Indigenous children must start with a critical and thorough review of the literature which
pertains to play, particularly pretend play. The definition, significance and development of play, its relationship to literacy and its assessment, and the cultural interface of these subject areas with Indigenous populations within rural and remote settings in Western Australia must also be critically examined. This chapter will define play and describe the theories of play focussing on pretend play. The development and the relationship of play and literacy will be discussed. This chapter will also explore the literature on the development, significance and toys used for play in Australian Indigenous society. Finally this chapter will address the concept of assessment in Indigenous Australian society and how literacy and play are assessed within the Indigenous population.

**Defining Play**

Most people have heard or used the homily “It’s child’s play” to describe an activity considered to be simple in form, easy to master and lacking in any challenge. However in relation to the definition of play, nothing could be further from the truth. Because of the complexity and multifaceted nature of play, defining the phenomenon of play has proven difficult. Parham and Fazio (2008, p. 3) opined that play is “an elusive concept and difficult (some would say impossible) to define.” In recent literature Lillard et al. (2013, p. 49) supported the notion that it is hard to define play, and in fact is a “messy concept.” While many researchers have stated play is the most important activity of childhood, there is little consensus as to what defines play (Bundy 2001; Clifford and Bundy, 1989; Fisher, Hirsh-Pasek, Golinkoff, & Gryffe, 2008; Gray, 2009, 2013; Lilliard, et al., 2013; Mussen, 1983; Van Oers, 2013).
Gray (2009) reported that his review of play research showed that all definitions of play were descriptions of the characteristics of play, and essentially there are five characteristics that define the phenomenon. Play is defined as the degree to which it contains the following characteristics:

1. “Play is self-chosen and self-directed,
2. play is intrinsically motivated - means are more valued than ends,
3. play is guided by mental rules, but the rules leave room for creativity,
4. play is imaginative, and,
5. play is conducted in an alert, active, but relatively non-stressed frame of mind.”

(Gray, 2009, p 480).

Schousboe and Winther-Lindqvist (2013, p. 2) stated that “definitions across various theoretical persuasions describe play as being an engaging and demanding activity, which is undertaken for its own sake, in the sense that it is not strictly goal oriented.” They go on to describe play as being imaginative, allowing exploration and transformative in expression, active, and relatively uncensored, enabling spontaneous ideas. These descriptions appear to fit with the five characteristics proposed by Gray (2009).

Acknowledged researcher on play, Sutton-Smith (1997, p.1) made the statement that human beings play and know what it feels like to play, however when researchers and scholars have to make theoretical statements defining play “we fall into silliness.” Sutton-Smith was emphasizing the difficulty of defining play and agreeing on what constitutes play as distinct from what is “not-play”. Karpatschof (2013) described play as more than the dichotomy of “work” versus “play”, or play being the opposite and negative aspect to seriousness. Seriousness is that which has meaning and importance to human beings.
Krasnor and Pepler (1980) argued that there is not a sharp distinction between play and non-play behaviours, rather there is a continuum from what are mostly play-like behaviours to less play-like behaviours. Krasnor and Pepler proposed four “play” criteria which must be met for behaviour to be play and which define play, that is, play is intrinsically motivated, non-literal, has positive affect and is flexible. Their proposed criteria were later added to by Smith and Vollstedt (1985) when they proposed play is also a means rather than an end for the child. This play-criterion approach to defining play aligns with the findings of Gray (2009).

Reiterating the difficulty of defining play to distinguish it from not-play, Chandler (1997) attempted to do so stating that most descriptions of play are grouped into four categories; play as a developmental phenomenon; play as types of activities; play in terms of properties or characteristics; and play as an attitude. Chandler’s categories of play encapsulated the findings of many authors’ attempts to describe the characteristics of play, that is, the outstanding features of the behaviour which distinguishes it from other behaviours or activities. Ultimately however, the summation of the attempts of many researchers to define play has led to defining play by its characteristics (Beretta & Privette 1990; Beyer & Gameltoft, 1998; Bundy 1997; Burghardt, 2011; Nachmanovitch 1990; Norbeck 1971; Rubin, 1980; Rubin, Fein & Vandenberg, 1983; Smilansky, 1990; Sutton-Smith 1977), which align with Gray’s (2009) characteristics of play. These characteristics are:

- It is internally motivated rather than externally motivated, and initiated in the absence of stress.
- It transcends reality as well as reflects reality.
• It is controlled by the player.
• It is safe.
• It is usually fun, pleasurable, unpredictable, rewarding.
• It is spontaneous and involves non-obligatory active engagement.
• It is exploratory in nature (Sutton-Smith, 1977).
• It is often repeated, but not in stereotypic forms (Burghardt, 2011).

In conclusion the definition of play has been shown to be problematic due to the complex and multifaceted nature of the behaviour, and there is not one unified definition of play. Sutton-Smith (1986) proposed that how play is defined could be the reflection of adults needing to organize and control children’s play rather than the reality of the children’s play behaviour. “How play is defined varies according to the beliefs and assumptions of the researcher” (Fleer, 2013, p. 73). Hence debate still continues over its definition (Parham & Fazio, 2008).

**Theories of Play**

Play has been the subject of study and research for more than a century, seeking answers to questions such as ‘What is play?’, ‘Why do humans spend so much of their time in play?’ and ‘How does play develop as the child ages?’ Parham (2008), Mussen (1983) and Mellou (1994) simplified the process of reviewing theories of play by categorizing them as classical and modern or contemporary, with the classical theories being developed prior to World War I and the modern being those that came after. The four main classical theories are the:

1. Surplus Energy theory,
2. Relaxation or Re-creation theory,
3. Practice theory, and,
4. Recapitulation theory.

The Surplus Energy theory is sometimes called the Schiller-Spencer Theory after its original author, Spencer (1878) and the extension of the theory by Schiller (1954). Spencer’s work is evolutionary or Darwinian in its approach (P. Smith, 2010). The theory was based on the concept originally developed by Aristotle, and proposed that play was the predominant behaviour of the young of a species due to their surplus energy that is not required for self-preservation. As children were not responsible for their own survival, the surplus energy must be “burnt off”. The behaviour therefore was non-goal directed, an aimless spending of “exuberant energy,” (Mussen, 1983, p. 694), and did not address the aspect of why children play in the way they do (Parham, 2008). However Schiller distinguished between the forms of play, classifying some play as material superfluity which resulted in physical play, and aesthetic superfluity which resulted in symbolic or dramatic play (Mussen). This theory therefore implied that play had no purpose other than the expending of non-required energies and therefore did not contribute to the development of a child (Stagnitti, 2004a). Pellegrini (1987) concluded that children’s rough and tumble play could be linked to this theory, in that children engage in physically vigorous play to compensate for times of low physical activity, to “blow off steam” and improve physiological function. Schiller’s post-war work on this theory did however attempt to give some purpose to the surplus energy play behaviours by raising the issue that symbolic activity in play lead the participant to transform and transcend reality, and thereby develop new symbolic representations of the world (Mussen).

In direct contrast, the Relaxation or Re-creation theories of play stated that play derived from an energy deficit, rather than a surplus. Lazarus (1883) is thought to have been the originator of this theory. He believed that due to the very arduousness of the work of the time, it was
necessary that human beings rest and sleep, or recuperate through engaging in activities which allow escape from the realities of work-life. The theory was based in the restorative role of that escape from work. Patrick (1916) extended the theory to suggest that children, who were not workers (though may have been in 1883 when the theory was first postulated), did in fact “work” at abstract thought, concentrating on tasks, and intricate eye-hand activities, therefore they too required restoration through play (Mussen, 1983, p. 696). Proponents of this and related theories believed therefore that play was purely recuperative and had no impact on cognitive development and function, nor did they consider the forms or content of play (Parham, 2008).

For a number of theorists play was seen as an instinctive behaviour, a result of the evolutionary process of adaptation. This view formed the basis of the Pre-exercise or Practice theory, the primary proponent being Groos (1898). P.Smith (2010) included Groos in the proponents of the evolutionary theory of play with Darwin and Spencer, however stated that Groos also included play as providing the human being the opportunity to develop and refine skills. The Practice theory supposed that instinctive play was part of the immature era of childhood where the sole purpose of play was to refine the serious and mature behaviours required for adult life. Groos postulated that human beings, being phylogenetically complex, required a lengthy period of time in which to practice the skills, and he called this period “childhood”. The purpose of play was to extinguish unwanted instinctive behaviours to allow constructive adaptation. While Groos essentially viewed children as adults in miniature, he did acknowledge that children were more interested in the processes of play than the product. The importance of product over process continues as a contemporary view of play. Groos also noted the developmental nature of play in that it changed from experimental sensory and motor practice, to constructive practice play, and then practice with higher memory powers.
This was followed by socionomic play which centred on chasing and fighting and imitative, social and family games, serving the purpose of practicing interpersonal skills (Mussen, 1983).

The fourth classical theory is the Recapitulation theory. The Recapitulation theory contrasts with Groos’s theory in that while Groos saw play as developing skills for “contemporary activities”, the Recapitulation theory stated play “allowed children to work through primitive atavisms reflecting our evolutionary past” (P. Smith, 2010, p. 25). This theory was also based in Darwinism, following in its development, the development of the human species, from the animal stage of swinging and climbing, the savage stage of hunting, hide and seek, to the tribal stage, that of team games. It also stated that play was cathartic, allowing for the racial instincts to be expressed to extinguish the lower forms of behaviour and to be replaced by the higher functions required by the adult of today (Mussen, 1983).

The Modern or Contemporary theories of play have several common denominators. They have some understanding of play being a way for children to express themselves through fantasy or pretend play, and that play results in part from wish fulfillment. These theories include the:

1. Arousal Modulation theories,
2. Psychodynamic theories, and,

Stagnitti (2004) and Parham (2008) included the Sociocultural theories and Metacommunicative theories of play. Parham also included the Biological theories of play based on Burghardt’s (2005) meta-analysis of multidisciplinary theories of the play of
animals including humans. Burghardt described play in terms of being a product of the evolutionary process and a cause of evolutionary adaptation (Parham). Burghardt’s biological and evolutionary based theory could be seen as an updated, blend of the Surplus Energy theory, the Pre-exercise theory and the Recapitulation theory (Parham).

The Arousal Modulation theory (Berlyne, 1960; Ellis, 1973) stated that play is associated with exploration, reducing the level of arousal at stressful times, and increasing the level of arousal to function appropriately when bored. Play therefore is seen as behaviour related to stimulation and homeostasis. The human is responding to the inner drive exerted by the central nervous system to re-balance itself, due to the need to avoid an aversive state. Mellou’s (1994) work with these theories led to the distinction between exploratory and play behaviours. They saw exploration as the child being faced with discovering the properties of an object in a novel situation. Play however is when the child is familiar and comfortable, relaxed and even “nonchalant” and is manipulating the object to have an effect upon it (Parham, 2008; Parham & Fazio, 1997; Stagnitti, 2004a).

The Psychodynamic theories of play are based in the works of Freud (1961) and Erikson (1963, 1985) who addressed play in terms of ego-development, coping effects of play behaviours, and emotional development whereby the child progresses in development through play providing a venue for the mastery of traumatic events or anxiety experiences and for wish fulfillment (Mussen, 1983; Parham & Fazio, 1997; P.Smith, 2010; Stagnitti, 2004a). Freud stated “The opposite of play is not what is serious, but what is real” (Mussen, p. 702). Play, therefore, allows a child to escape from the sanctions of reality, and provides a safe context in which a child can vent the normally restricted, unacceptable, and sometimes aggressive impulses which are otherwise contained within the child. By doing so the child
learns mastery not passivity, and ego strength develops. The psychodynamic theorists believed children to be highly selective as to who and what they imitated in their pretend play and that children can regress to enjoy the infantile pleasures in a safe context in which they normally cannot partake (Mussen, 1983). Play with toys was considered to be play with time-space microstructures, and the developmental precursor to adult creative play (Mussen).

Metacommunicative theorists such as Bateson (1955, 1972) suggested that play is learning about learning, that is, learning about concepts, and that it is both contextual and is not an agent of socialization whose purpose is to develop skills for adult life. Play allows children to frame and reframe roles for themselves, and by doing so they are developing skills to function within their daily life.

Vygotsky (1966) and Piaget (1951) are the two most prominent theorists in the psychological theories of play (P.Smith, 2010). The Cognitive Developmental theories of play stated that play is a cognitive process, a voluntary activity which contributes to cognitive development of the player. Both these theorists concentrated on object and pretend play as these were seen as forms of play which related to education and cognitive growth (P.Smith, 2010). Vygotsky (1966) saw play as liberating the child from the real world constraints to be able to think about abstractions and symbols and move into the imaginary situation (P.Smith). Vygotsky (1966) saw play as always contributing to learning, learning the rules of the child’s world and the bigger world around them, then stylising them and modifying them (Nicolopoulou, Barbosa de Sá, Ilgaz, & Brockmeyer, 2009). Vygotsky (1978) also stated that the sociocultural influences, that is, the interactions with others in play, were important for cognitive development and the development of social cognition and social competence (Nicolopolou et al.).
Piaget (1951) stated that children use the established concepts or schemata of play and modify reality to fit their existing cognitive understandings. Piaget saw that play consolidated existing skills, gave a sense of mastery and built confidence specifically as pretend play allows failure to be avoided or not even contemplated (P. Smith, 2010). Piaget (1951) saw play as a reflection of a child’s cognitive process, suggesting that play at its purest was a cognitive expression of assimilation, however he was focused more on the development of intelligence than on play per se (Leslie, 1987; Parham, 2008).

According to the Cognitive Developmental theory play provides the opportunity to problem solve, be innovative, be flexible, and develop creative thought (Bergen, 2002; Stagnitti, 2004a). Through play the child is able to develop and manipulate symbols and concepts, to combine ideas and behaviours in ways never thought of previously, in a safe context, and for generalisation into other arenas of performance. Vygotsky (1978) regarded pretend play as the portal for abstract thought development. Bruner (1972) concurred stating that through the manipulation of ideas in play, the child can feel free in an environment which is pressure-free, to combine and re-combine in novel ways the complex sub-routines of skills required for adulthood, forming the repertoires of skills, flexibility of thought and behavioural innovation required for future creative and cognitive tasks (Parham, 2008; Parham & Fazio, 1997).

In summary, over many decades play has been examined for purpose, form, structure and consequence. Research into pretend play and its outcomes is still very active across disciplines (Whitebread & O’Sullivan, 2012). The theories are wide ranging in content and applicability, but most researchers agree that how play is perceived has direct implications as
to the value ascribed to play and its influence on a child’s development. Beyer and Gammeltoft (1998, p. 43) succinctly stated that:

how and why we play differs according to our point of reference…..
the social psychologist would possibly be interested in how the child prepares himself for the demands and roles of society through play; the psychoanalytic psychologist will place special value on the child’s personality and emotional development, and the cognitively oriented psychologist will pay attention specifically to the functional dimension of play and the value of imagination, self-realisation and the interpretation of other people’s intentions. ….No single perspective is the ‘right’ one – they all refer to different dimensions of play.

**Definition of Pretend Play**

The definition of pretend play is seen by Lillard (2013) as less difficult than that of play generally. However the terminology referring to play that is characterized by symbolic representation is many and varied. The terms “pretend play” and “symbolic play” are commonly used synonymously, for example, Baron-Cohen (1987, p. 139) referred to play as “symbolic (or pretend)”, showing no differentiation in terms. Fein (1981, p. 1096) stated numerous terms could be used to describe play that is “simulative, non-literal”, or “as if”, and included in these terms, “imaginary play”, “fantasy play”, “make-believe play”. She acknowledged in her review of studies of pretend play, that these terms are used interchangeably. Another synonym is “sociodramatic play” which describes play where children act out roles or scenes for example, playing house, or pretending to be a pirate (Gray, 2013). Piaget (1962) and Vygotsky (1967) used the term “symbolic play” to describe
when the child’s play used symbolic representations, for example, using a cup as a bucket. However both authors described the child as being in pretend play situations. For the purpose of this thesis the term pretend play will be used.

While Piaget saw play as a cognitive expression of assimilation, a cognitive developmental behaviour, Sutton-Smith (1967) asserted that play is a potent medium for creative problem-solving and a basis for invention and advancement in culture. Pretend play has been described as “as if” play, where a child substitutes and uses objects in a way that must suspend reality, and combines ideas into alternative symbolic constructions (Lillard, 2001; Rubin et al, 1983; Singer & Singer, 1990). The child can use these alternative constructions to problem solve within the pretend play situation or later in non-play situations. This is thought to be due to pretend play developing divergent thinking, thoughts that can be free from restrictions of time, space and place, role flexibility and role reversals, and feelings of mastery and control, and autonomy and self-regulation (Rubin et al; Singer & Singer, 1990; Sylva, Bruner & Genova, 1976; Whitebread, Coltman, Jameson & Lander, 2009).

Many authors noted the characteristic that play transcends or suspends reality, that the child in the second year of life begins to imagine, pretend or make-believe. According to Leslie (1987, 1994), being able to pretend is being able to deliberately disregard the constraints of reality, and to simultaneously be aware of the reality and something that is created which is not real. As the child develops pretend play becomes more complex. The child acts out situations and wishes which frequently are linked to adult lives and contexts (Whittington & Floyd, 2009), creating imaginary settings, separating meanings made in the real world to create meanings made in their imaginary context.
Perhaps the most well-known researcher in pretend play is Piaget (1962), who addressed the symbolic nature of children’s play. He described this form of play as representational, predominating play between the ages of 2 and 6 years, and that its emergence signified a significant developmental milestone in cognitive development because it marked the child’s ability to imagine objects and events that were not real, that were not present, therefore laying down the foundations for problem-solving, abstract reasoning and language development. Winnicott (1971) described pretend play as a way of thinking, while Singer and Singer (1977) agreed that pretend play required the individual to temporarily suspend reality and its consequences, being able to enter an imaginary world and that by being able to do so the child’s development will benefit and he/she will possibly develop greater creativity. Play is the first step in symbol formation and in the ability to digest, work through, and think about an important experience.

In pretend play the child uses an unrealistic or even invisible object in pretence, such as using a purse to give a doll a drink, or using his or her hands to form a cup-like object with which to perform the task of feeding the doll (DeLoache, 2002). This form of pretend play is often referred to as conventional symbolic play, that is, the child uses objects which are designed for purposes other than play, as objects of play. This form of pretend play is typically found in 2-year-olds and increases in complexity in the pre-school years with longer and more complex sequences of pretend play behaviours evolving into highly dramatic, well-planned scenarios with peers, called socio-dramatic play (Parham, 2008; Parham & Fazio, 1997). It is this use of symbols which defines pretend play, and when children are using symbols “there is always an element of pretense” (Stagnitti, 2004a, p. 106). It is the use of pretend play language that denotes whether play is happening in contrast to general activities, and that this form of play is more than a physical distancing from a reality situation because it is a
conscious, explicit mental function (Leslie, 1987). P. Smith (2010) suggested that there is a need for language to be involved during play to determine if the child is really carrying out intentional pretence, as this allows the observer to infer there is some intentionality and awareness that the child is following a non-literal idea. However, the lack of language does not suggest pretend play is not occurring, only that the detection of pretend play is more difficult, and therefore the simulation actions of the player will indicate the presence of pretence (Mitchell, 2006).

Leslie (1987) described pretend play as requiring three cognitive attributes which separate pretend play from other forms of play: (a) Object substitution, (b) Attribution of pretend properties, and (c) Imaginary objects. Object substitution is when one object is used to represent another, for example a block is used as a car. Attribution of pretend properties is when a pretend characteristic has been given to an object or situation, for example, a teddy’s intact arm is “broken” Imaginary objects is when absent objects are referred to in play, for example, a dog has come in to be patted when there is no dog present. For play to be considered pretend play at least one of these three attributes must have occurred during play (Leslie).

**Development of Pretend Play**

Prior to 10 months of age there is no pretend play as the play according to Piaget (1962) is purely sensorimotor with the child playing through exploration of self and the environment. Pretend play begins during the second year, reaches a peak in late pre-school years, and recedes in activity level during the primary school years (Fein, 1981). Three developmental trends were reported by Fenson, Kagan, Kearsley and Zelazo (1976) based on Piaget’s (1962)
work. These were that children: i). firstly do pretend actions centred around themselves then move to using another object or person (decentration); ii). move from using realistic objects such as a cup in pretend play to substituting something less realistic (decontextualisation), and iii) combine a number of pretend acts into a narrative or sequence (integration).

From 10-18 months the child plays in the “non-functional relational” play stage. In this stage the play is manipulative of objects but without symbolic meaning. From 12-18 months the play becomes “functional relational” where the child recognizes the social role of the objects by acting out stereotypical actions with the realistic or appropriate object, for example, pretending to drink from a cup. In early childhood through to mid-primary school age pretend play becomes the foremost form of play, where there is active use of symbols representing actions in play (Haight & Miller, 1993; Humphreys & Smith, 1984). The wooden block becomes a race-car, the rocks become cakes, and the cup is now imaginary but is able to “hold water”, the stick becomes a gun (Casby 1992; Chandler 1997). Table 2.1 summarises the developmental milestones and characteristics of pretend play.

Table 2.1
Developmental Milestones and Characteristics of Pretend Play

<table>
<thead>
<tr>
<th>Age: 12-18 months:</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Functional relational play: recognises social role of objects by acting out stereotypical actions with stereotypical objects e.g. stirring with spoon, ‘drinks’ from a cup (Casby, 1992).</td>
</tr>
<tr>
<td>• Imagination is self-related and mimicry evident e.g. pretends there is food on the spoon; ‘feeds’ self (Knox, 2005).</td>
</tr>
</tbody>
</table>
Age:

18-24 months:

- Pretend play: active use of symbols representing actions in play e.g. use rocks as eggs, a block becomes a car, ‘drinks’ from an imaginary cup. This extends beyond early childhood (Casby, 1992; Leslie, 1987).
- Imagination is self-related and mimicry evident e.g. pretends there is food on the spoon; ‘feeds’ self (Knox, 2005).
- Object permanency allows for the development of images (Piaget, 1962).

Age:

2-3 years:

- Experiences in daily life are represented in play; building of simple constructions to represent another object or situation e.g. Brushing hair with an imaginary brush; combing doll’s hair; making a house out of blocks (Takata, 1974).
- Some pretend or make-believe play begins (Piaget, 1962).
- Familiar routines: replaying fragments of everyday life; played out over and over with little effort to elongate or elaborate the fragments, e.g. feed their dolls, preparing dinner for the family, shopping (Segal & Adcock, 1981).
- Inflexibility in constant repetition, e.g. using the same sound with same action, over and over. Ignores prompts to change (Segal & Adcock, 1981).
- Action-based pretend play; words are not important; essence of the pretense is the sequence of actions (Segal & Adcock, 1981).
- Can explain what they are doing but narrative is not important to them; tend not to direct the characters, nor provide a running commentary (Segal & Adcock, 1981).
- Use of props occurs; play is influenced by the props e.g. keys are for turning, can use an imaginary prop also; play is impulsive, play must begin whether a prop is present or not; instant action on the idea (Segal & Adcock, 1981).
- Play is serious business, with serious tone, e.g. parental laughter at the play will cause indignation in the child (Segal & Adcock, 1981).
Age:
3-4 years:

- Pretend continues: Experiences in daily life are represented in play; building of simple constructions to represent another object or situation e.g. brushing hair with an imaginary brush; combing doll’s hair; making a house out of blocks (Takata, 1974).
- Imagination developing to include personification of dolls and stuffed animals; starts having imaginary friends; portrays a single character (Knox, 2005).
- Element of pre-planning begins, e.g. filling picnic basket with props then going on the ‘picnic’; Assignment and often reversal of roles (Segal & Adcock, 1981).
- Pretend play created and sustained by language; lengthy dialogues; uses new language e.g. “I’m colding it” (the child attempts to describe that he is making something cold or frozen); variety of detail increases; language stretches out the play (Segal & Adcock, 1981).
- Sequences are clearly marked, episodes may slide into another with no warning e.g. picnic becomes a wedding (Segal & Adcock, 1981).
- Rigid use of props; inability to proceed if prop not available (Segal & Adcock, 1981).
- Peer play in pretense begins; not long lasting; not flexible enough to handle conflict (Segal & Adcock, 1981).
- Doll is no longer passive participant; child imbues doll with characteristics of human e.g. hunger; the doll has feelings and personality and maybe a voice (Segal & Adcock, 1981).
- Development of invisible friends, pretend talk on telephones with absent but familiar people; show awareness the other person is not really there and there is no expectation of a real consequence to the conversation (Segal & Adcock, 1981).
Age:

4-5 years:

- Expansion of socio-dramatic roles; dramatic role play enacting the child’s daily experiences, social roles, myth and fairy tales. Increased complexity of play (Takata, 1974).
- Imagination prominent. Child is able to use familiar knowledge to construct a novel situation e.g. themes from favourite TV shows (Knox, 2005).
- True symbolic play emerges; the substitution of one object for another observed frequently (Piaget & Inhelder, 1971; Smith, 2010).
- Play becomes noisy, urgent, intense aura of excitement and danger; themes often include life and death matters, superheroes and villains; a lot of verbalization and voices (Segal & Adcock, 1981).
- Often supercharged play may appear regressive; social learning taking place; roles being varied; learning to cope with conflict, aggression, group dynamics and solidarity (Segal & Adcock, 1981).
- True inventiveness creeps in; greater elaboration of plot, detail, new ideas, hypotheses; familiar incidents given a new twist; props are more selectivity chosen, costumes more complete; language used to set the scene more and more; dramatic change in the quality of dialogue and exposition; explanation of pretense (Segal & Adcock, 1981).
- Increased ability to make explicit distinctions between real and pretend (Segal & Adcock, 1981).
- Telephone calls to completely fictional people / characters (Segal & Adcock, 1981).
- Carries on into the 5-6 year age group (Segal & Adcock, 1981).

Age:

5-6 years:

- Expansion of socio-dramatic roles; enacting the child’s daily experiences, social roles, myth and fairy tales. Continues to 7 years old (Takata, 1974).
- Imagination prominent. Socio-dramatic play, based on reality (Knox, 2005).
### Beyond 6 years:

- Children move away from imaginative make-believe play to favour games with rules (Piaget & Inhelder, 1971).
- Expansion of socio-dramatic roles; dramatic role play enacting the child’s daily experiences, social roles, myth and fairy tales. Increased complexity of play. Continues to 7 years old (Takata, 1974).
- Middle childhood sees fantasy and symbolic play are represented in mental games, secret clubs, and in language play e.g. riddles and secret codes (Knox, 2005)

### Significance of Pretend Play

Historically pretend play has been seen as important to child development and particularly cognitive development. Piaget (1951) and Vygotsky (1966) both asserted that pretend play is an integral part of cognitive development in the child. Piaget argued that empirical observations of a sequence of developmental levels reflect the changes in a child’s cognitive competence. Piaget stated that changes in pretend play form and structure are linked to decontextualisation and elaboration of symbolic mastery. “Imaginative play is ultimately integrated into conceptual intelligence” (Fein & Apfel, 1979, pp. 88-91). Golomb (1979) noted that Vygotsky saw play as a manifestation of abstract reasoning and pretend play as being the highest cognitive achievement of which a child is capable. Golomb (1979) stated that pretend play was important for intellectual development which led to scholastic achievement. These historical views on pretend play are reflected in more recent studies suggesting that pretend play does in fact lead to metacognition and metacommunication which have long-term effects on learning and scholastic achievement (Veenman & Spaans; 2005; Whitebread et al., 2009).
However pretend play is a paradox from a functionalistic point of view which sees pretend play as nothing more than a bit of fun with no real purpose other than to amuse. Walker and Gopnik (2013, p. 40) stated that though pretend play has been researched for decades there is no one theory or framework through which to view pretend play, and this is due to the “fundamentally puzzling nature of pretense itself”. They posed the question that when children need to learn so much about the real world in which they live, why do they spend so much time and effort and childhood energy engaging in non-real worlds? (Walker & Gopnik). Their contention is that pretend play has a fundamental and significant role in causal cognition, which is important in learning, for the learner to be able to disengage from the “real world” and use inference and inductive thinking about possibilities (Walker & Gopnik). Pretend play allows the child to generate ideas and “patterns of evidence” to solve the problems (Walker & Gopnik, p.42).

In recent years, the contribution of pretend play to children’s development has been a controversial subject (Lillard, 2013; P.Smith, 2010; Bergen, 2013). This controversy is probably due in part to the “inherent paradoxical quality” of pretend play (Walker & Gopnik, p. 40). However in-depth study of the literature on pretend play draws a picture of the quintessential significance of pretend play. Bergen (2013, p. 48) proposed that pretend play not only contributes to child development, but it is “a valuable phenomenon in itself.” Segal and Adcock (1981, p. vii) stated that “imaginative play, because it is so pervasive, plays a critical role in the development of young children”. Vivan Paley (2004, p. 8), went so far as to say that “fantasy play is the glue that binds together all other pursuits, including the early teaching of reading and writing.” Weisberg, Hirsh-Pasek & Golinkoff (2013, p. 38) stated that play and imagination enable creativity, allowing children to move from “what is” to “what might be.” Karnik and Tudge (2010, p. 65) proposed that pretend play “fits explicitly
within a broader framework which has everyday activities and interactions (including pretend play) as critical for development, and that the nature of these everyday activities and interactions (including pretend play) varies by virtue of both the context (i.e., culture) and individual characteristics (i.e., gender).”

When children play in pretense their behavior is not literal, much of what they do is representative of something else, and is therefore allowing the child to conceive objects and situations as if they are something else using imaginative cognitive processes (P. Harris 2000, 2007). They experiment with possibilities, they free themselves from the external rules of the world, from the restrictions imposed by adult intervention and regulations, and from the physical realities of time and space (P. Harris). Children work hard at pretend play, thinking of themes, resolving conflicts, sharing, thinking outside themselves and of others, acquiring props and developing and portioning out roles (Parker & Gottman, 1989). Russ and Dillon (2011) stated that there is consensus among researchers of child development such as Bergen (2002), P. Harris, (2000), Hirsh-Pasek and Golinkoff, (2003), Russ (2004) Singer and Singer, (1990) and Rakoczy (2006, 2008), that pretend play has importance in many areas of child development, including problem solving, perspective taking, coping ability, emotional regulation and divergent thinking. Whitebread et al. (2009) agreed that pretend play contributes to the metacognitive or self-regulatory skills of children, and these are critical elements for problem-solving and creativity upon which academic skills are built. Pretend play ability contributes to the flexibility of thought, hypothetical reasoning, understanding of abstract symbols and logical transformations and problem solving which constitute the higher level skills required in life (Parker & Gottman). Pretend play is the arena in which children rehearse adult roles, work through their anxieties, and fears of the unknown, and begin to

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work through developing interpersonal relationships (Garvey, 1977; Lancy, 1996; Parker & Gottman).

Pretend play is critical in social development, and through the context of social interactions, meaning can be ascribed to children’s play. Consequently the social and cultural context is seen as equally important as the content of the play (Florey, 1989). Children use pretend play to make friends and develop the skills required in interpersonal relationships (Segal & Adcock, 1981). In a study by Smith and Connolly (1980) it was found that smaller groups of children compared to larger groups showed more intense and frequent pretend play and that in the smaller group very close friendships developed. In these social situations children can gain practice in collective imagining, that is imagining with others, and thereby gain a greater understanding of their world, which includes understanding of relationships including the concept of “we”, that is the communal group (Fleer, 2013; Racokzy, 2008). Peter (2003) asserted that using pretend play, and using these shared representations in a way that is meaningful to their peers or adults is critical to the development of social competence. It is through the exploration of social situations that children can play out important emotions, social themes, tensions, test their feelings towards others “through increasingly complex play narratives” (Peter, p.21). Peter supported the notion that where children do not get the opportunity to engage in pretend play, then their social understanding will be impaired.

Children may also practice a form of social pretend play in creating an imaginary friend. In creating a pretend friend, they acquire different perspectives, learn co-operation, dependability, become sensitive to the feelings of others, share secrets, and gain inspiration, in preparation for real life social interactions and friendship (Majors, 2012; Segal & Adcock). Imaginary friends usually become extinct by about 10 years of age (M.Taylor, 1999), though
sometimes remembered with warmth, and are an important part of personal development (Segal & Adcock; Smith, 2010). The significance of social play and social pretend play to the child and their development of social competence will be discussed further in Chapter 4.

Characteristics developed through both individual and social pretend play, such as divergent thinking, problem solving, symbolic representation and flexibility of thought are argued to be pre-requisite to being literate, which is a part of scholastic success. Pretend play is the only type of play where there is empirical evidence to show a link between play and literacy ability. Pretend play is a motivating context for literate behaviour, and the development of pretend play in synchrony with literate behaviour serve each other in the development of the child cognitively, socially, and culturally (Van Hoorn, Nourot, Scales & Alward, 1993).

Prior to substantiating the claim that pretend play does in fact significantly contribute to the development of literacy, literacy is defined and its development described below.

**Definition and Development of Literacy**

Similar to play, the definition of literacy has changed and developed over time. The Centre for Literacy of Quebec (1999) defines literacy as follows:

> Literacy encompasses a complex set of abilities to understand the dominant symbol systems of a culture for personal and community development. In a technological society, the concept of literacy is expanding to include the media and electronic text, in addition to alphabetic and numeric systems. These abilities vary in different social and cultural contexts according to need and demand. Individuals must be
given life-long learning opportunities to move along a continuum that includes reading and writing, critical understanding, and decision-making abilities they need for their community.

Keefe and Copeland (2011, p. 11) proposed that literacy is “not a trait that resides solely in the individual person. It requires and creates a connection (relationship) with others” and it includes all modes of communication including print, media, image media, and that literacy is a social phenomenon and a social achievement. Literacy includes higher order thinking skills, and interactions with others (Keefe & Copeland). There is a need to constantly redefine literacy to reflect the rapid changes of the complex modern world, thereby also linking to the empowerment of all people of the society including those in ethnic minority groups (Ntiri, 2009).

**Historical background of understanding of literacy.**

Prior to the more recent conceptions of literacy, it was believed that children could read and write only when they reached a certain mental age through biological and maturational processes as described by Gesell (1954). Parents were perceived as having little impact upon their children’s literacy, and therefore children were illiterate before formal schooling. Durkin (1966) questioned the maturational perspective on literacy suggesting that though the child had to be developmentally ready they could be influenced by pre-reading experiences. Again the role of parents was perceived as limited, and that reading and writing skills had to be taught through structured and direct systematic instruction.
The 1970s saw researchers such as F. Smith (1971), Goodman (1973) and Clay (1979) discard earlier views in favour of an emergent approach to literacy. They suggested the process of reading and writing began at birth, that it is an on-going process, with the child not a passive recipient of a set of skills, but an active participant (Barratt-Pugh, 2000; Einarsdottir, 1996). This theory suggests that reading, writing and oral language are interrelated and emerge over a period of time through participation in the literacy events taking place in the home, community and extended family (Barratt-Pugh).

Finally the socio-cultural approach to explaining the development of literacy was elucidated in the 1990s. From the earlier works of Bourdieu and Passeron (1977) and others, the argument grew that literacy is social capital, defined as knowledge and competence which can be converted to having wealth, attaining status and enabling mobility (Luke, 1993). This meant that literacy was seen as having many different forms, and also that there are many different ways of doing particular literacy practices. Children have become familiar with and competent in a wide range of literacies undertaken in their family and community, which may in fact be in competition to, or conflict with those they encounter in the more formal learning environments of the education system (Barratt-Pugh, 2000). Literacy is no longer perceived as a static set of skills which children have to master solely within a school context, therefore it is implied that literacy is a dynamic process, multifaceted and complex, and continually evolving in and through children’s involvement in their local home, community and school settings (Barratt-Pugh, 2000; Keefe & Copeland, 2011).

The definition of literacy has moved from the three “Rs” to an expanded understanding of contexts. Views of literacy are embedded in the political, social and philosophical context of the time, and the complexity of the meaning of literacy and how it is learned is still debated.
and varies within and across cultures (Barratt-Pugh, 2000; Barton, 1994; Cox & Webb, 1999; Keefe & Copeland, 2011; Ntiri, 2009). Cook-Gumperz (1986, p. 1) wrote that “literacy is not just the simple ability to read and write; but by possessing and performing these skills we exercise socially approved and approvable talents; literacy is a socially constructed phenomenon”. It is no longer accepted that literacy has a common meaning, and therefore the term “literacies” for some researchers has overtaken its singular noun to illustrate that there is no one state that can be achieved and described as being literate, that in fact the culture, context, tasks and history, the social construct defines what is literacy (Comber, 1992).

Wagner (1990, p. 118) described literacy as being not simply:

a set of isolated skills associated with reading and writing, but more importantly the application of those skills for specific purposes in specific contexts. There is no single measure or specific point on a scale that separates the “literate” from the “illiterate.” Literacy can no longer be defined simply as the ability to sign one’s name, completion of a particular year of schooling, or attainment of a specified reading grade level.

A study by Cox and Webb (1999) illustrated differences in the understanding of literacy by showing that respondents who were from different contexts or communities had differing views on literacy. The first respondent group was the Queensland Education Department. The Queensland Education Department documents defined literacy as a socially constructed phenomenon, adding that schools needed to be aware of the culture in literacy learning. The second respondent group in the study by Cox and Webb was the English Programme Department of a Queensland public school. This respondent group focussed on literacy as
being the four macro skills of language: talking, listening, reading and writing. The third respondent group comprised the teachers within the same school. The teachers described literacy in terms of competency in what they termed the “new literacies”, including technological and visual literacy and numeracy. They also expressed that there were many forms of language literacy a student required, for example, computer, social, to be tax literate, literate in the specialist fields, and environmental literacy. The fourth group of respondents, an Australian South Sea Islander community group defined being literate as including the ability to read and write, within a broader cultural literacy. Their definition included knowing when and how to use standard and non-standard forms of language, the use of interpersonal communication, knowing when to listen and talk, talking amongst one another, with literacy being as important as personal relationships (Cox & Webb). Knowledge of the functions of literacy such as initiating and maintaining personal relationships, is learnt within the home and social groups and precedes knowledge of other forms of literacy (D.Taylor, 1983).

Literacy is learned from an early age through children’s participation in social and cultural events that involve literacy practices. Children generate and refine their understanding of literacy practices through their continual involvement with other children and adults. Literacy practices are carried out in culturally specific ways and contribute to a sense of identity. Barratt-Pugh (2000) argued that literacy is not only a cognitive process, or cognitive achievement which the child performs, but that literacy is also participation in culturally defined structures, knowledge and communication, and means that the child achieves membership in a culture. Individuals are enculturated into the literacy practices and their meanings within their community. The development of literacy, therefore, is a profoundly social process embedded in children’s social relationships with significant others who are the models (McLane & McNamee, 1990).
The definition of literacy is varied and socially constructed. The sequence and timing of literacy development is dependent not only on maturation or developmental progression, but by the range and quality of literacy experiences in which a child has the opportunity to participate. Literacy, and its meaning, have and will continue to evolve over time.

**Interface of Pretend Play and Literacy**

Linking pretend play and literacy is facilitated by the contemporary definitions of literacy and the expanded understanding of the development of literacy. Prior to this expansion of definition, the concept of pretend play contributing to literacy development would have seemed farcical, because literacy was considered only to be the product of maturation, and systematic, structured and formal instruction.

Hall and Robinson (2000) observed two pre-school children “writing” a shopping list in preparation to go on an imaginary shopping excursion. The authors made the observation that the children were demonstrating the use of early, that is emergent, literacy during their pretend play. The children showed that they understood the concept of being literate, that text has meaning, that it contains the list of names of objects to be bought, that the list can be manipulated through erasure and addition, and consequently the children were demonstrating that there is a real function to literacy and it is useful to humans (Barratt-Pugh, 2000; Hall & Robinson, 2003). It is in ways such as these that pretend play skills have been linked to emergent literacy skills (Pellegrini & Galda, 1993). Pretend play involves periods of sustained symbolic thinking, using narrative, and progressing the play in logical and sequential order to form a story (Stagnitti & Jellie, 2006). Nicolopoulou (1993) contended that in young children’s play, pretend play consists predominantly of enacted narratives.
Nicoloupoulou, McDowell and Brockmeyer, (2006) stated that the understanding of the acquisition of narrative skills in the years before school forms a strong basis for emergent literacy skills.

Literacy involves the use of symbols (The Centre for Literacy of Quebec, 1999). Participation in play and language interactions is a way in which children develop the ability to use symbols. In pretend play the child demonstrates their ability to manipulate symbols, by using a block for a boat, offering sand as ice-cream, or eating an invisible cake, and by drawing on their experiences develop new ideas and situations. This ability to symbolise provides the basis for decoding and using print, which in itself is a system of symbols (David, et al, 2000).

While pretend play is a mechanism through which children develop literacy, young children’s play is not a detached or dry academic exercise but is an experience which engages and empowers them (Barratt-Pugh, 2000). They operate as in the “real world” with all that the real world contains in complexity, and therefore they can act as competent people, dealing with life and death, prescribing medicines and writing plans to conquer the world. This is the very means by which literacy is learnt and practiced in meaningful and purposeful ways.

Children’s pretend play gives a meaningful context for learning literacy in that it links to functional and realistic, socially constructed, and situational literacy. Children do not set out to pretend with an academic goal in mind, rather they set out to play and in the process deal with life contingencies that reflect real life. They have a purpose in mind such as curing a sick baby and in doing so “write” a prescription, “read” a thermometer, “read” the label on the bottle of pills, and “measure” the cough syrup (Barratt-Pugh). Through pretend play children can replicate or approximate the ways literacy is genuinely used in real life, and this
in itself offers children the opportunity to ‘be literate’ rather than them being seen as waiting to become literate in the future (Barratt-Pugh; Hall & Robinson, 2003).

Through pretend play, children can develop the skills required in storytelling. According to Stagnitti and Jellie (2006, p. 5) this “requires the ability to use imagination and suspend reality; sequence events in a logical format; use decontextualised language; understand cause and effect; use scripts to give context, order and cohesion; and use intelligible language beyond sentence level.” As the child develops the narrative within the play, she does so in a logical and sequential manner, developing a story that has a beginning, middle and end, while attributing roles and personalities to characters and props. These capabilities assist reading comprehension, oral storytelling, and narrative competence (Stagnitti & Jellie, 2006). Roskos & Christie (2001) reported that pretend play was found to generate more syntactic utterances and enhanced use of sentence expansions that are linked to reading success. Play which integrates pretend play and narrative is effective and valuable in building early literacy skills (Nicolopoulou, 2010), and research has shown that emergent literacy is well founded on children’s successful acquisition of narrative skills in their pre-school years (Dickinson & Tabors, 2001; McCabe & Bliss, 2003).

In a critical review of 20 investigations into the play-literacy interface, Roskos and Christie (2001, p. 59) concluded that 12 of the 20 studies strongly supported the concepts that “play can serve literacy by: a) providing settings that promote literacy activities, skills, and strategies; b) serving as a language experience that builds connections between oral and written modes of expression; and c) providing opportunities to teach and learn literacy”.


Pretend play is believed to lead to abstract thinking, logical and flexible thought, the ability to manipulate, hypothesise and generalise, and to use and interpret symbols. In pretend play children substitute objects, form scripts of fictional situations, assign roles and carry them out, and build complex plots with sub plots. This had led researchers to state that symbolic play is of primary significance in the cognitive development of young children (Stagnitti, Unsworth & Rodger, 2000).

**Indigenous Cultures and Play**

The discussion on play to this point has been based on the research and views of researchers rooted in Western culture. Many theorists and researchers assume that children of all cultures play, and some would say all children play in basically the same way (Fasoli, 1999). Roopnarine (2012, p. 228) stated that “in all human societies observed to date, children engage in some type of play or play like activities.” This section will explore the play of Australian Indigenous children.

Indigenous Australians, who, though they may have very different lifestyles, share considerable unity and a sense of belonging to a specific geographical location and extended family (Dudgeon, et al., 2000). Approximately 75% of Indigenous Western Australians recognise a specific area as their “homelands” and 63% identify themselves as having a specific tribal language or of having a specific language group, even though they may not actually live in those localities or speak the languages with which they identify (Australian Medical Association, 1998). Dudgeon et al. stated that similar to White Australians, Indigenous people share many commonalities, but within this similarity there will be differences due to personal and family experiences and the effects of colonization and
dispossession. Factor (1988) made the observation there is a likelihood of the play patterns of Indigenous Australian children being similar to each other though there is not homogeneity between Indigenous groups. Therefore it can be concluded that research into Indigenous Australian children’s play will be specific to the community in which it was observed, but will have some commonality for Indigenous peoples within Australia.

**Historical Background**

Factor (1988) in her book Captain Cook Chased a Chook, reported that there has been ample observation and recording of Australian Indigenous children’s play, and consequently there is a significant number of archival records, anecdotal and recollected records, books and journals which have recorded these observations. Factor attributed this collection of records to “government officials, travellers, country people, missionaries, writers and anthropologists” (p. 70). However, she acknowledged that the accuracy, veracity, objectivity, and comprehensive nature of these records is not easily assessable due to factors such as bias, racial perceptions, intruder impact on the activities and colonisation effects. Much of this anecdotal and historic literature resides in the Australian Children's Folklore Collection, now housed at Museum Victoria, Australia.

Very little research-based literature on the play of Australian Indigenous children could be located using numerous databases and avenues such as dedicated libraries to Aboriginal and Torres Strait Islander studies. The topic of the pretend play of Indigenous Australian children has some literature with much of this literature based on observations and writings conducted in the late 1880s to early 1950s, and therefore may not even reflect contemporary Indigenous cultural practices. Factor (1988) noted that where Australian Indigenous children have been
more closely linked to White Australian children and their play, the less literature there has been recorded of the Indigenous children’s play. The link between pretend play and literacy in Indigenous culture is not addressed.

Eickelcamp (2010) stated that there has been no focussed or unified approach to the study of Australian Indigenous childhood within the field of anthropology or in cross-disciplinary research. In her review of anthropological literature she discussed a number of authors and their work, however many of these are historic and descriptive accounts of anthropological and ethnographic studies which do not specifically refer to children and their play. Definitive accounts such as those cited by Eickelcamp, Thomson (1959, 1975, 1983, 1989), R. Bernt (1974) and C. Bernt (1974) and Róheim (1932) do have accounts of childhood play, but again these are historic rather than present-day research. Darian-Smith (2008) stated that though there was intense interest in the play and childhood activities of Australian Indigenous children in the 1950s there is little documented, and what is documented is patchy. There is little evidence of Australian Indigenous childhood activities in current literature, especially in the area of pretend play. There is even less literature in the journals of occupational therapy despite the profession’s central concern for the occupations and occupational roles of individuals and population groups.

Haagen (1994) made an interesting comment as to the reason, in part, for this lack of research on Australian Indigenous children’s play. She stated that until recent years, most research by historians and anthropologists examined the “exotic nature” of the Indigenous people and their customs, and predominantly examined the “affairs of men” (Haagen, p. 1). It appeared to Haagen that “children and their affairs went unnoticed” (p. 1) and the periods of infancy and initiation were barely noticed or examined in any detail. Eickelcamp (2010) agreed that
most of the ethnographic material focussed on totemism, initiation of boys, conception beliefs and women’s lives. Darian-Smith (2008) agreed that research on children’s lives and experiences was limited. Berndt and Berndt (1974) stated that children were learning the ways of adult life through play, for example, children’s imitation of adult mourning ceremonies, hunting, and playing at being mothers and fathers. As the children’s lives were barely recognised, the writers on Australian Indigenous customs concluded that Indigenous children had few toys, and were playing only in re-enactment of adult life, a preparation to take on the roles of adulthood and a life of toil and subsistence survival (Haagen, 1994).

These views reflect Róheim (1932, p. 23) who stated “Children of the world play, in actuality, only one game, - that of growing up” and that Australian Indigenous children only played games which were centred around the aspects of being male and female and the preparation for adult existence. Factor (1988) cited Thompson’s anthropological writing in 1959 which asserted in essence that the play of Indigenous children was only in imitation of adults so that the children could prepare for the rest of their lives. Darian-Smith (2008), following her research on play in Indigenous Australian communities in Victoria, Australia, commented that previous research was “undertaken on the experiences of childhood in specific Aboriginal communities, or where Aboriginal children’s activities have been primarily perceived in relation to the acquisition of adult skills and knowledge” (p. 147). These conclusions would appear to support the classical theory of Groos for example, which suggested that play only had the purpose of developing and refining the mature behaviours and skills required for adult life.

Haagen (1994) concluded that because of the lack of accounts of children at play, and that none of these accounts are a detailed composite picture of children’s lives in their social
context, play was too quickly equated with training for later life. These accounts greatly
diminished or ignored the imaginative antics and improvisations of children at play.
Beveridge (1889, p. 25) wrote that in the 1880s in Victoria, Australia, Indigenous children
had no sports or pastimes related to youth, and that their “youthful amusements” were merely
the occupations of later life in miniature. Unfortunately girls were even less noticeable and
their toys, games and play have been even less documented (Haagen 1994). Malinowski’s
(1913) definitive work in the sociology of family life in Indigenous Australian populations is
cited by Eickelcamp (2010). She cited him as stating that information on children and their
lives was primarily a “generalized parental point of view” (Eickelcamp, p. 149).

In contrast, Factor (1988) stated that there were many accounts of play of Australian
Indigenous children. She noted anthropologists, such as Roth in 1902 and Lynne Love in
1983, who compiled lists of play activities in which Indigenous children engaged. Love
(1983) reported these play activities included imitative play and make believe such as
mothers and father, finger and string games, sand-drawing, play with natural materials and
animals, sporting games, story-telling and games with toys such as stick dolls, mud dolls, and
miniature hunting equipment.

There is some recent evidence of play and pretence in the recollected self-accounts of
Australian Indigenous people. These self-accounts describe the making of small bush dolls
from gum nuts and wrapping them in cloth for example, and boys making matchbox trolleys
and carts in the early 1920s (Morgan, Mia, & Kwaymullina, 2007) Bacon (2007) described
Indigenous children playing games in 1945 such as cowboys and Indians which is the use of
characters and role play within pretend play. The aspect of fun and enjoyment in play is also
re-counted, an aspect that is frequently overlooked in more anthropological accounts (Crabbe,
2007). Through a study of recollected accounts of 70 Indigenous Australians in Victoria, Australia, Darian-Smith (2008) compiled a significant oral history of Indigenous childhood including games played. The data were collected in the mid-1990s from Indigenous Australians including adults, teenagers and children. In this compilation of childhood play lore there are recollections of imaginative games, such as: cowboys and Indians, playing with dolls, games of “schools” and “shops” using old brown beers bottles as customers or pupils, and “sheets were used to pretend to fly” (p. 148).

Factor (1988) described some of the influences of colonization and Westernisation on the play of Indigenous children, describing how games such as football, rounders and hop-scotch were introduced into the Indigenous communities, and in some instances extinguished the traditional games. It is of interest to note that in 1974 Berndt and Berndt stated that “even in the remote areas of Arnhem Land and the Western and Central Deserts, the quality of Aboriginal life has less traditional flavour; it is becoming less Aboriginal than they were in the past” (p. ix, p. x). However there is little current literature on the effect of Westernisation and technology on the contemporary play behaviours of Indigenous children. Darian-Smith (2008) referred to some of the interviewees in her study stating that they noted a great deal of difference between the play of Indigenous children in the 1990s to that of previous decades where there was greater freedom to play. Fasoli et al. (2010) concurred that Indigenous children’s play was less traditional than in previous decades and that the children were less likely to play and learn from play about their cultures and traditions as they now spent more time watching television and Western movies than playing in the real-life situations of their communities. These authors described changes in Indigenous children’s play due to the increased accessibility of plastic toys which are the predominant play objects in early
childhood settings, and which have replaced the natural materials with which Indigenous children previously played (Fasoli et al.).

Fleer (1999) questioned the validity of applying the predominantly developmental Western theories of play to Indigenous children and their play. While these theories may explain the play behaviours of children from Western countries their relevance to all children living in Australia must be questioned. The theories may not relate to those children living in rural and remote areas of this country. While the importance of Western-style pretend play in childhood is understood in general, Fleer (1999) suggested that in advocating play it is important to recognise that activities of play for children vary greatly, not only between individuals, but between cultures, as play is a socially influenced behaviour. The adults in the culture in which they live have an influence on children’s play in that they may or may not value play or pretend play, which will affect the types of play in which a child engages. For example, in the Mayan culture where pretending is considered “untruthful”, children in that culture do not play out the scenes of everyday life as other cultures’ children are seen to do (Bazyk, Stalnaker, Llerena, Ekelman, & Bazyk, 2003; Gaskins, 2000). Bornstein (2006, p. 115) concluded that pretend play is apparently universal, however there is variation as the play “expresses concerns which are culture specific.” Gosso (2010) supported the notion that there is a lot of cultural variation in play, and she stated that “children from all societies create their own ways of representing their worlds, not only through observation of adults, but through interaction with other children.” (p. 98).

The developmental theorists stated that children develop pretend play in stages, for example, pretend play begins in the second year of life, and by three to four years of age the child will use a finger to pretend they are using a toothbrush, which shows the ability to mentally
represent an object with another (P. Smith, 2010). It appears from literature that children universally develop the ability to pretend play as their life progresses, however cultural and societal influences such as exposure to media will affect how it is played out. An example of these influences is reported by Bacon (2007) describing Australian Indigenous children pretending to be cowboys and Indians in 1945. This shows that the children were capable of role play and playing characters of which they have had no real life experience, and their experience of the American characters would have been through movies. Exposure to a different culture influenced the topic of their play.

The Influence of Child Rearing Practices on Pretend Play

Just as there is no one specific method by which non-Indigenous Australian children are raised, there is no one Indigenous Australian method of child rearing (Yeo, 2003). Diversity in child-rearing practices is evident in any culture, and even within sub groups of a culture for example, different clans of Indigenous Australians will show different child-rearing practices (Krsuke, Belton, Wardaguga, & Narjic, 2012; Yeo). This includes the value that parents place on play as being important for health and development of their children.

Play, including pretend play, is affected by the beliefs of the adults and caregivers in the culture, and therefore it is suggested that child rearing practices have an impact on how, where and when children play, and the forms of play that are reinforced and seen as valuable or acceptable within that society. In a study by Windish, Jenvey and Drysdale (2003), Australian Indigenous parents of a community in Victoria were asked to rate the importance of play. Results from the responses of 18 participants showed there was a generally high importance placed on play. On a 5 point Likert scale ranging from Not Very Important (1) to
Totally Important (5), 66.7% of responses were in the Totally Important category, 27.8% rating play as Very Important and 5.6% rating play as Important. This indicated that play was valued within this Indigenous community however the results may not be able to be generalised to other Indigenous communities. While there has been extensive research in the last two decades on children’s play in many cultures (see Gaskins, 2000; Gosso, Morais & Otta, 2007; Roopnarine & Jin, 2012; Roopnarine, Johnson & Hooper, 1994), the Windish et al. study is one of only two studies on the parental value of play in Australian Indigenous communities.

Fasoli (2010) conducted a small study of parents of children in a remote community in the Northern Territory of Australia. She stated that the parents viewed play as being fun and as a natural part of childhood, and did not perceive play as having value for its developmental potential in children’s lives. They felt play was important however did not link it to formal cognitive development of the child. The Indigenous parents valued play for its cultural significance, for a context through which their children can be enculturated into the “ways of the land” as they blur the line between play and real-life activities such as looking for “bush-tucker” and learning of traditional ways from the adults (Fasoli et al).

Anderson (1997) stated that all play is culturally influenced, and cultural traditions persist over time, many for thousands of years. Enculturation is the process through which children develop their understanding of the ways to act, and to cultivate and refine the abilities and habits required of their own society (Kottak, 1974). Enculturation takes place through imitation of adult-like practices to ensure the way of life continues in perpetuity (Kottak). In observing the Pitjantjatjara children’s play, Kartomi (1981) concluded that while the children’s ceremonies were uniquely childlike and possessed a strong component of creative
play, they were an imitation of the adult ceremonies, and were primarily for enculturation. The children adapt the adult ceremonies and use the elements of ceremonies, such as dance and song, and the use of ceremonial accoutrements such as ceremonial poles of their fathers, in their day to day play (Kartomi, 1981; Haagen, 1994).

Anderson (1997), Turnbull (1962) and Holmberg (1969) described play as being imitative of adult life in “less complex societies” such as those of the Congolese pygmy people, and the Siriono people of East Bolivia. In these societies adults make and give miniature hunting and gathering implements to children to practice the survival skills required in that society. The skills are required for the responsibilities, roles of adulthood and for full participation in adult life (Chandler, 1997). Historically, writers on Australian Indigenous peoples and their play have predominantly taken the same stance, that is, play is preparation for adulthood roles and skills for both genders, and for the continuation of the society (Anderson, 1997; Coombs, Brandl & Snowden, 1984; Haagen, 1994; Johns, 1999; Kartomi, 1981; Thomson, 1983). However, there is evidence that children in Australian Indigenous children did play for fun, for expression, for the pure joy and “being”, that work is turned into play, and, while pretend play is not comprehensively discussed there is evidence of pretend play (as previously defined) (Factor 1988; Fasoli, 1999; Kearins, 1984). Examples of pretend play included children making objects from mud while telling stories and singing, or using dress-up materials and becoming the character.

While the themes of adult-in-preparation is prominent in most early accounts of Indigenous children and their play, Haagen (1994) contended that imitation for these children in the 1800s and early 1900s is the same as it is now (that is 1994). Imitation prompts many of the children’s activities, and influences the development of their toys and playthings. “Children,
as always, will transform the familiar, removing constraints of time, space, and era, into a ‘parallel universe’ ” (Haagen, 1994, p. 7). This is dramatization of the familiar. The main characteristic of play is not the content of the play experience, but the mode in which it is carried out, such that any activity, including work can be play if the player so wishes (Bruner, 1977). For an Indigenous child the line between work and play is blurred and fluid, where work and play merge readily, and is dependent on the spirit of the moment (Fasoli, 2010; Haagen, 1994). Significantly most indigenous languages, unlike English and other European languages, lack words which clearly distinguish work from play (Thomson, 1983).

**Indigenous Society and Play**

Coombs, Brandl and Snowden (1984) made the interesting point that “Aborigines have not yet invented childhood as Western Europeans have…” (p. 91). It was their belief that in Western societies, as a consequence of the Industrial Revolution, children no longer go to work in their early years dressed in work clothes like their parents and where homes were for working in and from. Homes did not have separate rooms and there were no times for play. These authors considered that modern Western European children live in a child-centred world rather than the earlier adult-centred one. It is an adult-centred world in which Australian Indigenous children live and play. Australian Indigenous adult activities are inclusive of children rather than being exclusive, and it is through this inclusion that Indigenous children learn from the people with whom they are intimate, and with whom they have kinship, particularly in pre-puberty (Coombs, et al, 1994).

In societies which until recently have been hunter-gatherer in life-style, the child rearing practices have concerned survival and the benefit of the collective group, and while the
practices might appear different, the objective was the same (Gray, 2009; Kearins, 1984). The search for food and the ability to hunt was as much a part of the children’s lives as it was for the adult. It is this aspect that most authors have focussed on in their observation of Indigenous children (Haagen, 1994). Child-rearing had to accommodate the need for parents to be free to gather food, hunt or be part of important ceremonial occasions. Australian Indigenous adults viewed children as autonomous individuals who could determine when they want to be fed, for example, and it is the adult role to be vigilant to the signals that emanate from the child (Kearins, 1984). This theme of autonomy and children learning to be responsible for themselves echoed in the recollected stories reported by Fasoli et al., 2010).

Australian Indigenous babies were treated with extreme indulgence by all members of the community, though not seen as helpless, but as having capacity to demand what they require or want, and to do for themselves as soon as they are physically able (Dudgeon et al., 2000; Fasoli, et al., 2010; Kearins, 1984). This leads to what White (Caucasian) Australians would see as a high level of early autonomy for the child, such that the child is free to explore and play wherever and whenever they choose. This high level of autonomy, according to Dudgeon et al., encouraged a high level of self-reliance and sense of mastery of their world. Kearins observed that by 18 months of age Indigenous toddlers would move out of their mother’s range of sight, and by 3 to 4 years of age they would, together with other toddlers, wander for half a kilometre or more from their mothers. Kruske et al. (2012) stated that Indigenous parents saw their children as autonomous individuals who grew up to know they have responsibilities to the family group. They asserted that the children were actively involved in determining what they needed. Yeo (2003) however stated that Australian Indigenous children are kept in close proximity to their caregivers and may not be weaned until 3 to 5 years of age. This apparent discrepancy in literature could be due to the
differences in child-rearing practices in the different Indigenous clans studied or between urban and remote communities.

Socially Australian Indigenous children share more of the everyday life of the community around them than do Caucasian Australian babies, as they are not separated for sleep and are integrated and grow up in close relationship with the members of the community and are involved in community life (Hamilton, 1981; Fasoli et al., 2010; Kearins, 1984; Kruske et al., 2012; Yeo, 2003). The Australian Indigenous attitude that children can best decide for themselves what they do is accompanied by the freedom to experiment with their developing skills (Kearins). They are expected to learn by doing, rather than being instructed, and are not forbidden from trying activities which White Australians might consider dangerous, such as lighting the fire (Fasoli et al., 2010; Kearins; Johns, 1999).

However Hamilton (1981) suggested from her studies of the Anbarra people of Queensland, that this freedom does not generally engender adventurous and exploratory behaviour by children. She stated that the general behaviour pattern of the children she observed was that the children showed a marked reticence toward exploratory activity, and a general passivity in their surroundings, and a certain amount of fear and withdrawal which persisted through and past 18 months of age. Yeo (2003) reported similar findings to Hamilton. Yeo stated that before the age of 2 years, Indigenous Australian children are actively discouraged to explore their environment. Mothers will distract them or threaten them if they do not stay close (Yeo). Hamilton also observed that the materials for exploratory purposes were also limited, either environmentally or were dangerous, for example knives. It is not clear whether this is unique to the Anbarra, however it does appear in direct contrast to the writing of Johns (1999). Johns reported Australian Indigenous children’s play allows greater freedom to
participate in activities, to take risks, to leave mother’s side and mix with older children in their play. Play can be both spontaneous and planned, but it is primarily about being free to choose the direction, the risk level, and to “have a go” (Johns, 1995). From the available literature the play of Australian Indigenous children can be categorized into the following: risk taking and having permission to try; play as a survival mechanism; the acceptance of humour; play fighting; and responsibility for others (Gray, 2009; Hamilton, 1981; Johns; Kearins, 1984; Malin, Campbell & Aguis, 1996).

Risk taking in Australian Indigenous society is an important learning process for children, and is acceptable as long as an adult is present and the child knows the rules (Malin et al., 1996). Play is considered to be an every- day context in which learning can occur to enable the child to learn skills, make choices, learn to be self-reliant and to take on leadership and responsibility roles without constant adult supervision (Fasoli, et al., 2010.).

From a very early age children learn the meaning of their country, learn to “read” the signs of their country and “listen” to what it is saying to them (Fleer & Williams-Kennedy, 2002). This play can be seen to be a survival mechanism, where observation skills are developed and refined as children become increasingly aware of the environment (Gray, 2009; Kearins, 1984). Play as survival training also means responsibility, and Indigenous children learn to be responsible for themselves through play and exploration of the environment, observing, making decisions and acting upon them (Fasoli et al, 2010; Malin et al, 1996; Van Dierman & Johns, 1995). Australian Indigenous children are not discouraged to ‘play fight’ because they know the rules that they still have to show care and respect (Gray; Johns, 1999). Again this caring is about survival.
Finally, older children are encouraged to feel good about caring for the younger ones and take responsibility for them. Frequently young girls are “in charge” of babies, and Johns (1999) construed that this nurturing role is practice for later life because, while children are the responsibility of the whole community, it is the women’s primary role to care for the children. The role also assists in their learning of kinship and relationship. This knowledge is considered vital in Australian Indigenous society, because it shows how they fit in, who is important to them, what is expected of them (Creaser & Dau, 1995; Van Dierman & Johns, 1995).

Because of the strong kinship in Australian Indigenous society, children can move away from the security of their own mothers into the larger group with confidence as they have many classificatory mothers and fathers who will assist in the children’s learning and development (Dudgeon, et al., 2000). The older children protect and take responsibility for the younger, without the element of competition or the concept of “mine” (Dudgeon, et al.; Thomson, 1983). The children are taught by each generation of children to the next about their customs and traditions through children’s ceremonies, where the children re-enact simple stories about brave children defeating the evil spirits or enemies. Boys are the characters of the story and the girls join in the singing, which is the typical form for the adult ceremony (Kartomi, 1981).

Thomson, (1975, 1983a, 1983b) and Hamilton (1981) observed play behaviours in different groups of Australian Indigenous people ranging from Queensland to the Northern Territory and Western Australia. Haagen (1994) obtained her information on Indigenous children’s play through the examination of toys which, historically, were used in Indigenous communities throughout Australia. These authors all agreed that much of the play of the Australian Indigenous children observed was imitative of adult activities and the toys they
used were miniature replicas of those used by the adults in the community. Playing “mothers and fathers” was reported as a favourite game of Australian Indigenous children, as they built their own shelters, and took on roles with the older children being parents and the younger being the babies (Thomson, 1975). The children would in fact “borrow” other real babies from their mothers to be included in play, and these babies would be carried about by the young girls acting as mothers (Thomson, 1975). Thomson (1983) noted that the small girls modelled themselves breasts made of clay which they tied with strings about their necks and also fashioned a lump of clay into a very rudimentary “baby” for whom they cared. Within Australian Indigenous culture, even within play and games kinship rules must be obeyed (see Figure 1).

Figure 2.1. Little mothers

Figure 1 was taken in 1935 and is an example of pretend play because it shows the use of symbols (for example, mud shaped as breasts) and playing out a domestic scene. No recent literature could be found which illustrates any similar behaviour and it could be questioned as
to whether the practice still continues in modern times in remote Australian Indigenous communities.

Haagen (1994) expanded on the “playing house” theme with her description of other adult activities which were enacted, especially those with drama and excitement attached including mock fights, defending the home from intruders of another tribe, or even struggles over abducted wives. Often the play was about the cooking of the hunted animals brought home from the pretend hunt by the boys. “They, (the boys), pretended that the white ants were kangaroos, killed them, and with great pride carried them to the place where the girls were playing” (Meunsterberger, 1974, p. 78).

Boys and girls play out roles for example, boys “hunt” for the red kangaroo, represented by a red termite mound, and the girls create food from sand and dishes from the bark of trees. In Central and Western Australia often the play of this kind took place as a narrative performance with the children using a venue of their own choosing and telling and re-telling the stories of journeys, family groups, daily occurrences and camp events which took their interest (Mountford, 1973). They used symbolic props such as gum leaves or sticks to represent family groups (Mountford). The ‘muni’ game is for the girls only which is the use of gum leaves to represent people, and each incident is elaborated upon as the game continues (Mountford, p. 64). Thomson (1983), Róheim (1932) and R. Berndt and C. Berndt (1974) all described children re-enacting and telling stories about the actual events of their daily lives, and the children’s versions of the ancestral myths, often illustrating them with sand drawings and string figures. Many of the previous examples of Indigenous Australian children’s play are also reported in the recollected accounts reported by Darian-Smith (2008).
Development of play in Indigenous cultures.

The literature, while limited, describes the play of Australian Indigenous children. However very few authors make note of the developmental timeline of play behaviour preferring to use general terms such as “young children” or “older children.” This may in part be due to the lack of written records of birth or age especially in the early 1900s. Hamilton (1981), through her studies of the Anbarra people of Arnhemland, has given some description of the developmental progression of Australian Indigenous children. In Anbarra culture childhood is seen to end at puberty, which may be anywhere from 9 to 12 years for both boys and girls, however childhood may last till 11 years and initiation. Hamilton (1981, p.16) suggested that in contrast to European society, Anbarra people “prolong infancy as long as possible, but adulthood comes early”

At 18 months to 2 years of age the child starts to be weaned and can move from the mother into the wider peer group (Hamilton, 1981), however according to Yeo (2003) and Gray (2009) weaning can be from 3 to 5 years of age. At 3 years the child confidently moves into the camp playing group, becoming more interested in the activities taking place, wanting to be where the action is occurring, and moving into play where the older children are involved (Dudgeon et al., 2000). The peer group is determined not by proximity or chronological age but by relationship (Dudgeon, et al; Hamilton, 1981). The most important function of the peer group is the setting for play and the kind of play in which the children indulge. The peer group is unregulated by the adults of the group. The older children tend to initiate the play (Hamilton, 1981). This early movement into wide-age-range playgroups is seen in other cultures such as the Mayan (Bazyk et al., 2003) and Mexican communities, and is in contrast to Western and American children’s experiences where children are placed into same-age
groups to interact at an early age to promote play (Case-Smith, 2005). Case-Smith contended that this same-age grouping may enhance play opportunities but does not allow for imitation of older children’s play. In playgroups in Western culture the parents often orchestrate the play and fulfil the role of playmates (Case-Smith). Anbarra adults did not involve themselves in creating play opportunities, nor did they become the children’s playmates (Hamilton, 1981).

At approximately 5 years of age the boys and girls in Anbarra groups differentiate in their activities with the boys moving off to play with the older boys, ranging further away from the camp, while the girls learn to be obedient to their mothers and help and play in camp activities (Hamilton, 1981). Hamilton referred to pretend play and in doing so stated that the intense pre-planned pretend play of the European children of 5 to 9 years of age, such as explorers, or doctors or pirates, with their elaborately planned themes and roles and behavioural sequence of actions, were apparently absent in boys of the same age of the Anbarra people. Hamilton did not discuss the reason for this apparent difference.

Toys used in play in Indigenous cultures.

In Western cultures commercially available toys are perceived as essential “tools” for the child to engage in play (Moyles, 1994). However this perception does not necessarily exist in other cultures. In central Asian families, studies show that children spend more time with the family members, in what appears to Western eyes to be an environment lacking in play resources. The objects these Asian children use are those of the everyday life such as cooking pots and baskets for gathering food rather than dolls or model railways (Moyles). The same use of home-life objects has been noted in Indigenous Australian society, however Thomson
(1975), described the construction of toys from environmental objects and the use of environmental objects, such as leaves and shells, as toys in Indigenous Australia. Some of the toys of Indigenous Australians since the 1950s have included marbles, string, shanghais (slingshots), billycarts, little cars made of clay, a tin can pulled by a string, kites made of brown paper and string, coins, puzzles, matchboxes and “mud switches” a game where flexible branches are used to flick mud as far as possible (Darian-Smith, 2008). The toys Indigenous children reported using in the mid-1990s included many of the same toys as non-Indigenous children, mostly commercially available, such as board games, and hand-held electronic gaming devices, and computer games (Darian-Smith).

When playing families, dolls have been used by Australian Indigenous children and are described for many parts of Australia over many decades (Haagen, 1994). Generally the dolls were very simple and usually made from available resources such as sticks, leaves, clay, and therefore due to their simplicity required a significant amount of imagination on the part of the player. A doll could be a plain stone or stick with a knob on it to represent a head (Basedow, 1925; McCarthy, 1965). Playing house and doll play were also described by Haagen (1994). The children of South-West Australia used a short stick as a baby and the “mother”, played by a young girl, had to defend her baby from other mothers who had the intent of harming her baby (Bates, n.d.). In the Kimberly region in Western Australia, the dolls were made of bundled grasses tied together, however in Roebourne, in the Pilbara region of Western Australia, more sophisticated wooden-jointed dolls have been found (Haagen). These dolls were far more life-like and often had clothes and features (Haagen). The clay dolls from Arnhemland were held together with wire to form jointed dolls and show another aspect of pretend play in which Indigenous children engaged (Thomson, 1975). Worsley (1954) described shell dolls which Indigenous children used to represent various
female tribal members, and he also noted that these dolls were used in much the same way as
European children used dolls. The children dressed them in scraps of cloth, made beds for
them, made tables and chairs out of pieces of wood and fibre for the dolls, and named the
dolls, giving them roles such as fathers and mother or children (Worsley). Johns (1999)
reported an Indigenous child pretending to be a mother, walking around with her doll to her
breast.

The toys and play activities most written about are those to do with the imitation of adult-like
behaviours such as hunting, fishing, gathering and collection of small animals and other
edible materials. The interviewees in the Darian-Smith (2008) study reported that they
accompanied adults to go fishing, gathering food and rabbit-trapping. Spear play and fighting
using miniature spears and other weapons such as boomerangs was noted in all regions of
Australia (Haagen, 1994). In general the children were not instructed in how to use these
small toy weapons, but learnt through doing, through observation and imitation, and through
much time spent in the play (Kearins, 1984). Basedow (1925) observed two children
engaging in mock hunting games with one child being the kangaroo hopping and evading the
hunters, and the others acting as hunters. This play was also noted by Thomson (1975) where
the children had model spears and weapons tipped with paper bark. Children of a very young
age were seen to carry small spears to play at hunting fish in areas where there was a water
source. Children had model canoes representing the full size canoes of the men of the tribes
of the Torres Strait Islands. But even without a life-like model children were observed
playing games with any object that would float, such as a seed pod, or the spathes of the
leaves of the coconut palm to represent canoes (Haagen, 1994). Survival, hunting, adult roles,
tradition and customs and kinship meld into one in the play of Australian Indigenous
children.
Literacy in Indigenous Cultures

**Definition, development and links to literacy development.**

In previous discussion within this chapter pretend play has been linked with the development of literacy. Literacy was defined to mean more than the acquisition of reading, writing and numeracy, and extended to include literacy practices relevant to the social context of the developing child. Literature on the development of literacy in Indigenous children focusses on: the educational process of teaching Australian Indigenous children to be literate within the more traditional literacy definition of reading and writing; the difficulties of bi-lingualism and education; the vastly disparate learning styles; and sociolinguistics, and the politics of Australian Indigenous education. M. Dunn (1999) and Reid, Edwards and Power (2004) confirmed that research concerning rural and urban Australian Indigenous literacy is sparse. Almost no literature is available on linking Australian Indigenous children’s play with literacy or oral language skill development. There is a vast amount of evidence stating that Australian Indigenous children have less likelihood of becoming literate in comparison to other groups in Australia (Department of Employment, Education and Training, 1995; Department of Employment, Education, Training and Youth Affairs, 1997; Australian Bureau of Statistics, 2008, 2010). This is noted in the following quote:

> There is an enormous gap in the English literacy rates of Indigenous and non-Indigenous people in Australia. The gap is even wider for Indigenous people living in remote and isolated communities. Sadly, 87% of Indigenous children in regional and remote areas struggle to
read and write and fall well below the national literacy benchmarks

(Aboriginal Literacy Foundation, 2011).

Literacy encompasses human expression, communication and interaction, and yet the complex nature of what literacy is, how it is learned and the impact of culture on its development is still widely debated (Fleer & Williams-Kennedy, 2002). The following quotes from women of the Milingimbi people of the Northern Territory reflect this statement.

Reading to us is what we read in the land – read the tracks, we know where the tracks are going. This is something you take for granted, reading the language, footprints, what made the track. (Fleer & Williams-Kennedy, 2002, p. 41)

Literacy is language.

Literacy is how we communicate.

Literacy is dancing, singing…culture.

Literacy is how to pass on a message to younger children and to everyone else.

Literacy is how we communicate, not just reading and writing.

Literacy is everything else…. Djuwandayngu (as cited in Fleer & Williams-Kennedy, 2002, p. 100).

Fleer and Williams-Kennedy (2002) also stated that children learn about literacies and how to “do” them through participating in the activities of their family and community, and that these literacies are culturally specific and develop cultural identity. Children have different understandings about what literacy is, and how it is performed, that they individually learn
these practices different ways and become relative experts within different literacy events.

The value of literacy practices is perceived differently within different social and educational contexts (Fleer & Williams-Kennedy). It would appear that the Australian Indigenous concept of literacy is consistent with the more contemporary definitions which define literacy as more than reading and writing. Australian Indigenous culture was not based in written language, but in observation, oral language, dancing and singing, ceremony and understandings of nature and the environment. The concept of literacies and literacy being contextual and situational was already inherent in the Australian Indigenous mind, many years in advance of the relatively recently expanded Western concept of literacy.

Studies carried out in Queensland, Australia, have shown that the pre-literacy experiences of Indigenous children are often not perceived and valued in the same way as the pre-literacy skills of children in the dominant culture (Kale, 1995; Mills, 2008; Dockett, Mason & Perry, 2006). Dockett et al. also reported that the Indigenous parents in Queensland, Australia, thought their children had a range of abilities and skills which were valued in their own culture and community but were not valued in the school, which is similar to the result of earlier studies by Malin (1990) in Victoria, Australia.

Many Western observers agree that Indigenous children do not arrive at pre-school illiterate, that is to say they do have the ability to talk and to listen, to make sense of aspects of their environment, to read symbols and visual cues for that particular cultural group, and small infants can interpret hand gestures, facial expression, artifacts and environmental features (Fleer & Williams-Kennedy, 2002). The Australian Indigenous child living in rural and remote Australia has developed literacy in reading that is consistent with the Australian Indigenous understanding of literacies, such as the marks in the sand that are “the narrative for my country and my people”, not the symbols of printed text as expected in Western
culture (Fleer & Williams-Kennedy, 2002, p. 25). They see reading as being able to read the tracks, and know where those tracks are leading. For Western people reading is confined to books and libraries, and for the Australian Indigenous child the library is “in our heads” (Fleer & Williams-Kennedy, p. 41). Indigenous children are learning about literacies which feature body language, knowing and recognising the seasons and the plant and animal cycles of their environment, of animal and human interactions with and upon the environment, and in doing so form their own library of literature (Fleer & Williams-Kennedy). These children come to school with high-level symbolic knowledge which is considered the essence of literacy. The Australian Indigenous children living in urban regions may not have the same cultural experiences of literacy as those living in remote regions, as their upbringing may have been more Westernised and less traditional. Their concept of literacy may be similar to non-Indigenous Australians.

Within the culture children participate in literacy activities and situations which shape and develop their facilities and attitudes (Barton & Hamilton, 2000). Their literacy is not just a constructed cognitive process in an educational setting. For Australian Indigenous people literacy is something that “is realized in social relationships rather than the property of individuals” (Barton & Hamilton, p. 13). It is a collaborative social process such as knowing how to interpret family and community behaviour.

**Language and narrative in Indigenous culture.**

Most Indigenous languages are oral languages, not written down, and story-telling is a very important educational and enculturation tool, however, performance in verbal language is not expected within the first two years of life (Dudgeon, Garvey & Pickett, 2000). Children are
not encouraged to ask “why”, and language is primarily a tool for social interaction not education. Though Australian Indigenous cultures are strongly auditory as shown by the strong oral traditions of narrative and story-telling, there is little verbal interaction solely for the purpose of instruction (Dudgeon, et al.). Questioning is often discouraged, or at least frowned upon, and is seen by older Australian Indigenous as bad manners (Dudgeon, et al.). Eades (1982) found that Australian Indigenous people, children and adults, were reluctant to answer questions, and also questions were generally not the way used to seek out information. Hamilton (1981) also found that children of 3 to 4 years of age asked very few questions such as “why”, “how” and “when”, questions which are typical of that age in non-Indigenous Australians. It appears that this cultural concept of Indigenous children and adults not questioning has not changed with time. More recently Reeders (2008) stated that it is not always avoidance of the question as much as the social constraints regarding who has the right to know the piece of knowledge. Sign language may be used, and in general, learning is through observation and imitation rather than verbalisation. Many Australian Indigenous children are image-related learners in that they have learnt to rely on visual images, symbols and diagrams to acquire new information (Craven, 1996). Hamilton (1981) suggested that the development of high-levels of skills in reading gesture, posture and expression may be due to the very non-verbal nature of their culture.

In summary, Fleer (1999, p. 98) stated:

Literacy then for Australian Indigenous children is about developing speaking, listening, reading natural signs and human-made symbols, recording language in lore, stories, songs, dance, rituals and traditions, observing body and sign language, combined with intuitive and critical thinking. Religious, and spiritual beliefs, values, customs and
traditions are embedded within all these elements of Indigenous literacy. The learning of these symbols is within the context of family and spiritual connectedness.

**Literacy and play in Indigenous society.**

Earlier in this chapter the significance and interface between the development of literacy and pretend play was discussed. There is a growing body of evidence that one avenue through which Western children develop literacy skills is through pretend play. There is no literature on the link between pretend play and literacy in Australian Indigenous society. The National Literacy and Numeracy Benchmark assessments (ABS, 2010) indicated that a significant percentage of Australian Indigenous children have literacy difficulties, and do not meet the benchmarks met by non-Indigenous children of the same age. This implies that many Indigenous Australian children require some form of intervention to enhance their abilities to perform at the same level as their non-Indigenous peers. However, a closer look at assessment of Australian Indigenous children may be valuable as there is disconnect between Indigenous children being literate within their own culture and how they are perceived within non-Indigenous educational settings.

**Concept of Assessment in Indigenous Cultures**

Western culture accepts and understands that assessment is an integral part of life from early childhood onwards and assessment is seen as essential in Western cultures in health and educational services (Cherney, Kelly-Vance, Glover, Ruane, & Ryalls, 2003). However in the limited literature available on the concept of assessment in Indigenous cultures, assessment is not viewed in the same way as it is by Western cultures.
A deep concern of both American Indian, Alaskan Native and Australian Indigenous communities was that standardised assessments were not culturally appropriate, and may lead to the under or over-representation of their children in groups labelled as deficit or requiring special intervention (Ball & Lewis, 2005; Hammer & Demmert, 2003). These community members expressed the view that it was more likely that the assessment tools were inappropriate and that the norms were culturally biased (Ball & Lewis). Specifically discussing the concerns amongst Indigenous Australians, Godfrey and Galloway (2004) stated that the community members saw the assessments as not only inappropriate, but that the results of these assessments may be unfairly used or misused by school personnel for labelling or positioning their children within the school setting.

Ball and Lewis (2005) stated that the actual concept of testing a child, then ranking their developmental levels or achievement is inherently offensive in the American Indian and Alaskan Native cultures. Dudgeon et al. (2000) and Forbes-Harper (1996) reported similar perceptions of assessment by Indigenous Australians who believe each child is “who they are”, and accepted for their differences. There is a cultural resistance to singling out a child even for positive praise (Ball & Lewis; Dudgeon, et al; Harkins, 1990). Children in these communities have no attributes made about them in early childhood as the culture is non-competitive and inclusive. Therefore assessment may be seen as discordant with cultural values (Ball & Lewis).

Traditional Australian Indigenous communities emphasised learning in real-life situations through observation and by imitation, with little correction or interference from the adult ((Fasoli et al., 2010; Kearins, 1984; Sakrzewski, 1997). Therefore mistakes were either
unlikely to occur, or were ignored as insignificant, and part of the learning process. Sakrzewski (1997) noted that Australian Indigenous children consequently do not like making mistakes, which may in part be the reason for their strong peer group affiliations across the age groups, and for the nurturance of these groups of the younger child. The implications of the Australian Indigenous attitude to assessment are that assessments which are focussed on a single participant, are standardised and therefore comparative, and non-real-life, may be seen as at the least, inappropriate, and, at worst, offensive, by the Indigenous community.

Assessment of Play and Literacy

Assessment of Play

There is no play assessments developed for Australian Indigenous children. Lougher (2001) proposed that because the outcome of play is less important than the actual process of play, there is no defined right or wrong way to play. Currently there are very few play assessments which have an administration and scoring process which is flexible enough to measure the process of play allowing for the creativity of the child (Lougher).

While accepting there may not be a right or wrong way to play occupational therapists have been aware that play is an essential contributor to children’s development, and as such, requires the same thorough examination as any other occupation across the lifespan (Bundy, 1997; Lautamo, Anders & Salminen, 2005; Parham, 2008; Stagnitti 2004a; 2004b). However, in comparison to the abundance of literature on play, there is a limited number of play assessments, with fewer still developed by occupational therapists which focus on the
occupation of play. Some of the assessments which purport to assess play, in reality assess children’s internal capacities and not play in itself (Bundy, 1997; Case-Smith, 2005; Lautamo et al., 2005; Stagnitti, Unsworth & Rodger, 2000). In reference specifically to occupational therapy, the assessment of children’s abilities through play assessments in the last two decades has focussed on “the underlying skills and capacities” which underpin play (Bundy, 2005, p. 137). Most play assessments have focussed on aspects such as neurological and cognitive function, organisation of behaviour and sensorimotor skills, and more recently playfulness, social and dramatic play (Parham, 2008). Bundy (2005, p. 137) suggested there were “a myriad of play assessments that one might use to assess children’s underlying skills”, and while these can be useful, fewer actually assess the child in the context of play.

While there are few assessments which exist to evaluate play itself, and there are even fewer which evaluate pretend play (Bundy, 2005). Bundy in Law, Baum and Dunn (2005), described 11 assessments which purport to assess play, only half of which she stated are commonly used by occupational therapists in clinical practice or in research. The assessments listed in Law, Baum and Dunn’s book was not an exhaustive list of play assessments used by occupational therapists, however were representative of assessments which assess what the child plays, why they do it, how they approach play, their capacity to play or the play environment. Parham and Fazio (2008) described only five assessments of play in relation to occupational therapy in their attempt to present play assessment in a family-centred, situated, more narrative-based approach to the evaluation of play. Table 2.2 presents a summary of four play assessments developed by occupational therapists, only two of which are standardised assessments. Table 2.3 presents two play assessments developed by people from other disciplines but which are developed to evaluate pretend play which is the focus of this
thesis. It is not within the scope of this thesis to examine all the assessments which purport to
assess some aspects of play.
Table 2.2

*Occupational therapy play assessments*

<table>
<thead>
<tr>
<th>Name of assessment and headings for description</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Revised and re-named the Knox Preschool Play Scale (1997).</strong></td>
<td>Formerly the Knox Play Scale (Knox, 1974)</td>
</tr>
<tr>
<td><strong>Purpose</strong></td>
<td>Developed for research so that a developmental description of play was gained.</td>
</tr>
<tr>
<td><strong>Theoretical orientation</strong></td>
<td>Based on developmental theory (Knox, 2008). Knox was influenced by Reilly.</td>
</tr>
<tr>
<td><strong>Age range</strong></td>
<td>0-6 years</td>
</tr>
<tr>
<td><strong>Area/s assessed</strong></td>
<td>Four dimensions of play: Space management; Material management; Pretense-symbolic; Participation. Categories of play within dimensions: gross motor, exploration, manipulation, construction, imitation, imagination, dramatization, music, territory, interest, purpose, attention, co-operation and language.</td>
</tr>
<tr>
<td><strong>Time to assess</strong></td>
<td>2 x 30 minute observations (minimum).</td>
</tr>
<tr>
<td><strong>Setting</strong></td>
<td>Observations of free play indoor and outdoor familiar environments to the child. Materials and toys for the PPS are found within the child’s own environments. Peer necessary for Participation to be observed.</td>
</tr>
<tr>
<td><strong>Reliability and validity</strong></td>
<td>Inter-rater reliability: range from 0.000 to 0.984 for play categories and 0.000 to 0.986 for</td>
</tr>
</tbody>
</table>
Commercial availability

Comment

- Test re-test reliability: 0.000 to 0.918 for play categories, and 0.861 to 0.961 for dimensions of play.
- Concurrent validity: compared to Parten’s Social Play Hierarchy and Lunzer’s Scale of Organization of Play Behaviour. Correlations between PPS and assessments ranged from 0.495 to 0.713. (Bledsoe & Shepherd, 1982; Harrison & Kielhofner, 1986).
- Jankovich et al (2006) showed inter-rater reliability for overall play score 90%, and construct validity 93%-100% (Knox, 2008).
- Inter-rate reliability with children with autism r=.94 (Lee, 2007).

Description provided in journal articles and books and on internet.

- Produces qualitative information and a developmental play age. Scoring based on ranking of descriptors for play levels observed.
- Mean scores obtained for factors and dimensions to give overall play age.

### Table 2.2 continued

*Occupational therapy play assessments*

<table>
<thead>
<tr>
<th>Name of assessment and headings for description</th>
<th>Description</th>
</tr>
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<tbody>
<tr>
<td><strong>Play History (Takata, 1974)</strong></td>
<td></td>
</tr>
<tr>
<td>Purpose</td>
<td>Developed for research purposes.</td>
</tr>
<tr>
<td>Theoretical orientation</td>
<td>Based on developmental stages put forward by Piaget (a cognitive developmental theorist), and Erikson (a psychodynamic theorist). Occupational therapy influences from Reilly and Florey.</td>
</tr>
<tr>
<td>Age range</td>
<td>0-16 years.</td>
</tr>
<tr>
<td>Area/s assessed</td>
<td>Past and present play experiences in terms of: epochs of play – sensorimotor, symbolic and simple constructive, dramatic and complex constructive and pre-game, games, recreational.. Elements of each epoch – materials (what), action (how), people (with whom), setting (where).</td>
</tr>
<tr>
<td>Time to assess</td>
<td>Not given.</td>
</tr>
<tr>
<td>Setting</td>
<td>Semi structured interview with a parent or carer. Setting not prescribed.</td>
</tr>
<tr>
<td>Reliability and validity</td>
<td>Inter-rater reliability: 0.610 to 0.845. Test re-test reliability: 0.410 to 0.775. Concurrent validity: comparison with Minnesota Child Development Inventory Subscales with correlation coefficients ranging from 0.649 to 0.908 and chronological age ranging from 0.794 to 0.848 (Behnke &amp; Fetkovitch, 1984)</td>
</tr>
<tr>
<td>--------------------------</td>
<td>--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Commercial availability</td>
<td>Description provided in journal articles and books.</td>
</tr>
<tr>
<td>Comment</td>
<td>Produces qualitative information. Cannot measure change following intervention or compare one child with another. (Sturgess, 1997) The limitations of this form of assessment have been detailed by Bryze (1997) such as the interviewee giving the ‘right’ answer to the interviewer and questions which limit the meaningfulness and breadth of the information provided..</td>
</tr>
</tbody>
</table>

### Table 2.2 continued

**Occupational therapy play assessments**

<table>
<thead>
<tr>
<th>Name of assessment and headings for description</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Test of Playfulness (version 4) Bundy (2003).</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Purpose</strong></td>
<td>To assess vital aspects of play, i.e. Playful approach to play, playfulness.</td>
</tr>
<tr>
<td><strong>Theoretical orientation</strong></td>
<td>Based on Metacommunicative Theory (Bateson, 1955), previous work on playfulness by Liebermann (1977), and Barnett (1991), and influenced by Reilly.</td>
</tr>
<tr>
<td><strong>Age range</strong></td>
<td>6 months to 18 years</td>
</tr>
<tr>
<td><strong>Area/s assessed</strong></td>
<td>Consists of 29 items scored on a 4 point scale (Skard &amp; Bundy 2008). The ToP assesses intrinsic motivation, internal locus of control, freedom to suspend reality, and framing (i.e. how the child maintains the play scenario and understands social cues within the play context). These attributes are scored under the headings extent, intensity and skilfulness (Skard &amp; Bundy). Scoring uses a test-specific Keyform depicting the relative difficulty of each item against the means and standard deviations for each item. Item scores are shown on the Keyform as a total score ranging from -7 to 7 (Skard &amp; Bundy).</td>
</tr>
<tr>
<td><strong>Time to assess</strong></td>
<td>2 x 15 – 20 minutes.</td>
</tr>
<tr>
<td>Setting</td>
<td>Free play observation in an indoor and outdoor familiar environment to the child.</td>
</tr>
<tr>
<td>------------------</td>
<td>----------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Reliability and validity</td>
<td>Inter-rater reliability: All raters conformed to the expectations of the Rasch model (Harkness &amp; Bundy, 2001; Okimoto, Bundy &amp; Hanzlik, 2000) Data from 96% of raters (n=170) demonstrated goodness of fit to the Rasch model (Bundy, 2001, p96). Test-re-test reliability was shown to be stable over a number of years (Brentnall, 2005). Concurrent validity: compared to the Children’s Playfulness Scale, correlation of 0.46 (Bundy, 2001). Construct validity: similarities found between typical children and children with physical disabilities (Harkness &amp; Bundy, 2001), differences found between typical children and children with Attention Deficit Hyperactivity Disorder (Leipold &amp; Bundy, 2001), differences in environment were found by Reed, Dunbar &amp; Bundy (2000). Acceptable goodness of fit statistics using Rasch analysis found 23 or 24 items (Bundy, 2001). Cross cultural validity is reported in Porter and Bundy (2000), Griffith (2000) and Phillips (1998).</td>
</tr>
<tr>
<td>Commercial availability</td>
<td>The ToP is being researched and developed.</td>
</tr>
<tr>
<td>Comment</td>
<td>Produces qualitative and quantitative information. Linked to the observational assessment: Test of Environmental Supportiveness (TOES) (Bronson &amp; Bundy, 2001).</td>
</tr>
</tbody>
</table>

### Table 2.2 continued

**Occupational therapy play assessments**

<table>
<thead>
<tr>
<th>Name of assessment and headings for description</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Child-Initiated Pretend Play Assessment (Stagnitti, 2007)</strong></td>
<td></td>
</tr>
<tr>
<td>Purpose</td>
<td>Assesses self-initiated, conventional-imaginative and symbolic play in one session using standardized materials.</td>
</tr>
<tr>
<td>Theoretical orientation</td>
<td>Based on the theories of Vygotsky (1966, 1997) and Sutton-Smith (1967) that pretend play contributes to children’s cognitive development.</td>
</tr>
<tr>
<td>Age range</td>
<td>3-7.11 years</td>
</tr>
<tr>
<td>Area/s assessed</td>
<td>Conventional imaginative play session; symbolic play session.; scoring elaborateness of child’s pretend play (PEPA), number of times child uses an object in object substitution (NOS), and number of times the child imitates an action modelled by an adult (NIA). This gives a score out of nine for the complete test.</td>
</tr>
<tr>
<td>Time to assess</td>
<td>Total time for 3 year old is 18 minutes. Total time for 4-7.11 years olds is 30 minutes.</td>
</tr>
<tr>
<td>Setting</td>
<td>Clinical setting. Standardised set-up of equipment.</td>
</tr>
<tr>
<td>Reliability and validity</td>
<td>Content validity: determined by panel of 18 experts using 21 item questionnaire. Inferred</td>
</tr>
<tr>
<td>Commercial availability</td>
<td>Commercially available since July 2007.</td>
</tr>
<tr>
<td>-------------------------</td>
<td>--------------------------------------</td>
</tr>
<tr>
<td>Comment</td>
<td>Provides information about self-initiation of pretend play not obtained through any other assessments. Quality of play is evident through how children establish play, maintain play, use language skills, imitate and use play ideas. (Stagnitti, 2007)</td>
</tr>
</tbody>
</table>

### Table 2.3

*Play Assessments Developed by a Discipline Other than Occupational Therapy to Evaluate Pretend Play.*

<table>
<thead>
<tr>
<th>Name of assessment and headings for description</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Symbolic Play Test 2nd Edition (Lowe &amp; Costello, 1988)</strong></td>
<td>To assess children's spontaneous non-verbal play activities in a structured situation, and language potential in its early stages (Lowe &amp; Costello, 1988)</td>
</tr>
<tr>
<td>Purpose</td>
<td>Based on developmental study of representational play in infants (Lowe, 1975, cited in (Lowe &amp; Costello, 1988))</td>
</tr>
<tr>
<td>Theoretical orientation</td>
<td>12-36 months</td>
</tr>
<tr>
<td>Area/s assessed</td>
<td>Four ‘Situations’ Using a standardized set of toys / objects for each situation. Assesses spontaneous interaction with toys / objects: discriminate handling of toy; relationship of toys / objects to each other; use of toys; relationship of object to self. Scoring using + and – against criteria in scoring guide termed ‘directly observed behaviour units.’ Sum of all passes (+) relates to an age equivalent.</td>
</tr>
<tr>
<td>Time to assess</td>
<td>10-15 minutes.</td>
</tr>
<tr>
<td>Setting</td>
<td>No setting described.</td>
</tr>
<tr>
<td>Reliability and validity</td>
<td>Reliability: 0.52 to 0.92 split half reliability corrected using Spearman-Brown formula. Test</td>
</tr>
<tr>
<td>Commercial availability</td>
<td>Available commercially.</td>
</tr>
<tr>
<td>-------------------------</td>
<td>------------------------</td>
</tr>
<tr>
<td>Comment</td>
<td>Does not assess the pre-school aged child. Assesses only conventional-imaginative play (Stagnitti, 2000).</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Name of assessment and headings for description</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Test of Pretend Play (Lewis &amp; Boucher, 1997)</td>
<td>Formerly known as the Warwick Symbolic Play Test</td>
</tr>
</tbody>
</table>

**Purpose**
- Developed to assess a child's level of conceptual development and ability to use symbols.
- Designed for use by professionals for the assessment and diagnosis of developmental ability (Clift, Stagnitti & DeMello, 1998)

**Theoretical orientation**
- Developmental orientation based on Piaget's theories of the development of representational thought.

**Age range**
- 1 to 6 years

**Area/s assessed**
- Assesses three types of symbolic play: substituting one object for another object or person; attributing imagined property to an object or person; and reference to an absent object, person or substance. Assesses the extent to which the child can incorporate several symbolic actions into a meaningful sequence (Clift, Stagnitti & DeMello, 1998)

**Time to assess**
- Up to 45 minutes, dependant on the individual.

**Setting**
- No setting described.
| Reliability and validity | Test-retest reliability reported by Lewis and Boucher (1997) as 0.87 with a sample of 40 children. Internal consistency ranged from 0.55 to 0.94 (Lewis & Boucher, 1997). No inter-rater reliability was reported by the authors. Clift, Stagnitti and DeMello used Cohen's kappa statistic which reported a result of 0.68 which is described as ‘good agreement’ above chance. (1998)

Construct validity was reported at 0.86. Some degree of concurrent validity with the revised Renfrew action picture test (1995), the British picture vocabulary Scale (Dunn, 1992) and the preschool language scale (range 0.56 – 0.88). |
| Commercial availability | Commercially available. For younger children non-verbal pretend play is assessed, and a verbal version for older children. |

Of the assessments outlined in Tables 2.2 and 2.3, only one play assessment meets Lougher’s criteria of assessing process of play while allowing for creativity of the child. This is the Child-Initiated Pretend Play Assessment (Stagnitti, 2007). This play assessment allows the child to spontaneously self-initiate play ideas for the length of the assessment giving an indication of the child’s playfulness and creative thinking. Stagnitti (2007) argued that it captures essential behavioural attributes for play ability and gives a complete picture of pretend play ability (as it measures both conventional imaginative play and symbolic play). Lewis, Boucher and Astell (1992) noted that children considered to have learning difficulties, should have both conventional and symbolic forms of play assessed. The Child-Initiated Pretend Play (ChIPPA) assessment is a reliable and valid assessment, which assesses the pre-academic capabilities of children in a functional way (Stagnitti, Unsworth & Rodger, 2000).

The ChIPPA has been developed in Australia, unlike the other play assessments described in Tables 2.2 and 2.3. As play is considered to be influenced by culture and situation it cannot be assumed that a play assessment created or norm-referenced in another country would suit an Australian Indigenous population. The ChIPPA however did not include Australian Indigenous children within the study sample, therefore it may not be suitable for Indigenous Australian children. Searches for literature from numerous data-bases and libraries and centres for Australian Indigenous studies were not able to locate any references to the assessment of Indigenous children’s play, nor pretend play.

Assessment of Literacy

Similar to the lack of play assessments for use with Australian Indigenous children, there is a lack of literacy assessments developed for Indigenous Australians. The education databases
provide some literature on the assessment of literacy of Indigenous children. There is significant concern voiced in the literature about equity in the use of Western oriented, standardised tests with Indigenous children. While the object of assessment may be fairness and objectivity many assessments have not included minority groups such as the Indigenous peoples into the norming samples, nor collaborated on the item selection, thereby disadvantaging Indigenous people. Norm-referenced, standardised testing has produced a profile of Indigenous people as low achieving in literacy (McGarrigle & Nelson, 2006; Sakrzewski, 1997), and typically these, and criterion-referenced tests, have predominantly been used in measuring school achievement of literacy (Wagner, 1990). This supports the concerns of those authors who stated that standardised assessments are not seen as appropriate by Indigenous communities, and that their children will be over-represented as being “impaired” or “deficient”. It can be concluded that the assessments were inappropriate for the population group being assessed.

Sakrzewski (1997) questioned if it is even possible to devise a culture-independent assessment. In relation to the diversity of literacy skills that even one individual may possess, and the diversity within cultures, tribal groups, and multilingual societies it is difficult to create a fair and equitable instrument of literacy assessment (Wagner, 1990). Some researchers and educators believe that the most appropriate form of assessment is “situated performance assessment” rather than the most commonly used written and oral literacy assessments used in schools in Australia (Wolf, Bixby, Glenn, & Gardner, 1991). Situated performance assessment is assessment which takes place in the cultural group’s context and is based on the concepts of functional literacy rather than pencil and paper based literacy. Functional literacy allows the child to function within their context, relative to the individual’s needs, dependent on their social and cultural context. Situated performance
assessment therefore is contextual and situational measurement of a child’s ability to be literate, through a performance such as reading their name on the whiteboard at school, recognising and reading a fast-food menu, writing their name on their class-work (Wagner, 1990; Wolf et al, 1991).

In a study assessing early literacy and numeracy skills among Indigenous children in Western Australia, Godfrey and Galloway (2004) reported they spent significant time in endeavouring to find a suitable assessment tool to assess reading ability in Indigenous children. The tests originally considered were all developed in Western Australia. They rejected the *Kimberley Standard Vocabulary Test* (Brandenburg, cited in Godfrey & Galloway), the *Western Australian Action Picture Test* (Kormendy, cited in Godfrey & Galloway) and *The Hundred Pictures Naming Test* (Fisher & Glenister, cited in Godfrey & Galloway) claiming that these tests had unsuitable language, were complex in administration procedures, lengthy, were too difficult for assessing Kindergarten to Year 3 reading skills or were considered to be outdated. They finally chose *The Diagnostic Reading and Spelling Tests 1 & 2* (Waddington, cited in Godfrey & Galloway) which was considered to use appropriate language and be easily comprehended by Indigenous children in Kindergarten to Year 3 (Godfrey and Galloway). The test reportedly used easily recognisable pictures, and was easy to score. Godfrey and Galloway did report there was a wide divergence of opinion amongst the schools in the study as to the suitability of the instrument for use with Indigenous children. This partly explains the difficulty facing researchers in choosing suitable and appropriate assessments for a culture where assessment is foreign but where the community Elders understand the implications of assessment and want their children to be able to move between the Indigenous community and non-Indigenous community.
Oral language is one facet of literacy. A study by Oliver, Haig and Rochecouste (2005) concluded that many of the Western Australian teachers they interviewed had a narrow view of what constitutes oral language and were not confident in assessing student outcomes in oral language. Oliver et al. (2005) found in Canadian communities where the culture values talk and language usage there was a mismatch with generalised mainstream language values which were embedded and assessed in public school curricula. Typical child assessment situations involve modes of questioning and response which are more familiar and common to European-heritage children than to many Australian Indigenous children (Oliver et al.). While this study was conducted in Canada, the values regarding language use, listening, silence, observational learning and assessment appear to parallel those of the Australian Indigenous people.

It is imperative that any assessment of emergent literacy or literacy skills, including oral language, is considered in relation to cultural appropriateness. “Appropriate assessment means taking a comprehensive and broad-based view of literacy, especially in the measurement of literacy levels” (Wagner, 1990, p. 114). Obtaining such an assessment is not easy, and the assessment chosen may not be accepted by members of different communities as culturally appropriate.

While there is a multiplicity of research studies relating to literacy assessment, and fewer addressing play assessment as distinct entities, there is very limited research regarding using play assessments to measure literacy potential or literacy development. Roskos and Christie (2001) stated that children’s pretend play at age 3 years predicted children’s emergent writing, but did not predict emergent reading at age 5 years. Stagnitti and Jellie (2006) stated that children’s pretend play ability can be used as a measure of a child’s language potential.
Therefore the questions remain. Is there a relationship between pretend play and literacy in non-Indigenous children? Would a culturally appropriate pretend play assessment be a means of measuring the literacy potential and development of Indigenous Australian children?

Importance of Gaining Knowledge of a Child’s Play and Literacy in Indigenous Cultures

Despite the Australian initiatives aimed at the improvement of Indigenous education, there are many Indigenous children who experience difficulties with the core aspects of education and who frequently struggle to achieve educational outcomes comparable to non-Indigenous Australians, irrespective of the fact that many Indigenous Australians value education (Marten, 2005; McGarrigle & Nelson, 2006). The Australian Census of 2001, reported that only 20% of Indigenous children continued through to Year 12 of formal schooling, despite most Indigenous children’s enthusiasm and readiness to learn when they enter school (McGarrigle & Nelson). In 2010 the Australian Bureau of Statistics reported that 23% of Indigenous children continued formal schooling to Year 12. While this may appear to be a significant improvement, it is well below the non-Indigenous level of formal educational retention. While there is a multitude of reasons for the failure of many Indigenous children to achieve in the formal education system, it is frequently reduced educational achievement in the early years which precipitates this failure in the later years (Adams, 1998; Frigo & Adams, 2002; McGarrigle & Nelson, 2006).

At least 39% of the Australian Indigenous population of Australia is aged below 15 years, and 25% of the Australian Indigenous population fall in the zero to 9 year age bracket (Australian Bureau of Statistics, 2010). Amongst Indigenous Australians there is a high
failure rate at school. There is concern in Queensland, Australia, that there are many Indigenous children who are kept back (retained) in their pre-school year due to failure to meet educational outcomes and that this practice is ineffective and harmful to Indigenous students who are already seen as educationally disadvantaged (Centre for Community Child Health and telethon Institute for Child Health Research, 2009). There is a gap in knowledge of children’s play and literacy development in Indigenous communities and culturally appropriate assessment would contribute to culturally appropriate early childhood education (Australian Bureau of Statistics, 2010; Marten, 2005).

Indigenous children are over-represented in groups identified as under-achieving or having learning difficulties. In part this may be due to the cultural inappropriateness of the assessment tools used to determine school readiness, academic achievement, and cognitive and literacy development. What are considered typical culturally appropriate behaviours, learned and developed in the Indigenous context, can be perceived as evidence of a deficit or a problem when the child is in a non-Indigenous context, for example the classroom, or playground (Fasoli, et al., 2010). Assessment may be more effective if knowledge is gained through Indigenous children’s play as play is a situated performance assessment. Play, especially pretend play, and the development of literacy are related in non-Indigenous children. For example, Stagnitti et al. (2000) found that typically developing and children who were at risk in their pre-academic ability could be identified by the quality of the child’s ability to self-initiate pretend play and use symbols in play (as assessed on the ChIPPA). There is a dearth literature on the inclusion of pretend play and its links to literacy in early childhood settings for Indigenous children.
Before any work can be carried out investigating whether pretend play ability can be linked to literacies in Australian Indigenous children, the development of a pretend play assessment designed for use with Australian Indigenous children needs to be developed. There is a tension between providing an assessment of play which will assist in correctly and accurately identifying children who may require intervention, and the need to be sensitive to the Indigenous culture’s beliefs about assessment. Any attempt to develop a culturally appropriate assessment must include the input of Indigenous people within the community at all stages of the research and development.

Chapter 3 describes a study which begins the process of examining and developing what a culturally appropriate pretend play assessment would be for Australian Indigenous children, with specific reference to those in the Pilbara region of Western Australia.
CHAPTER 3

Developing a Culturally Appropriate Assessment of Pretend Play for Australian Indigenous Children

“to generalise about the nature of sport and play in Aboriginal culture….would be as simplistic a statement as to consider the many countries of North-West Europe as quite homogenous.” Anderson, M (1980) cited in Factor (1998)

Introduction

Chapter 2 outlined the literature on play, pretend play, what is known of Australian Indigenous children’s play, and literacies. Very little is reported in the literature on Australian Indigenous children’s play, particularly pretend play. The information that is available is not current and frequently observations of children’s play were reported from a position of paternalism. It was also reported that there are no culturally appropriate assessments of play for Australian Indigenous children. As assessment itself is a sensitive subject within Indigenous cultures, this chapter explains why the Child-Initiated Pretend Play Assessment (ChIPPA) was chosen as the basis of development for a culturally appropriate assessment of children’s play. The process that took place to ensure a sensitive and appropriate method to bridge the gap between Western expectations of child performance and the Western Australian Indigenous communities’ wishes for the best possible outcomes for their children is also explained.

The study presented in this chapter had three aims:
Aim 1: To investigate the toys and play materials needed for a culturally appropriate assessment of play,

Aim 2: To ascertain whether the toys and play materials were gender-neutral, and,

Aim 3: To investigate any changes needed to administer a child-initiated assessment to ensure cultural appropriate practice.

Culturally Appropriate Assessments: The Selection of Play Materials, A Literature Review

To be able to discuss culturally appropriate toys and assessment it is important to define the term culturally appropriate. Dudgeon et al. (2000) defined cultural appropriateness by referring to the patterns of acting and behaviour, and to the patterns of thought and feeling. Culture is the complex whole of knowledge, beliefs, values, thought, morals, laws, customs, art, and habits that have been acquired and sanctioned by people as members of a society (M.Harris, 1980). It is the total way of life of a group of people, which is not static, but changing in response to changing circumstances. Consequently culturally appropriateness is “the positive inclusion of taking direction from Indigenous people and their cultures in any given, issue, program, model or service” (Dudgeon, et al., 2000, p.12). So, to examine the cultural appropriateness of toys in an assessment, the direction must be taken from the Indigenous community within which the assessment would be used.

The Child-Initiated Pretend Play Assessment (ChIPPA) (Stagnitti, 2007) contains sets of objects. It has conventional toys and objects such as dolls, cups and saucers, plastic farm animals, and trucks to assess conventional imaginative play. The dolls are Caucasian in
appearance. These conventional items reflect the dominant European-heritage culture in which the ChIPPA was developed.

The symbolic play materials in the ChIPPA contain “junk” materials which would probably exist in most cultures such as pebbles, flat sticks, a piece of fabric, cardboard boxes and a tin can. This is a unique feature of the ChIPPA and these play materials are used to assess a level of play which indicates a higher level of cognitive symbolic development (Stagnitti, 2007). The junk or unstructured play materials were a consideration in the choice of the ChIPPA as throughout history Indigenous children have close ties physically, spiritually and culturally with the natural environment and the objects in it.

The ChIPPA was chosen over other pretend play assessments as it is a highly reliable and valid assessment tool which assesses a child’s ability to self-initiate play (Stagnitti, 2007). During the assessment the child initiates and directs the process of the play and this aligns to the cultural norms where Indigenous children play in child-led, multi-age groups rather than adult-directed play (Dudgeon, et al., 2000). It also meets Lougher’s (2001) criteria of assessing the process of play while allowing for the child’s creativity. The ChIPPA was developed in Australia and therefore may have more validity in the Australian context.

Cultural acceptance of toys is one variable which most standardised play assessments have not considered. Gender neutrality is a second variable which must be studied to allow the play assessment to measure the play skills of the child rather than their toy preference (Stagnitti, Rodger & Clarke, 1997). Toy preferences have developed through cognitive development, including gender constancy and gender labelling, as well as the social behaviours learnt in their social environments (Eisenberg, Murray & Hite, 1982). A study
was conducted by Stagnitti et al. (1997) to determine the gender neutrality and developmental appropriateness of the play materials in the ChIPPA. This study was conducted within the context of a non-Indigenous sample population. Observable gender-typed toy preferences can be found by the age a child is 27 months and that by pre-school “children’s gender-typed play preferences were clearly measureable” (Stagnitti et al., p. 120). Most studies reviewed by Stagnitti et al. stated that boys have narrower gender-type patterns of play than girls. Boys tend to play with more gender-type toys and more strongly define their gender roles than girls, and consequently are more likely to choose what they perceive as gender-appropriate toys than girls (Stagnitti et al., p. 121).

The toys chosen for the ChIPPA were identified as being acceptable to both boys and girls within the pre-school age range. The two sets of toys tested were the commercially available toys and the symbolic unstructured toys (previously referred to as junk toys) (Stagnitti et al., 1997). The study results indicated there was no statistical difference between the frequency of play actions of boys and girls with the toys and this, with the ranking of toy preferences by boys and girls led to the selection of toys designated as gender neutral. This resulted in the toy selection of the farm animals, fences, trucks and trailer. The authors argued that preschool children “found it easier to play with toys that had an obvious theme” (Stagnitti et al., p. 128).

Comprehensive database and journal searches, using keywords such as culturally appropriate toys, and culturally appropriate dolls, resulted in a number of articles which related to studies examining ethnic and racial attitudes, and self-identification. In these studies, for example, Cramer and Anderson (2003) and Fox and Jordan (1973) presented children with different coloured dolls representing different ethnic groups. Cramer and Anderson’s study compared
the doll preferences of Jamaican children living in Jamaica, with Caucasian (White) American children. Fox and Jordan compared the doll preferences of Chinese-American children with Caucasian (White) American children. Children’s preference to the skin tone of the doll was noted. In almost all of these articles both White and Non-White children showed preference for light skinned dolls (Cramer & Anderson, 2003; Fox & Jordan 1973; Gin, 2003; Gopaul-McNicol, 1995; Gregor & MacPherson, 1966; Gunthorpe, 1998; Powell-Hopson & Hopson, 1992). Most authors concluded that the children had rejected their ethnic group identities as a consequence of pervasive negative stereotypes promoted through the media, education, parents and the broader society. Where children were given a choice of three dolls of different skin tones, there was a slight tendency for all children to select the brown doll as undesirable, and this tendency appeared to be greatest among the White children in the sample group (Gunthorpe, 1998).

The above mentioned studies concluded that those children of ethnic minorities who were more acculturated to the dominant culture, for example Chinese-American children, were more likely to identify with the doll of Chinese appearance, and the Chinese-American children who were less acculturated to the American culture were most likely to choose the White doll. Findings also indicated that the degree of inter-racial interaction with other race peers in schools promoted more positive own-race views (Gin, 2003).

Cramer and Anderson (2003) stated that the results of their study showed an overall tendency for children to favour the White doll however the age of the child was significant in their choice-making. Kindergarten children from rural Jamaica did not show skin colour preference and White sixth graders from New England were more likely to choose the Black doll.
Despite extensive literature searches there appears to be a dearth of literature on similar studies being conducted with Indigenous Australian children. The cultural appropriateness of the toys and objects for a play assessment requires examination in consultation with the Indigenous community. Without this information the results from the play assessment would have to be questioned, as the lack of interaction with a particular object or toy may be culturally derived rather than reflecting poor pretend play skills. Conversely, a child showing a preference for a particular toy may be due to cultural stereotyping rather than from a play deficit such as fixation on an object. If the toys and materials are unfamiliar, children may engage in exploration of the toys rather than engaging in pretend play, or wanting to share them in social pretend play (Roopnarine, Johnson & Hooper, 1994). All these situations will affect the outcomes of the assessment and thus the selection of a gender-neutral culturally appropriate set of play materials was important in the development of a culturally appropriate play assessment. Therefore, Study 1 explored the toys and play materials of the ChIPPA to see if they required changing for a culturally appropriate play assessment for Australian Indigenous children.

**Study 1: Selection of Play Materials and Administration of the Assessment**

**Setting and Contact with Communities.**

This study was conducted with rural and remote Indigenous children in Western Australia. The original contact with community leaders of the Indigenous communities and school in the Pilbara came through allied health professionals in the region. Their local knowledge and relationship with the communities enabled the research to be introduced verbally to the community leaders prior to formal contact being made by the researcher (PhD candidate).
Three communities indicated interest in the research. A visit by the researcher to the communities was organised through direct telephone contact where possible, and through the local Aboriginal Corporation, which coordinates the services to each individual community. It was culturally appropriate to visit with the chairpersons, Elders and the members of the communities to fully apprise them of the proposed research study, so that they could discuss and consider the proposal within their cultural constraints. Immediately following the initial visit, documentation was sent to the communities to further explain the research study proposal, data collection methods and to ask for the communities’ opinions and concerns (see Appendices A1-A4 for documentation provided to the communities). The information package also included a video of the ChIPPA and photographs of the toys for the communities to be fully informed as to the type of assessment that would take place, and to be able to make recommendations in regards to the toys and their suitability for the children in their communities.

The implementation of the study had to fit with the culture of the communities. It was not known if the communities had participated in any studies previously. Relationship and trust with the community members were essential especially as the researchers were non-Indigenous and not local to the Pilbara region. Studies have shown that within most communities there is growth in the recognition that research can be a valuable tool if implemented appropriately, and that many communities have also shown their desire to be actively involved in research (Anderson, 1997).

The modification or development of an assessment for an Indigenous cultural group, is frequently referred to as “indigenisation from outside”, meaning that a researcher from outside the Indigenous culture is involved with studying a subject which was not generated
from inside the Indigenous community (Kim, 1990). Kim stated that this approach has at its core an attempt to incorporate the Indigenous people’s cultural perspectives into the research however it must be noted that the subject matter still reflects the interest of the researcher and not necessarily that of the population who is being investigated. Therefore for this study, visits and correspondence were made to communities to inform members of the purpose of the study, and to give information to them on the importance of research into Indigenous play, its interface with literacy and the potential impact of the results of this study on policy and practice in health services and education.

The initial visit to the communities and school ascertained that all three communities felt that the study had potential to benefit the community through improved understanding of Indigenous children’s play. The National Aboriginal and Islander Health Organisation (NAIHO) and the National Health and Medical Research Council (NHMRC) have set ethical guidelines for research in Indigenous Australian communities (NHMRC, 2006). This study was conducted within that broad framework, which encourages consultation and collaboration with Indigenous communities and their representatives, so that they have the opportunity to make an informed assessment of the proposed study (Anderson, 1997). A mutually agreed timeframe was made, however the timelines had to be, as far as possible, dictated by the community and their function on a day-to-day basis, including extra-ordinary occurrences which affect the ability of a community to participate in the study. The case in point in this study was the delayed commencement due to a tragedy in one community, where it would have been culturally inappropriate for a non-Indigenous, non-community member to have commenced a study on-site.
The result of the initial contact and the follow-up documentation was that permission was given by the two communities and the school for the study to be undertaken. One community gave written advice as to what were considered to be culturally appropriate toys for the assessment. The other two communities, through discussion via telephone confirmed the selection of toys considered to be appropriate for their children and within the Pilbara region context. This information was essential for the selection of toys presented to the children in the study (see Appendices B1 to B3 for the written advice from communities and school).

**Participants**

The following inclusion criteria were set for the sample of children:

1. Indigenous Australian children living in rural and remote Indigenous communities in Western Australia.

2. Children aged 4 years to 7 years 11 months. The ChIPPA assesses children who are 3 years old, however this requires a different set of toys and this was beyond the boundaries of the study.

The exclusion criterion was children with a disability and/or intellectual disability and those conditions related to Pervasive Developmental Disorders, as these conditions have a known impact on play skills and would therefore add a confounding variable of non-typical development.

Twenty-three children (n=23) were included in the sample. Children were either from the two Indigenous communities (n=5) or attended a township school (n=18). There were more
female participants (n=13) than male (n=10), and of the 23 participants there were 10 four-year-olds (n=10), 8 five-year-olds (n=8), 5 six-year-olds (n=5). Some of the children were related to each other and all children knew each other through their community life or school life. The mean age of the children was 4.7 years and the standard deviation for age is 0.79 years.

Instrument

The ChIPPA was chosen as the play assessment to adapt for use with Australian Indigenous children as a culturally appropriate assessment tool. This study examined the toys and play materials of the ChIPPA to ascertain if they were culturally appropriate for the Indigenous children in the Pilbara region of Western Australia. The ChIPPA consists of two sets of toys, conventional toys and symbolic play materials, that is, unstructured play materials. The ChIPPA conventional toys consist of a set of farm animals (including cows, sheep, a rooster, pigs, goats, horses), a pale skinned male doll, a pale skinned female doll, a truck, a trailer, 12 fences and a small wrench. The unstructured play materials consisted of a large box, a small box, a dowel stick, a flat stick, three pebbles, a tin, a cone, a tea-towel, a face washer and two white cloth “dolls.” The play materials were tested for gender neutrality and developmental sensitivity (Stagnitti et al, 1997).

The assessment can be administered in both a clinical setting, or a room which is separate to the play area of other children, or in a school, day care or pre-school (Stagnitti, 2007). The ChIPPA is administered one on one with the examiner and child sitting on the floor in front of a “cubby house”. The child is presented with a set of toys and invited to play with the toys. There are no other instructions from the examiner.
When administered to assess a child’s play, the assessment takes 30 minutes for 4 to 7 year old children. The 30 minutes is made up of 15 minutes playing with the conventional toys and 15 minutes playing with the unstructured play materials. For the first five minutes, the child is presented with the toys or play materials and invited to play with them. For the second five minutes of the 15 minute block, the examiner models five play actions when it is possible to do so without interrupting the child’s play. For the final five minutes of the 15 minute block, the examiner is passive and encourages the child to continue to play. Three items are scored on the ChIPPA which are: elaborate play which indicates the level of complexity and organisation of the play; the ability of the child to substitute objects; and the ability of the child to self-initiate play without relying on modeled actions of the examiner. There is also a clinical observations form which has items related to typical indictors of play and indicators of play deficit (see Appendix B4 for description of the ChIPPA).

There is no reported measure of internal consistency or intra-rater reliability however studies of inter-rater reliability have determined the ChIPPA to have high inter-rater reliability. The inter-rater reliability scores included the percentage of elaborate play actions (0.96 or 0.98 (kappa)), the number of object substitutions (1.00 to 0.97 (kappa)), and the number of imitated actions which ranged from 0.98 to 1.00 (kappa) (Stagnitti, et al., 2000). Expert review of the ChIPPA suggested that the ChIPPA has been determined to have high content validity, that is, it appears to assess self-initiation of pretend play (Stagnitti, 2007).

Convergent validity was tested using the Miller Assessment for Preschoolers (MAP) (Miller, 1982). The Miller Assessment of Preschoolers is a measure of academic ability. Correlations between the ChIPPA and the MAP ranged from -0.09 to 0.4 with positive significant
relationships between the MAP sub-tests and elaborate play scores. The construct validity studies of the ChIPPA include theory testing (Uren & Stagnitti, 2009), sensitivity to age trends, and the differences between clinical groups of children and children who were developing typically (Stagnitti, et al., 2000). The ChIPPA was found to significantly identify children with developmental delay from typically developing children (Stagnitti, 2002). According to Stagnitti (2007) significant differences were found between these two groups of children in all Percentage of Elaborate Play Actions (PEPA) measures (p = 0.000), Number of Object Substitutions (NOS) symbolic (p= 0.000), and NOS combined (p = 0.000), and in all measures of imitated actions (NIA) (p = 0.000).

Procedure

Ethics approval.

Ethics approval was obtained from Deakin University Human Research Ethics Committee (Project EC 368-2006) and from Curtin University of Technology Human Research Ethics Committee (Approval HR 53/2007) prior to the commencement of data collection (see Appendices C1 and C2 for ethics approval documents). Modification to Project EC 368-2006 approval was sought to allow the data collection process with the children to be videoed (see Appendix D for the approval of modification to ethics). Approval was granted prior to the commencement of the data collection in May 2007. This was supported by permission from the community members and school (see Appendices B1-B3 for the letters of permission). Approval was also obtained from the Department of Education Western Australia to permit research to occur in the school (DO06/295227) (see Appendix E for letter of approval).
The recruitment of participants commenced with identification of children who satisfied the inclusion criteria, by the community leaders/Elders and the principal of the primary school. In the two Aboriginal communities, parental or guardian consent was gained shortly prior to the data collection session. This was deemed as the most effective and convenient procedure for the community by the community leaders/Elders due to the transient nature of the residents of the community. The parents and guardians were provided with a consent form (see Appendix F for the consent form), a Plain Language Statement and Information Sheet (PLS & IS) (see Appendix G for the PLS & IS) which was explained to the parents or guardian.

In the school setting, the documentation was forwarded to the school by mail and each child who met the criteria was given the information to take home for parental consideration. The Aboriginal and Indigenous Education Officers (AEIOs) followed up the documentation with the parents or caregivers.

**Play materials.**

The study's objective was to determine whether the ChIPPA play materials were culturally appropriate for Indigenous children in rural and remote Western Australia. To determine if these toys were culturally appropriate four sets of toys were used in this study. The ChIPPA conventional toy set was used intact. A second toy set was determined in consultation with members of the Indigenous communities and their input contributed to the development of a set of toys which were designated “Pilbara toys.” The toys considered appropriate by the community included kangaroos, snakes, lizards, galahs, cockatoos, emus, brown horses, brown cows, and dingoes. These toys were thought by the community members to more closely resemble the animals seen in the Pilbara region. The dolls were dark skinned,
however dressed in Western style, as this was consistent with the day to day dress of most Indigenous people within the Pilbara region. The truck, trailer, fences and wrench were included as all are readily available and observable within all three Indigenous contexts in the Pilbara. The third set of toys was the unstructured play materials from the ChIPPA as these were considered appropriate by the community leaders and therefore remained unchanged. Table 3.1 outlines the toy sets used in this study. A fourth toy set was a combined toy set to determine the children’s preference of play materials when presented with both sets of conventional toys (that is toy set 1 and 2).
Table 3.1

*The Toy Sets*

<table>
<thead>
<tr>
<th>Sets of Toys</th>
<th>ChIPPA conventional toy set</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Small truck, trailer, wrench and 12 fences</td>
</tr>
<tr>
<td></td>
<td>Pale skinned male doll &amp; female doll</td>
</tr>
<tr>
<td></td>
<td>Set of farm animals: 2 black and white cows, 1 calf, 4 white sheep, 1 rooster, 3 white goats, 2 pigs, 2 white horses.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Pilbara Toy set</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Small truck, trailer, wrench and fences</td>
</tr>
<tr>
<td></td>
<td>Dark skinned male doll &amp; female doll</td>
</tr>
<tr>
<td></td>
<td>Set of Pilbara animals: kangaroos, kangaroos with joeys (baby kangaroos), snakes, lizard, brown cows and calves, brown bull, brown horses, galahs, cockatoos, emu, dingoes.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ChIPPA non-conventional symbolic toy set (unstructured play materials)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Tin and Cardboard cone</td>
<td></td>
</tr>
<tr>
<td>3 pebbles</td>
<td></td>
</tr>
<tr>
<td>Tea-towel &amp; Facecloth</td>
<td></td>
</tr>
<tr>
<td>Small box &amp; Large box</td>
<td></td>
</tr>
<tr>
<td>Dowel stick &amp; Flat stick</td>
<td></td>
</tr>
<tr>
<td>2 white fabric ‘dolls’</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Combined ChIPPA conventional and Pilbara toy set</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Small truck, trailer, wrench and fences</td>
<td></td>
</tr>
<tr>
<td>Pale skinned male doll &amp; female doll</td>
<td></td>
</tr>
<tr>
<td>Set of farm animals (as above)</td>
<td></td>
</tr>
<tr>
<td>Dark skinned male doll &amp; female doll</td>
<td></td>
</tr>
<tr>
<td>Set of Pilbara animals (as above)</td>
<td></td>
</tr>
</tbody>
</table>

---
Toy set presentation to children.

A play space was created within the rooms or outdoor areas assigned by either the Indigenous community leader or the school. The cubby house which consisted of a cubby house made of a sheet draped over two adult chairs was set up to form the assessment play space (see Appendix B4 for description of the ChIPPA). The camera was placed in front of the cubby house initially, however had to be moved at times throughout the play assessment session due to the children moving within the space occluding vision of their actions with the toys. The non-Indigenous researcher sat to the side of the camera, or to the side of the cubby house. The toys were presented to the children when they had settled into the cubby house.

The participant was directed to the cubby house. The participant was given five minutes to play with each set of toys. When the child was given the set of toys, they were directed to play with them “however you like.” The researcher had minimal interaction with the child, and none with the toys. This was to satisfy the condition that the play is child directed and child initiated, and not directed or initiated by the adult. The length of observation for each participant was 20 minutes, that is, five minutes for each set of toys presented to the child. The play sessions were videoed to improve accuracy and consistency of scoring, and to facilitate inter-rater reliability of the data collection.

The test order of toy sets to the participants was randomised through the use of a Latin Square. The Latin Square is a matrix used to “designate random permutations of sequence combinations” (Portney & Watkins, 2008, p. 208). Portney and Watkins (p. 208) stated that “this method is used to decrease the problem of order effects in repeated measure research designs”. Test order effects in this study were conditions such as the influence of one set of
toys on another, fatigue, learning, boredom, and incidental distractions such as the incursion of a familiar adult or child into the test area, or the ringing of the school bell signaling lunch break. The randomised order of the four sets of toys is shown in Appendix H.

In the design of the study, it was proposed that the children would be tested individually. This was based on the administration procedures of the ChIPPA (see Appendix B4 for description of ChIPPA). The opinion of the community Elders and the Aboriginal and Islander Education Officers informed the modification of the administration of the data collection process. Indigenous children are accustomed to play in multi-age groups, with the older children having responsibility for the younger ones (Creaser & Dau, 1995; Dudgeon, et al., 2000). The communities’ advice was to allow the younger children to be seen in pairs not individually. The communities advised that the children would be less anxious about being alone with a person who was unfamiliar, doing unfamiliar activities, and being videoed. Some older children also elected to be seen in pairs, and this was also deemed culturally appropriate. There were no conditions set by the study as to the constituents of pairs in regard to age or gender. In general the pairs were formed by the community leader, or the teacher and education assistant, depending on the availability of the children at the time of the data collection. Of the 23 children, 11 children were tested individually. Twelve children were tested in pairs, that is, there were six pairs of children (n=6). Of these, one pair was mixed age (n=1), two pairs were mixed gender (n=2) and no pairs were mixed age and gender (n=0). Due to lack of availability of children with signed parental consent during the data collection period, some children attended the play session twice, however each child was only assessed once.
Data Analysis

Scoring of pretend play actions.

The objective of scoring was to count the number of times each child used a toy in a pretend play action within the five minute timed play sessions to determine the frequency of pretend play actions with each toy. The children’s actions were scored from the videos of them. A pretend play action was determined by the scoring criteria of the ChIPPA, based on the verb list which defines and describes the characteristics of a pretend play action (see Appendix I for the ChIPPA verb list). Pretend play is defined as pretending an object is something it is not, for example using the fence as a gun to shoot a kangaroo; attributing properties and characteristics to an object, for example, the emu is sick then dies but comes to life; and referring to absent objects or actions, for example, the man jumps over the river and slides down the waterfall (Stagnitti, 2000). Scoring the frequency of pretend actions for each toy for each child was undertaken when all videos were completed. All pretend play actions between zero and five minutes were recorded for each child.

Several scoring guidelines were applied to the counting and recording of pretend play actions. These included the following:

1. The only pretend play actions to be counted had to adhere to the definition and description of pretend play actions in the ChIPPA, and as noted in the Play Action Verb list of the assessment. Non-pretend actions (e.g. lining up toys in order of height, classifying animals into groups) were not counted because these actions were not defined as pretend play.

2. The farm animals were considered as a category, that is, each toy within the set of animals was not named separately. For example, if a child used a
chicken, then a cow, and finally a horse, the category “farm animals” was
given three frequency counts. The same rule applied for the “Pilbara animals”
category. The male and female doll was considered to be a category labelled
“pale skinned dolls” or “dark skinned dolls”. The setting of this guideline
made frequency counting a more tenable procedure for accuracy.
3. Where a child had set up a pretend play scene such as a paddock of 12
fences for the animals, and wanted to maintain that scene for the next set of
Toys presented by the researcher, the existing scene was counted as a pretend
play action. For example, when 12 fences had previously been set up the data
were recorded as 12 play actions for fences in the new play scene.
4. Where an action was obscured by the child repositioning themselves the
action was not counted because it could not be seen on the video.

In this study 22 children completed all four 5-minute sessions of play with the four sets of
toys. One child refused to play with the unstructured toys, and left the play scene after three
minutes. As the study required the children to initiate and maintain the play without adult
interference, the child was not asked to return to the play scene. The frequency count for the
toys in that set was recorded as zero. The data were analysed using SPSS® Version 15 using
descriptive statistics (SPSS, Inc. (2006).

After the frequency counts of the toys and play materials used in pretend play was completed,
the videos were viewed a second time to collect clinical observations regarding sequence of
play actions, vocalization and eye contact made, and any emotional reactions shown for the
toys.
Reliability

Portney and Watkins (2008, p. 87) stated that inter-rater reliability is best assessed when all raters are able to measure a response to a single trial, where they can observe a subject simultaneously and independently”, and that this is often very usefully achieved by use of videotape of the subject’s performance. Intra-rater reliability should be established prior to establishing inter-rater reliability in a test situation as this strengthens research conclusions (Portney & Watkins).

Intra-rater reliability.

In this study intra-rater reliability was completed with the use of videotaped sessions where the two raters scored three subjects’ performances. Two raters (the primary researcher and another rater with experience in measuring children’s pretend play) independently rated the pretend play actions and counting frequencies of those actions of three participants in the play test situation. Intra-rater reliability across a number of trials was undertaken through video and real-time internet communication systems. Establishing intra-rater reliability ensured that the primary researcher was consistent across all the participants.

Inter-rater reliability.

To determine the consistency of frequency counts by the primary researcher, a small reliability trial was carried out. The aim of the trial was to determine consistency in rating which will, in turn, improve the validity of the results of the study. Videotapes of four children were simultaneously scored for frequency of pretend play actions with the four toy
sets by the primary researcher and an expert rater. The four children’s videos were chosen randomly from the sample population.

The data were analysed using an Intra-class Correlation Coefficient (ICC) test of reliability. The ICC is a comprehensive estimate of reliability reflecting degree of correspondence and agreement among raters (Portney & Watkins, 2008). There are six models of ICC, and Model 3 was selected as the most appropriate for this study. Model 3 is a mixed model “where each subject is assessed by the same set of raters, but the raters represent only the raters of interest” as the raters have been purposely selected (Portney & Watkins, 2008, p. 590). Portney and Watkins stated that this model is most appropriate “when a researcher wants to establish that specific investigators are reliable but the reliability of others is not relevant” (p. 590). Model 3 was therefore relevant to this study.

**Statistical Analysis**

Analysis of the data was conducted employing SPSS® Version 15 (Statistical Package for Social Sciences) (SPSS, 2012). Descriptive statistics (frequencies) for each toy were calculated. The focus of the analysis was to determine the frequency with which each toy was used in a pretend play action by all the children, for example, how frequently was a Pilbara toy used in a pretend play action. Frequencies represent individual counts, not ranks or percentages, meaning that the data in each category represent the actual number of play actions in that category, not a summary statistic (Portney & Watkins, 2008).

The frequency counts for each toy were counted as belonging to a set, for example when a child chose a kangaroo to carry out a pretend play action the frequency was recorded as one
play action for the Pilbara toy set. Similarly the choice of a goat belonging to the conventional ChIPPA farm animal set was scored as a pretend play action for the farm animal set.

For analysis, the frequency count for each toy set and each play material was recorded for each child. Percentage use of each of the toy sets and unstructured play materials was calculated. For example, to calculate the percentage use of farm animals, the frequency count for the farm animals for one child would be calculated as:

\[
\text{Frequency count for farm animal x100} \\
\text{The child’s total frequency count for all conventional toys}
\]

By calculating the percentages of each toy set and unstructured play material, the relative use of each set and play material could be compared to the other toy sets and play materials. These percentages were recorded then ranked. In establishing the rank order those items that were most frequently used in pretend play actions were ranked more highly, starting with 1. The higher the ranking order of the toy the more often the toy was used in pretend play by the sample of children (Stagnitti et al., 1997).

A chi-square analysis was used to determine whether there was any significant difference between boys’ and girls’ use of the toys in pretend play actions. The chi-square analysis is one of the most commonly used non-parametric tests used for frequency counts (Berg & Latin, 2004). The results of the chi-square analysis and the ranking of the frequency of toy use for each child guided decisions on inclusion of toys in the ChIPPA in relation to gender neutrality and cultural appropriateness.
Results

The results of the study on selection of culturally appropriate play materials are presented under three headings:

1. Reliability of the data analysis
2. Ranking of the toys and unstructured play materials for the selection of culturally appropriate toys and play materials
3. The gender-neutrality of the toys and play materials selected for the culturally appropriate play assessment.

Reliability of the Data Analysis

Inter-rater reliability.

Table 3.2 presents the results of the ICC (3, 1) for two raters for a sample of four pre-school aged Indigenous children.
Table 3.2

*Intra-class Correlation Coefficient Results for Inter-rater Reliability*

<table>
<thead>
<tr>
<th>Item</th>
<th>ICC (3,1)</th>
<th>95% confidence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Farm animals</td>
<td>0.958</td>
<td>0.500 - 0.997</td>
</tr>
<tr>
<td>Fences</td>
<td>0.996</td>
<td>0.944-1.000</td>
</tr>
<tr>
<td>Wrench</td>
<td>1.000</td>
<td>1.000-1.000</td>
</tr>
<tr>
<td>Pilbara Animals</td>
<td>0.990</td>
<td>0.856-.999</td>
</tr>
<tr>
<td>Cloth dolls</td>
<td>0.949</td>
<td>0.425-.997</td>
</tr>
<tr>
<td>Big Box</td>
<td>0.923</td>
<td>0.236-.995</td>
</tr>
<tr>
<td>Face Cloth</td>
<td>0.930</td>
<td>0.284-.995</td>
</tr>
<tr>
<td>Dowel stick</td>
<td>0.571</td>
<td>-616-.965</td>
</tr>
<tr>
<td>Flat stick</td>
<td>0.504</td>
<td>-6.72-.958</td>
</tr>
<tr>
<td>Cloth</td>
<td>0.923</td>
<td>0.236-995</td>
</tr>
<tr>
<td>Cone</td>
<td>-0.333</td>
<td>-0.937-.771</td>
</tr>
<tr>
<td>Tin</td>
<td>0.800</td>
<td>-0.263-.986</td>
</tr>
<tr>
<td>Pebbles</td>
<td>0.973</td>
<td>0.651-.998</td>
</tr>
<tr>
<td>Shoebox</td>
<td>0.487</td>
<td>-0.684-.956</td>
</tr>
<tr>
<td>Truck</td>
<td>0.981</td>
<td>0.739-.999</td>
</tr>
<tr>
<td>Trailer</td>
<td>0.991</td>
<td>0.868-.999</td>
</tr>
<tr>
<td>Pale doll</td>
<td>0.960</td>
<td>0.522-.997</td>
</tr>
<tr>
<td>Dark doll</td>
<td>0.934</td>
<td>0.313-.996</td>
</tr>
</tbody>
</table>

The ICC (3, 1) values ranged between -0.333 to 1.00, with 13 play materials with values between 0.923 and 1.00 representing excellent agreement. One play material had a value of 0.80 representing moderate agreement, and three items had values between 0.487 and 0.571, representing moderate agreement. One item had a negative value.
Portney and Watkins (2008) suggested values above .75 indicate good reliability, and those below .75 are considered poor to moderate reliability. The results in Table 3.2 indicated 13 of the toy and play materials have excellent correspondence, with reliability values exceeding .90; one play material had a reliability value of .80 which is considered very good; two play materials had moderate agreement, with reliability values of .504 and .57; and two play materials had poor correspondence. Two low reliability values, for the cone and the shoebox, were likely to be due to the small trial size of four children. Portney and Watkins stated that “the variability among subjects’ scores must be large to demonstrate reliability” (p. 597). Due to the homogeneity of the subject’s scores in this trial, there was a lack of variability, and therefore the ICC is less accurate indicator of rater reliability for the cone and shoebox.

Ranking of the Toys and Unstructured Play Materials for the Selection of Culturally Appropriate Toys and Play Materials

The frequency use of each toy and play materials was recorded for each child. Table 3.3 presents the observed frequencies for all toys and unstructured play materials. The total frequency count for all toys and play materials was 2,951. Table 3.3 also shows the percentage use of each toy and play material. By calculating the percentage of use of each toy and play material, the relative use of the play items to each other could be compared. The toys and play materials most frequently used in pretend play actions were ranked most highly, starting with 1. Table 3.3 presents the mean percentage of use of each toy and play material.
Table 3.3

*Observed Frequency of Use, Mean Percentage Use and Rank Order of Use of All Toys and Unstructured Play Materials*

<table>
<thead>
<tr>
<th>Toys</th>
<th>Observed Frequency of Use</th>
<th>Mean Percentage of Use</th>
<th>Rank Order</th>
</tr>
</thead>
<tbody>
<tr>
<td>Farm animals</td>
<td>559</td>
<td>24.3</td>
<td>2</td>
</tr>
<tr>
<td>Fences</td>
<td>559</td>
<td>24.3</td>
<td>2</td>
</tr>
<tr>
<td>Wrench</td>
<td>17</td>
<td>0.7</td>
<td>6</td>
</tr>
<tr>
<td>Pilbara Animals</td>
<td>762</td>
<td>33.1</td>
<td>1</td>
</tr>
<tr>
<td>Truck</td>
<td>164</td>
<td>7.1</td>
<td>4</td>
</tr>
<tr>
<td>Trailer</td>
<td>163</td>
<td>7.1</td>
<td>4</td>
</tr>
<tr>
<td>Pale dolls</td>
<td>169</td>
<td>7.4</td>
<td>3</td>
</tr>
<tr>
<td>Dark Dolls</td>
<td>147</td>
<td>6.4</td>
<td>5</td>
</tr>
<tr>
<td>Cloth dolls</td>
<td>148</td>
<td>6.4</td>
<td>1</td>
</tr>
<tr>
<td>Big Box</td>
<td>19</td>
<td>0.8</td>
<td>7</td>
</tr>
<tr>
<td>Face cloth</td>
<td>31</td>
<td>1.4</td>
<td>4</td>
</tr>
<tr>
<td>Dowel stick</td>
<td>33</td>
<td>1.4</td>
<td>4</td>
</tr>
<tr>
<td>Flat stick</td>
<td>36</td>
<td>1.6</td>
<td>3</td>
</tr>
<tr>
<td>Cloth</td>
<td>29</td>
<td>1.3</td>
<td>5</td>
</tr>
<tr>
<td>Cone</td>
<td>32</td>
<td>1.4</td>
<td>4</td>
</tr>
<tr>
<td>Tin</td>
<td>20</td>
<td>0.9</td>
<td>6</td>
</tr>
<tr>
<td>Pebbles</td>
<td>46</td>
<td>2.0</td>
<td>2</td>
</tr>
<tr>
<td>Shoe Box</td>
<td>17</td>
<td>0.7</td>
<td>8</td>
</tr>
</tbody>
</table>

The Pilbara animals were the most frequently used toys (33.1%), and the farm animals and fences ranked second (24.3%). All other toys were played with at less than 10% percentage of use, with the truck, trailer, and dolls ranging in percentage use from 6.4% to 7.4%. The results indicated that for the unstructured play materials, the cloth dolls were the most frequently used in a pretend play action, followed by the pebbles.

To compare the rankings of the conventional toys most frequently used by Indigenous children Table 3.4 presents only the conventional toys.
Table 3.4

Conventional ChIPPA, Pilbara Toys and Combined Toy Set: Frequency of Use in Pretend Play

<table>
<thead>
<tr>
<th>Toy Set</th>
<th>Observed Frequency of Use</th>
<th>Percentage of Use</th>
<th>Rank Order</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ChIPPA Toy Set</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Farm animals</td>
<td>335</td>
<td>41.4</td>
<td>1</td>
</tr>
<tr>
<td>Fences</td>
<td>196</td>
<td>24.2</td>
<td>2</td>
</tr>
<tr>
<td>Truck</td>
<td>76</td>
<td>9.4</td>
<td>5</td>
</tr>
<tr>
<td>Trailer</td>
<td>78</td>
<td>9.6</td>
<td>4</td>
</tr>
<tr>
<td>Wrench</td>
<td>11</td>
<td>1.3</td>
<td>6</td>
</tr>
<tr>
<td>Pale dolls</td>
<td>113</td>
<td>13.9</td>
<td>3</td>
</tr>
<tr>
<td><strong>Pilbara Toy Set</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pilbara Animals</td>
<td>457</td>
<td>56.0</td>
<td>1</td>
</tr>
<tr>
<td>Fences</td>
<td>207</td>
<td>25.4</td>
<td>2</td>
</tr>
<tr>
<td>Truck</td>
<td>39</td>
<td>4.7</td>
<td>4</td>
</tr>
<tr>
<td>Trailer</td>
<td>37</td>
<td>4.5</td>
<td>5</td>
</tr>
<tr>
<td>Wrench</td>
<td>4</td>
<td>0.5</td>
<td>6</td>
</tr>
<tr>
<td>Dark dolls</td>
<td>71</td>
<td>8.7</td>
<td>3</td>
</tr>
<tr>
<td><strong>Combined Toy Set</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Farm Animals</td>
<td>224</td>
<td>24.5</td>
<td>2</td>
</tr>
<tr>
<td>Pilbara Animals</td>
<td>305</td>
<td>33.3</td>
<td>1</td>
</tr>
<tr>
<td>Fences</td>
<td>156</td>
<td>17.0</td>
<td>3</td>
</tr>
<tr>
<td>Truck</td>
<td>49</td>
<td>5.3</td>
<td>6</td>
</tr>
<tr>
<td>Trailer</td>
<td>48</td>
<td>5.2</td>
<td>7</td>
</tr>
<tr>
<td>Wrench</td>
<td>2</td>
<td>0.2</td>
<td>8</td>
</tr>
<tr>
<td>Pale dolls</td>
<td>56</td>
<td>6.1</td>
<td>5</td>
</tr>
<tr>
<td>Dark dolls</td>
<td>76</td>
<td>8.3</td>
<td>4</td>
</tr>
</tbody>
</table>

The results indicated that for the Conventional ChIPPA toy set, the farm animals were the most frequently used toys (41.4%), and the fences were the second most frequently used toys (25.4%). The pale skinned dolls ranked third with a frequency percentage of use of 13.9%.
This was a similar result to the Pilbara toy set, with the Pilbara animals ranked in first place (56.0%), the fences second (25.4%), and the dark skinned dolls were third most frequently used in pretend play actions (8.7%).

The analysis of the results for the Combined conventional toy set indicated that the Indigenous animals were the most frequently used toys (33.3%) and the farm animals ranked second (24.5%). Similar to the previous two data sets, the fences were the next most frequently used in pretend play actions (17.0%). Frequency of use of the dolls showed that the dark skinned dolls were more frequently used than the pale skinned dolls (8.3% and 6.1% respectively). This result indicated that when presented with a choice of dolls, the participants in the study more frequently chose the dark skinned dolls. Across the three data sets the wrench was the least frequently used conventional toy, ranking lowest for all three sets (1.3%, 0.5% and 0.2%).

Observations

Conventional toys.

Seventeen of the 23 children exhibited overt excitement when presented with the Pilbara animals. This was most noticeable for those children who had been presented with the farm animal toy set first, and presented with the Pilbara toy set second. Their displayed excitement level was greater when playing with the Pilbara animals than when playing with the farm animals. The excitement was demonstrated in increased facial animation, greater speed in taking the toys into a play scene, and a greater time spent in closer examination of the toy
animals representative of the animals they are familiar with in the Pilbara region of Western Australia.

An increase in vocalisation was observed as a second indicator of increased excitement when children played with the Pilbara animals. Of the 17 children who exhibited overt excitement, 10 used more oral language when using the Pilbara animals, including increased use of naming of the animals, increased use of their Aboriginal languages, increased volume and speed of speech, and increased personal narrative about the animals, such as “I had a joey and he died”, “We like eating snakes” and “We saw a big mob of ‘roos, and we shot some.” One child incorporated the Pilbara animals into Dreamtime-type stories. It was also observed that the children conversed more with each other when playing with the Pilbara toy set, pointing out features of the animals to each other. The use of more adjectives and descriptors of the animals was noted when the children were given the Pilbara toys. Children used words to describe their characteristics and made comments such as “the baby joey is so cute” while patting the toy, or caressing it, or holding it closely to their face. This behaviour was not noted with the farm animals.

It was observed that approximately half of the children set out a play scene with the animals before they put a fence around them. It was reported that this appeared to be in contrast to the non-Indigenous children’s setting of a play scene with animals and fences, where non-Indigenous children set up the fences into a “paddock” first then placed the animals inside the paddock (K.Stagnitti, December, 2007, personal communication). Although 10 children were observed to more fully explore and engage with the Pilbara toys, only one child of the 23 children in the study made a verbal comment that one of the dolls was “black”.
Unstructured play materials.

From observation it was apparent that the unstructured play materials for 13 of the 23 children were used less frequently and with less enthusiasm than the conventional toys of both the ChIPPA set or the Pilbara toy set. These 13 children were very quiet during the unstructured play test session or did not vocalise at all. Their play with the unstructured toys ranged from no pretend actions at all to mainly exploratory play with few pretend play actions. Some of these children appeared “non-plussed” by the unstructured play materials, looking to the tester for inspiration or instruction. Two of the children sat for most of the five minute session with the dolls in front of their faces, without speech or pretend play actions occurring. Two children wandered off from the test situation and one set up a play scene then left the play scene after two minutes. Other behaviours noted within this group were destructive or dismantling actions, for example, throwing the cloth dolls and sticks, hitting themselves with the dolls, pulling the dolls apart, biting the dolls. One child refused to play with the unstructured play materials and three children left the cubby house to get a conventional toy to add to the unstructured play materials.

Nine children interacted with the unstructured play materials using them in pretend play, and included narrative about their play, conversing with the other child, and completing developmentally appropriate pretend play behaviours such as putting the dolls to bed, feeding the dolls, making them a house, bed or car. These children attributed characteristics to the dolls such as sleepiness, the ability to fly and showing happiness, anger, or “scariness.” Three of the children referred to the cloth dolls as ghosts and used them in ways that were considered “ghost-like”, for example flying around making eerie noises, and “scaring” the other child or other doll. Three of these children showed a high level of excitement in their
interaction with the unstructured play materials, encouraging each other to play with the materials, and showing each other what they were doing with the dolls.

**Gender-neutrality of the Toys and Play Materials Selected for the Culturally Appropriate Play Assessment**

The frequency count for each conventional and unstructured play material was recorded for each child. Percentage use of each material was calculated for boys and for girls, and ranked in order of frequency of use, with the highest rank being 1.

Table 3.5 shows that the ranking orders for girls and boys were identical for the seven most highly ranked toys. The truck and trailer were used equally by girls and boys (4.4% respectively) which indicated that these toys were considered gender appropriate by boys and girls. Dolls, both conventional and symbolic, were used equally frequently by both boys and girls, though both boys and girls used the unstructured play materials less frequently than the conventional toys.
Table 3.5

Gender and Frequency of Use of Toys and Unstructured Play Materials

<table>
<thead>
<tr>
<th>Toy</th>
<th>Boys</th>
<th>Girls</th>
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<th></th>
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<tr>
<td></td>
<td>Frequency</td>
<td>Mean</td>
<td>Rank</td>
<td>Order</td>
<td>Frequency</td>
<td>Mean</td>
<td>Rank</td>
<td>Order</td>
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<td></td>
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</tr>
<tr>
<td></td>
<td></td>
<td>percentage of use</td>
<td></td>
<td></td>
<td></td>
<td>percentage of use</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td>355</td>
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<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Fences</td>
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<td>24.3</td>
<td>2</td>
<td>355</td>
<td>27.3</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
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<td>8</td>
<td>0.6</td>
<td>14</td>
<td></td>
<td></td>
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<td></td>
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<td>4</td>
<td>104</td>
<td>8.0</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trailer</td>
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<td>4</td>
<td>104</td>
<td>8.0</td>
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<td>114</td>
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<td>5</td>
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<td>97</td>
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<tr>
<td>Big Box</td>
<td>11</td>
<td>0.9</td>
<td>11</td>
<td>8</td>
<td>0.6</td>
<td>14</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Face cloth</td>
<td>7</td>
<td>1.4</td>
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<td>24</td>
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<td>8</td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
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<td>16</td>
<td>1.4</td>
<td>9</td>
<td>17</td>
<td>1.3</td>
<td>10</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Flat stick</td>
<td>19</td>
<td>1.6</td>
<td>8</td>
<td>17</td>
<td>1.3</td>
<td>10</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cloth</td>
<td>9</td>
<td>1.3</td>
<td>10</td>
<td>20</td>
<td>1.5</td>
<td>9</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cone</td>
<td>16</td>
<td>1.4</td>
<td>9</td>
<td>16</td>
<td>1.2</td>
<td>11</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tin</td>
<td>10</td>
<td>0.9</td>
<td>11</td>
<td>10</td>
<td>0.7</td>
<td>13</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Pebbles</td>
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<td>2.0</td>
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<td>40</td>
<td>3.1</td>
<td>7</td>
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<td></td>
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<tr>
<td>Shoe box</td>
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<td>12</td>
<td>0.9</td>
<td>12</td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

There was no significant difference in the frequency use of the toys in pretend play between girls and boys as indicated by the chi-square test as shown in Table 3.6.
Table 3.6

*Pearson Chi-square Test of Association of Gender and Frequency Use of Toys and Unstructured Play Materials*

<table>
<thead>
<tr>
<th>Toy</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Farm animals</td>
<td>p=.250</td>
</tr>
<tr>
<td>Fences</td>
<td>p=.461</td>
</tr>
<tr>
<td>Wrench</td>
<td>p=.741</td>
</tr>
<tr>
<td>Pilbara Animals</td>
<td>p=.344</td>
</tr>
<tr>
<td>Cloth dolls</td>
<td>p=.628</td>
</tr>
<tr>
<td>Big box</td>
<td>p=.462</td>
</tr>
<tr>
<td>Face cloth</td>
<td>p=.568</td>
</tr>
<tr>
<td>Dowel stick</td>
<td>p=.418</td>
</tr>
<tr>
<td>Flat stick</td>
<td>p=.440</td>
</tr>
<tr>
<td>Cloth</td>
<td>p=.810</td>
</tr>
<tr>
<td>Cone</td>
<td>p=.464</td>
</tr>
<tr>
<td>Tin</td>
<td>p=.836</td>
</tr>
<tr>
<td>Pebbles</td>
<td>p=.232</td>
</tr>
<tr>
<td>Shoebox</td>
<td>p=.371</td>
</tr>
<tr>
<td>Truck</td>
<td>p=.353</td>
</tr>
<tr>
<td>Trailer</td>
<td>p=.234</td>
</tr>
<tr>
<td>Pale skinned dolls</td>
<td>p=.434</td>
</tr>
<tr>
<td>Dark skinned dolls</td>
<td>p=.322</td>
</tr>
</tbody>
</table>

**Observations**

There were few observable differences between boys and girls in the pretend play actions with the toys and unstructured play materials. Both boys and girls played with the trucks and trailers, dolls and both animal sets. These observations are consistent with those made by Stagnitti et al. (1997). The main difference in the play actions was that the boys tended to
have more crashes with the trucks and trailers, and pretended animals were dead or run over. One girl also pretended animals were dead.

**Discussion**

**Selection of Unstructured Play Materials**

Play materials were chosen based on the statistical data, observations of the children’s reactions to the play materials and the views of the community. Portney and Watkins (2008, p. 307) noted that “The use of both qualitative and quantitative methods of research in the same study can increase the validity of the findings.”

The cloth dolls and the pebbles were the most frequently used of the unstructured play materials, which is consistent with the results of the study by Stagnitti et al. (1997) to select play materials for the ChIPPA. The other materials have similar ranking as stated in Stagnitti et al’s study. In the current study the unstructured toys, with the exception of the cloth dolls, were used less frequently than all but one conventional toy in pretend play. The wrench and the shoebox were the least frequently used toys (0.7%).

Only nine of the 23 children played with the unstructured play materials. The materials are part of the standardised ChIPPA, and were included without change as no recommendations were made by the Indigenous communities’ members in respect to the cultural appropriateness of the unstructured play materials. It was presumed that the unstructured materials were commonly found and available within the communities and that the children
would be familiar with them. However it is not known whether playing with unstructured play materials is common, or encouraged, within the culture of the Indigenous peoples of the region and within these communities. It cannot be determined whether the lack of pretend play with the unstructured materials was due to unfamiliarity with the materials as play objects, or whether it was culturally discouraged. Neither can it be determined whether the children had poor play skills and therefore did not engage with these materials as this study did not evaluate the children’s quality of pretend play. Further research is needed to establish the culturally appropriate unstructured play materials.

**Selection of Conventional Toys for a Culturally Appropriate ChIPPA**

The aim of the study was to investigate the play materials needed for a culturally appropriate assessment of pretend play. Indigenous children in this study used the Pilbara animals more frequently in pretend play situations than the toys of the standardised assessment. This result supported the expressed opinions of the Indigenous community Elders and leaders in choosing the toys for the study.

Observations of the play behaviour of the Indigenous children provided a rich source of information in regard to the interaction of the children with the play materials. These observations include the reaction of the children to the Pilbara animals which was part of the Pilbara toy set. The inclusion of dark skinned dolls was considered to be more appropriate than having “white” dolls by the members and leaders of the Indigenous community of the three communities participating in this study. A male and a female dark skinned doll were included in the Pilbara set of conventional toys. When presented with the combined toy set, and therefore the choice between dark and pale skinned dolls, the children more frequently
used the dark skinned dolls. The dark skinned dolls were used 2.2% more frequently in pretend play actions than the pale skinned dolls. This result, and the opinion of the Indigenous community members, supported the inclusion of the dark skinned dolls in the culturally appropriate ChIPPA conventional toy set.

In many articles reviewed in relation to the colour of skin of dolls and children’s preference in play with dolls, it was reported that White and non-White children preferred light coloured skin tone dolls (Cramer & Anderson, 2003; Fox & Jordan, 1973; Gin, 2003; Gopaul-McNicol; 1966; Gunthorpe, 1998; Powell-Hopson & Hopson, 1992). No studies involving Australian Indigenous children’s doll play could be found through extensive database searches. The results of the current study indicated that the Australian Indigenous children preferred dark skinned dolls when presented with choice.

It was reported by Cramer and Anderson (2003), that the age of the children was significant in their choice making, with kindergarten children showing no skin colour preference. This current study included both Kindergarten and Year 1 aged Indigenous children. The school from which 18 of the 23 participants were recruited is an Indigenous school, where pride in Indigenous culture and Aboriginality is actively encouraged, and this may have been a factor in children showing a preference to dark skinned dolls when presented with the combined set of toys.

The low ranking of the wrench was consistent with Stagnitti et al.’s study (1997). There were no recommendations made by the Indigenous community members as to the cultural appropriateness of the wrench. The results indicated that the wrench was used the least when the Indigenous children were presented the combined set of toys which gave them the most
choice of toys for pretend play (0.2%). As the frequency use is very small compared to the other toys, this item will be left out. Prior to further studies using the culturally appropriate ChIPPA, the community leaders will be consulted to determine an appropriate replacement for the wrench. The children’s response to the Pilbara toys, the community consultation, and the frequency counts of the toys and play materials support the inclusion in the culturally appropriate ChIPPA as:

- 1 truck
- 1 trailer
- 12 fences
- 2 dark skinned dressed dolls
- 2 dark brown cows
- 1 dark brown calf
- 1 lizard
- 1 emu
- 2 dingos
- 2 large kangaroos
- 2 small kangaroos
- 2 brown horses
- 2 cockatoos
- 3 snakes
- Possible culturally appropriate substitute for the wrench

**Gender influence on toy selection.**

The culturally appropriate ChIPPA should allow for assessment of a child’s pretend play skills that are not confounded by gender inappropriate toys (Stagnitti et al., 1997). The toys selected for the culturally appropriate assessment should be equally frequently used by the girls and the boys. In most studies of gender appropriate play materials, trucks and trailers are
classed as “masculine” toys (Stagnitti, 2002) however the results of this study do not support this premise.

Conclusion

The selection of play materials for a culturally appropriate play assessment was based on statistical analysis, community consultation, observations of children’s reactions to the play materials, and gender neutrality. This analysis resulted in the selection of animals considered indigenous to the Pilbara region, dark skinned dolls, truck, trailer and fences as a play materials set for the conventional imaginative play session of the ChIPPA for Indigenous children. Further research needs to be carried out the unstructured play materials as only nine of the 23 children engaged with these play materials.

The children were involved in pretend play in both individual and paired situations in testing. The implications of coming in pairs to play and the consequential social interaction between children in pairs during pretend play is an important issue requiring further examination. In the standardised play assessment setting of the ChIPPA, the child has no peer with whom to interact, therefore their quality and duration of engagement in pretend play is not confounded by the presence of another child. For a culturally appropriate play assessment for Australian Indigenous children, a measure of peer social play within pretend play needs to be developed. This is discussed in Chapter 4.
CHAPTER 4

Study 2: The Development of a Social Interaction Scale Congruent With the ChIPPA

“The goal of research is ‘that of discerning and uncovering the actual facts of people’s lives and experiences, facts that have been hidden, inaccessible, suppressed, distorted, misunderstood, ignored’.” (DuBois, as cited in Liamputtong & Ezzy, 2005, p. 202)

Introduction

The results and observations presented in Chapter 3 indicated that Australian Indigenous children played more frequently, and with greater enthusiasm, with the Pilbara toy set than the conventional toy set of the Child-Initiated Pretend Play Assessment. The results confirmed that both the unstructured play materials and the Pilbara animals were gender neutral. The unstructured play materials were not changed but it was noted more research was needed to confirm this set of play materials as culturally appropriate. In standardised assessments of children’s pretend play abilities developed by Western researchers, children are assessed individually. For example, in the Child Initiated Pretend Play Assessment (Stagnitti, 2007), the Symbolic Play Test (Lowe & Costello, 1988) and the Test of Pretend Play (Lewis & Boucher, 1997), the toys are presented to each child in an individual play context. In Study 1, informed by cultural consultation with community Elders and members, the younger children were seen in pairs.

Children coming as pairs were seen as culturally appropriate by the Indigenous communities. In order to develop a culturally appropriate play assessment, consideration now turned to the changes in administration of the play assessment that would cater for pairs of children. This
chapter presents Study 2 which was undertaken as a direct consequence of children coming to the assessment in pairs. First, this chapter presents a review of the literature on the typical development and significance of social interaction in pretend play; the influence of gender in the development of social pretend play; Indigenous children’s social pretend play; and the assessment of social skills in pretend play. This chapter then reports on Study 2 which is an investigation of the complexities of developing a social interaction measure for a culturally appropriate play assessment for Indigenous children.

**Definition and Importance of Social Pretend Play**

From toddlerhood, children increasingly spend more time engaging in peer interactions, especially in play. Play is a primary occupation of childhood which has influence on every aspect of childhood development, including social skills, cognitive development and the development of their societal self (Hendrick, 1992; Uren & Stagnitti, 2009; Vygotsky, 1978). Vygotsky viewed learning as a process deeply embedded in social context and stated that play is the primary means of a child’s social and cultural development. He asserted that social play is the foremost social and cultural activity for acquiring symbolic capacity, higher order psychological processes and interpersonal skills. Walker (2007) concurred with this concept and stated in early childhood children learn the important lessons of life such as managing feelings, and emotions, and forming and maintaining relationships, and this is gained through listening to themselves in play activities, rather than through adult directed lessons. Play which incorporates social interaction is considered social play and for most pre-school children peer interaction involves sharing play, being with one or more peers in play, especially in pretend play. This form of play is also called social pretend play (Welsh, Bierman & Pope, 2000).
Pretend play has been recognised as an important arena in which children develop cognitive skills, and when pretend play is interfaced with social play children have a conceptual framework within which social competence and mature social interactions can occur (Youngblade & Dunn, 1995). As children become more sophisticated in their pretend play ability, the level of collaboration with peers also becomes more complex, for example rather than simply performing a pretend action, children take on a pretend role which calls for the partner in play to take on a complementary role, and to therefore share the meaning of the role and play with the other (Whittington & Floyd, 2009). To be partners in social pretend play they have to de-code the other child’s non-literal actions, and in this way, cognition, and social meaning are imparted (Howes, Unger & Seidner, 1989; Whittington & Floyd; Youngblade & Dunn, 1995).

Vygotsky (1978) proposed that through play children involve themselves in the adult activities of their culture and play-out their future roles. Vygotsky argued that play leads to development, as the child moves from simple pretence of real life, observed actions, to “elementary mastery of abstract thought as they apply the dynamics of their imaginations and the implicit rules governing the activities they have produced in their games with other children” (p. 129). In this way children develop social knowledge which is critical for social competence. They have integrated “socially elaborate symbols, such as social values and beliefs, the cumulative knowledge of their culture and scientifically expanded the concepts of reality into their own consciousness” (Vygotsky, p. 126). Youngblade and Dunn (1995) reported that children who engaged in more social pretence come to understand other peoples’ and their own mental states by simulation or role taking. In this way, social pretend play significantly relates to the child’s developing understandings of other people’s beliefs and feelings (Colwell & Lindsey, 2005; Youngblade & Dunn). Lindsey and Colwell (2003)
found that there was a positive association between the frequency of pretend play and children’s affective social competence, including positivity towards peers, having high levels of emotional understanding of peers, and having the ability to appropriately regulate emotions (Lindsey & Colwell, 2013).

While Vygotsky emphasised the importance of adult modelling of cultural and social beliefs in pretend play as the manner in which children learnt early social interaction skills and beliefs, Perry (2001) suggested that children’s social development could not be merely explained as internalising the adult skills and knowledge, but that children constructed meaning specifically to their peer culture. Through living their everyday lives, children “construct meaning and actively construct a unique set of peer cultures that address their concerns” (Perry, p. 10). It is their way of interpreting the world, including the adult world, and forming a peer culture which is uniquely suited to the world of play with each other. The peer culture of pretend play enables children to have enjoyable social interactions, longer lasting interactions, involvement with larger groups of peers, more play involvement and greater reciprocity in play, and therefore are afforded more opportunities for the development of social competence (Connolly, Doyle & Reznick, 1988).

The link between social pretend play and cognitive development has long been researched (Lillard, 2004; Smilanksy, 1990; Vygotsky, 1978) and Lillard (2004, p. 348) stated that in pretend play a child is “able to show more precocious development of cognitive skills and mental state understanding than in non-pretence situations of play” due in part to the scaffolding of a play partner who assists the less developed child to a higher level of competence. Social competence allows a child to successfully interact with his/her social environment and culture. Play has an immediate and long term effect on children’s social
competence, and play is both a reflection of that competence as well as a direct contributor to positive peer relations (Colwell & Lindsay, 2005).

Colwell and Lindsey (2005) conducted a study of 60 children aged 48-73 months (M = 57.61) which examined the relationship between different forms of play, including pretend play, and social competence, as well as the effects of the sex of the play partner. There was some ethnic diversity in the group but the majority were European American children. The researchers measured a) peer acceptance using sociometric interviews; b) teacher-rated social competence using the Teacher’s Checklist of Peer Relationship (Dodge & Somberg 1987), and c) naturalistic observations of children’s peer play behaviour. The study results indicated that the relationship between pretend play and social competence is very complex, and factors such as sex of the child and sex of the play partner have an effect on the relationship. They were not able to determine the direction of the effect but postulated that pretend play promotes positive peer play relations as it provides opportunities to take the perspective of the other and use skills such as negotiation over play themes. Colwell and Lindsay also stated that “while the question of cause-and-effect between play and social competence remains open, it is clear there is linkage between children’s play and the quality of their peer relations” (p. 497).

**Definition of Social Competence**

Social competence is a complex and multifaceted area of children’s development (Manz & McWayne, 2004) and is defined as the “capacities children possess for developing relationships with adults and other children” (p. 1). Welsh, Bierman and Pope (2000) argued
that there is no generally accepted definition of social competence however it is defined by its characteristics which have been identified through developmental research.

Socially competent children exhibit:

- the ability to get along with other children and with adults (Manz & McWayne, 2004),
- friendliness, self-confidence and emotional maturity (Howes & Matheson, 1992),
- regulation of emotions (Manz & McWayne, 2004),
- the ability to interpret social information (Bruder & Chen, 2007),
- clear communication and the ability to take another’s perspective (Manz & McWayne, 2004; Welsh, Bierman & Pope, 2000),
- positivity and ability to resolve conflicts (Raver & Zigler, 1997),
- good problem solving skills (Manz & McWayne, 2004),
- patience, negotiation, sharing leadership, and seeing other’s needs (Hendrick, 1992),
- cooperation and persistence (Manz & McWayne, 2004).

The characteristics of a socially competent child during pretend play include:

- cooperation and sharing, turn taking (Welsh, Bierman & Pope, 2000),
- the ability to enter into an existing play group, initiate play, and maintain the pretence and relationships in play (Bruder & Chen, 2007; Howes & Matheson, 1992; Peter, 2003),
- having positive rather than negative play behaviours (Bruder & Chen, 2007),
• the ability to communicate themes and roles, to understand the social situation in pretend situations (Bergen, 2001; Lillard, 1998; McAloney & Stagnitti, 2009),

• development of “flexible repertoires of social behaviours, and socially relevant cognitive skills” (Howes et al., p. 4),

• being able to attract other children, be accepted by their peers, and continue meaningful engagements (Swindells & Stagnitti, 2006; Musatti, 1993).

Social competence is concerned with children being able to understand and act in accordance with the social practices of their cultural group (Wyman, Rakoczy, & Tomasello, 2009).

**Development of social pretend play.**

The primary social interaction of play is the interactive interpersonal exchanges between the infant and its parent or caregiver. Early interactional play develops prosocial skills such as joint attention, social routines, engagement, and progresses with age into more complex and refined social functions such as friendships with peers, and network formations (White, 2006).

Before 18 months of age the peer play is mainly an exchange of objects with the exchange being the main goal of the play. The child is intent on offering, accepting, giving and taking of the same object repetitively without an apparent purpose, and without any symbolic transformation of the object or its communication to the other (Musatti, 1993). Most authors agreed that the beginning of social play occurs in the second year of a child’s life, and includes helping, sharing, cooperating with others, and developing an empathetic response to
This early social play is primarily in the form of non-pretend social play and may range in complexity from non-interactive parallel play to simple social play, to complementary social and reciprocal play. It does not however, contain the symbolic transformations which identify pretend play.

Rubin, Fein & Vandenberg (1983) noted that interactive social play with peers emerges in the second year, and integrated pretend play with peers takes up to another year to develop. While Rubin et al. did not postulate a reason for this progression of development, Brownell and Carriger (1990) and Musatti (1993) suggested it is the limitations in the development of social-cognitive skills, language and unskilled referential communication between peers. Howes, Rubin, Ross and French (1988) stated that toddlers engage in complex social play before they engage in integrated social pretend play, and that social pretend play requires more cognitive development than that which younger children can manage.

Haight and Miller (1993) observed in their longitudinal study of nine children aged 12 months until they reached 48 months that 75% of pretend play was social starting with mothers then later with peers. This study, and those of Howes and Matheson (1992), and J. Dunn (2004) showed that adult modelling or scaffolding assists in the development of pretend play and social pretend play.

Between the second and third year of life children start to include symbolic elements into the play with peers, which develops into the ability to share meanings, integrating the non-literal pretence meanings into complex and elaborate pretend transformations within a social play context. This progression takes the child from their second year to pre-school age. At pre-
school age their social pretend play includes shared meanings with obvious themes and roles and turn-taking, achieving goals collaboratively (Brownell & Carriger, 1990).

The structure of social pretend play can become increasingly more complex when the children take on pretend roles that coordinate their actions with others (Perry, 2001; Smilansky, 1968). Social pretend play also requires the player to maintain the literal and non-literal understandings of the actions in which she/he is engaging (Howes, 1985). The child must consider their partner’s actions as well as their own, and keep in mind the symbolic meanings and transformations and communicate those meanings to the other person while performing the pretend action. Social pretend play requires a child to manipulate symbolic transformations, communicate them effectively to a partner, who in the case of a peer is just as unskilled at social pretend play, and to successfully maintain the pretend play to a mutually successful conclusion (Howes, Unger & Seidner, 1989). This presents a greater challenge to the children cognitively, linguistically and socially than other types of social interactions. The use of symbols in peer pretend play, however challenging, is indicative of the child’s developing ability to recognise the culturally determined meanings of these symbols and objects and to communicate them to another.

Playing in pairs or groups is an important developmental progression (Brownell & Carriger, 1990; Gitlin-Weiner, et al., 2000; Youngblade & Dunn, 1995). Social play, or the lack thereof, can be considered to be a useful measure of the child’s development in pro-social behaviour (Brownell & Carriger; White 2006). Vygotsky was pre-eminent in the school of thinking which stated that a child has to interact from birth with their historical and cultural environment to enable them to create a system of meanings relevant to that environment. They have to learn how to interact successfully with that system of meanings (Musatti, 1993).
This interaction is facilitated through another person, for example, the child’s mother, or a peer who acts as the mediator between the child and the surrounding environment and its inherent system of meanings (Musatti). This is a constructivist view of learning, and as such, implies that the child is not a passive recipient of learning, but an active subject in the social learning process (Musatti).

The development of social play has three facets. These are: a) social process involving shared attention, understanding, and emotional regulation; b). increasingly complex cognitive play activities which foster longer and more complex interactions between players; and c) social status which is the evaluation of others and by the self (Howes, 1996; White, 2006). Musatti (1983) analysed the activities of a group of three toddlers from 18-19 months of age and 32-33 months old to gain an overview of the development of social pretend play. The analysis indicated a developmental progression of social pretend play as follows:

1. At 18-19 months children could prompt a peer to perform conventional, that is, a functional action with an object to make-believe. An example is that a child can prompt a peer to use a spoon to feed himself though the spoon was empty.

2. At 18-19 months children already seemed aware that the peer was not necessarily aware of the pretend nature of the action, and hence that they had to communicate that pretend quality of their play to the peer. Musatti noted in the study this caused exaggerated and emphatic gestures and mimes to assist in the communication of pretend actions and their meanings.
3. Children’s sharing of a sequence of functional pretend play activities using objects, was supported by their shared understanding of the functional relationship between the objects and the activities. For example, one girl pours a drink from an empty bottle, and offers the empty cup to the other child, who then pretends to drink from that empty cup. This action can only occur when both players understand the symbolic meanings of the actions culturally and socially (Musatti).

4. During social pretend play difficulties and misunderstandings occurred, however children chose to continue sharing their play with peers. Musatti’s conclusion was that the success and achievement of sharing seemed to increase the pleasure in the activity greatly. Musatti commented that where the object of play was not adequate, such as there being no cup from which to drink, a child would use an alternative object, for example a wooden block, as a substitution, so as to remain in the play. The child was therefore prompted to use a higher level abstraction to understand and replicate the other’s symbolic meaning, and this in itself may have induced more complex cognitive performances. In this way a peer’s presence may have been the trigger for the child to reflect on higher level meanings (Musatti, 1983, p. 247).

Musatti’s (1983) observations are supported by the studies of Haight and Miller (1992) who described children of 18 months old joining in pretend eating and drinking with others; Rakoczy and Tomasello (2006) who described children of 24 months being able to follow the social rules of pretend play put in place by play partners, for example, after a play partner pretends to spill a cup of tea the other child then pretends to wipe it up; and Leslie (1994)
who stated children at 2.5 years of age are competent in talking about the pretence occurring in a scene as it unfolds.

Howes et al., (1989) proposed the sequence of social pretend play development to be:

1. At 12-15 months the child performs pretend acts close to and in eye contact with a peer, but elicits no response, for example, Child A pretends to feed herself, and Child B ignores the pretend action.

2. At 15-20 months the children perform similar or identical acts of pretence accompanied by eye contact, such as when they both push dolls in prams.

3. At 20-24 months the emergence of similar pretend activities, accompanied by social interactions occurs, for example, when the two children are pushing the dolls in prams, Child A smiles at Child B and Child B offers her doll to Child A.

4. At 24–30 months each of the children participates in pretend play which reflects the same theme but their actions show no within-pair integration. An example of this is the children are playing “tea-parties” both pour the tea, both add the milk and the sugar and drink with smiling and talking to each other.

5. At 30-36 months the pretend play of the peers is more integrated as the pretend activity involves the children taking on complementary roles such as mother and baby, or doctor and patient. For example, Child A is the mother
who sets the table, tells Child B who is the baby where to sit. Child A feeds the baby while Child B emits baby-like cries and asks for more food.

Howes et al. (1989, p. 3) stated that there is a “structural similarity” in the way that toddlers and pre-schoolers form their social play and social pretend play. The coordinated actions and the reversals of social roles are characteristics of both age groups of children, and are functionally the same. However, whereas toddlers reverse social roles, for example, the chased and the chaser, the pre-schoolers, probably due to their more highly developed cognitive abilities will integrate pretend roles into their social play, so that the chaser becomes the policeman, chasing after the robber (p. 1253). This developing complexity and ability to mentally reverse actions are contingent upon underlying cognitive abilities (Howes et al., 1989).

The authors asserted that children do not engage in social pretend play with peers prior to developing symbolic function and therefore social interaction with peers should develop in a sequence based on underlying cognitive changes (Howes, 1985, 1987). In this way a child in early toddlerhood (13-24 months) will be developing complementary and reciprocal play, in late toddlerhood (25-36 months) when cognition and language is developing rapidly, the child shows communication of meaning and in pre-school the child will develop social knowledge of the peer group (Howes, et al., 1988). In this way it can be seen that complementary and reciprocal play is expected to develop prior to cooperative social pretend play where a child can reverse roles, communicate meaning to the other child to achieve the role reversal, understand the actions and the role of the other child and use heightened symbolic function to build on the existing layers of pretence in the social context (Howes, et al). Their activities in social pretend play take place around meanings associated primarily to
their social knowledge and reflect, and are influenced by their culture and to some extent gender (Case-Smith, 2005; Musatti, 1993).

**Gender Influence on Social Pretend Play**

Gender differences are apparent in play with peers commencing in early childhood and continuing across the lifespan. Studies have shown that both boys and girls, typically in the pre-school and early school years, prefer to interact with same-gender peers and avoid mixed-gender interactions (Gitlin-Weiner, et al., 2000). Preschool children do play in other-gender and mixed-gender groups however the duration and complexity of the peer interactions are more limited than when playing with same-gender peers (Colwell & Lindsey, 2005). Gender of playmates influences the type of play in which children engage and the social status of the child within the peer group.

There is some evidence to suggest that there are gender differences in pretend play, for example that girls engage in more pretend play with peers than boys, however there are studies which show the opposite (Colwell & Lindsey, 2005). Gitlin-Weiner et al. (2000) stated that girls in comparison to boys often prefer to play in intimate groups of two or three peers, preferring dramatic play and fine motor activities. Colwell and Lindsey argued that most studies have shown there to be no difference between the amount of pretend play engaged in by boys compared to girls, and suggest that a clear understanding of possible gender differences in the amount of pretend play engaged in by both genders will assist in formulating hypotheses concerning how pretend play is linked to development of social competence with peers of both boys and girls.
Colwell and Lindsay’s study (2005) did support previous studies that link social pretend play to positive peer relationships, finding that both boys and girls who spent time in pretend play with same-gender peers were better liked by their peers, and were rated by their teachers as more highly socially competent. According to these authors, social pretend play is as important for boys as it is for girls. Whether it is because social pretend play develops the skills required to be socially competent, or whether it is because they are more liked by their peers, they are more sought out to engage as play partners in pretend situations. In either view of causality Colwell and Lindsay stated that the evidence of a link between social pretend play and social competence in boys and girls is clear.

Cultural Influence on Pretend and Social Pretend Play

The way in which adults within a cultural group view and value play has been shown to influence both children’s and parents’ play behaviours (Farver & Simbarti, 1997; Roopnarine, Johnson & Hooper, 1994). A parent, such as in American and Turkish cultures, may see themselves as a play partner and therefore play with the child interacting at their level and encouraging the child’s participation. Parents who are from Indian or Australian Indigenous cultures may believe that play is for children, and therefore expect the child to participate without their or other adult’s involvement in the play activity (Farver & Simbarti, 1997; Hamilton, 1981; Kearins, 1984; Thomson, 1983). The role of adults in encouraging play, facilitating play with other children, and participating with their children in play varies from cultural group to cultural group, and has a strong influence on children’s play, including pretend and social pretend play (Gaskins, Haight & Lancy, 2006). In urban, middle class Euro-American families for example, pretend play is generally highly supported by the adults and this is because the adults believe that pretend play promotes cognitive, social and
emotional development (Gaskins, Haight & Lancy). The children of these families were active and assertive in their social pretend play and developed elaborate and complex play scenarios with parents and peers (Gaskins, Haight & Lancy). In research on middle class Taiwanese families, the findings were similar to that of middle class, White America, that is, that pretend play was supported by the adults and Taiwanese parents, especially mothers, participated in and encourage pretend play (Gaskins, Haight & Lancy; Haight, Parke & Black, 1992). However in Taiwanese families the emphasis of the social pretend play was to teach the children proper conduct, and adult social roles and customs to enhance group acceptance throughout childhood and life (Pan, 1994). Gaskin and Göncü (2006) reported that in Yucatan Mayan society play is not encouraged due to the families’ need to be productive rather than spend time in play, and for the Kpelle of Liberia, who live subsistence agricultural lives in Africa, play, including pretend play, is accepted but not actively encouraged or facilitated by adults.

Research within Western cultures has found that children’s early pretend play develops in social contexts during interaction with more experienced persons such as older siblings, grandparents and adults, or with more experienced peers. This process was called scaffolding (Farver & Simbarti, 1997). The older siblings facilitate pretend play, setting out the rules, involving the younger child in more complex pretence, and symbolism within the social pretend play (J. Dunn, 2004). Lack of these older siblings, such as in one-child policy cultures, or the belief that play is a child’s activity could impact on the child’s ability to engage in and benefit from social pretend play (Farver & Simbarti). These authors also stated that the type of social pretend play will focus on who is available to play, with older siblings likely to encourage fantasies about monsters, dangerous situations and adventures, space and
time travel, whereas their mothers tended to focus in social pretend play on household chores, and nurturing roles.

Often the research on culture and play has been focused on White (Euro-American), middle-income status children, who are highly educated (Gaskins & Göncü, 1992) and has overlooked the ethnic minority groups within the dominant culture, or those from low-income groups. When children from cultural groups, other than the dominant Western culture, are included their play behaviour is often viewed according to a comparison with white, middle-income children, and these comparisons detract from a clear understanding of the important cultural influences on play behaviour. Different cultural beliefs and values and expectations of behaviour can influence children’s play behaviours and social interactions in play settings (Fantuzzo & Hampton, 2006).

**Australian Indigenous culture and social pretend play.**

Australian Indigenous children prefer social play, and are encouraged into peer play from a very early age (Dudgeon, et al., 2000; Hamilton, 1981; Kearins, 1984). The types of play engaged in by Indigenous children have remained less of a focus for theorists and researchers, even where the focus was on child development, family life or child rearing (Eickelcamp, 2008).

The changing demography of Indigenous communities, where the population is actually growing younger in comparison to non-Indigenous communities has increased the number of child-focussed studies (Eickelcamp, 2008). In her article Eickelcamp described storytelling in sand, as a form of pretend play in which girls within the Indigenous cultures in Central
Australia engage. It is often done in a social group involving a number of players, combining narrative and imagination. The girls create stories that may be myth, spontaneously made up accounts, day dreams or fantasies, and each girl contributes. In doing so the story expands and is elaborated upon, the participants having to communicate meanings through symbols (Eickelcamp).

The research frequently ignored the fact that cultural group and low-income groups are often combined (Roopnarine, et al., 1994). As more than 40% of Indigenous Australians live below the Australian poverty line this is a significant consideration with serious implications (Altman, 2007). For example, pre-schoolers from low socio-economic backgrounds did not show the same increase in social pretend play as typically developing pre-schoolers who were not economically disadvantaged (Bergen, 2001). It can be inferred that where pretend play development is affected, social competence may also be negatively affected (Bergen).

Assessment of Social Interaction in Pretend Play

The assessment of peer play skills and social behaviours should indicate whether a child is adequately developing the skills required to be socially competent and hence is moving towards social-emotional health and adjustment (Welsh, Bierman & Pope, 2000).

It has been argued that social play is not amenable to formal testing (White, 2006). There is also a lack of developmentally appropriate and culturally sensitive assessments of social play (Fantuzzo et al., 1995; Farmer-Dougan & Kaszuba, 1999; Gagnon & Nagel, 2004; Gitlin-Weiner, et al., 2000; Kelly-Vance & Ryalls, 2005). The primary reason appears to be the
scarcity of psychometrically sound and meaningful play-based assessments (Bronson, 1994; Fantuzzo et al., 1995; Farmer-Dougan & Kaszuba; Gagnon & Nagel).

Many of the social competence measures and play assessments have been derived from research samples of White, middle income children. The consequent inappropriate application of the norms derived from this sample population has made the children from culturally and economically diverse groups vulnerable to being characterised as deviant, low-achieving, or less developed rather than different in these aspects. Therefore the importance of the development of culturally responsive assessment methods is imperative (Gitlin-Weiner et al, 2000). Developing a valid, culturally appropriate assessment or measure of behaviour requires the understanding of what the children’s culture considers as culturally appropriate skills (Gitlin-Weiner et al.). This gaining of understanding includes learning about children’s development within their culture, becoming cognisant of the perceptions of the adult members of the cultural group towards child development, and developing measures consistent with this knowledge and understanding (Gitlin-Weiner et al.).

**Development of a Social Interaction Scale Congruent with the Culturally Appropriate ChIPPA**

Social pretend play was not included in the design of the ChIPPA and therefore the assessment does not assess the child’s ability to socially interact during pretend play. Inferring social competence from ChIPPA scores was explored by Swindells and Stagnitti (2006) who found there was no significant correlation between the play scores attained in the ChIPPA and the social competence scores of the Vineland SEEC (Sparrow, Balla & Cicchetti, 1998) as reported by parents. However, in Uren and Stagnitti’s (2009) study, using
the Penn Interactive Peer Play Scale (PIPPS) (Fantuzzo & Hampton, 2000) and the ChIPPA, a significant relationship was found between pretend play abilities and the ability to establish peer relationships enabling classroom involvement. The culturally appropriate ChIPPA for Australian Indigenous children must have facility to assess children in the culturally appropriate situation and this means children are to be assessed in pairs. This necessitates examination of the administration of the ChIPPA. The psychometric properties of the ChIPPA may no longer be applicable for assessing children in pairs.

In the development of a culturally appropriate ChIPPA, accurate scoring of the pretend play of a child and the social interactions with a peer must be accounted for so an accurate picture of their social competence within a social pretend play situation can be gained. For a culturally appropriate ChIPPA it is important that the effects of social interaction on pretend play are part of the assessment. Examination of the existing social competence assessments is presented below.

**Measures of social competence within a pretend play context.**

Most assessments of social skills and social behaviour are observation-based and are administered through questionnaires completed by teachers, parents and occasionally by the child themselves, dependant on age. There are very few assessments which measure social competence in the context of play. A brief review of measures of social behaviour and social skills, which have published data on reliability and validity, is presented in Table 4.1. The review only addresses those measures which assess children aged 3 years to 7 years old. Some of the social skills measures only include the 5 to 7-year-old group, leaving out the
pre-school ages included in the ChIPPA, therefore limiting their usefulness as measures which could be used in concert with the ChIPPA

**Table 4.1**

*Social Skills Assessments*

<table>
<thead>
<tr>
<th>Assessment</th>
<th>Age</th>
<th>Administered by</th>
<th>Play context</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social Skills Rating System (Gresham &amp; Elliott, 1990) (SRSS)</td>
<td>0-12 years</td>
<td>Parent, Teacher, Student – dependant on age</td>
<td>Inferred only, no direct statements regarding how the child interacts in play, or whether they cooperate in pretend play / sociodramatic play</td>
</tr>
<tr>
<td>Behaviour Assessment System for Children (Reynolds &amp; Kamphaus, 2004) (BASC-2)</td>
<td>2-25 years</td>
<td>Teacher, Parent, Self – dependant on age</td>
<td>One statement only in relation to playing or working with others.</td>
</tr>
<tr>
<td>Behavioural and Emotional Rating Scale 2 (Epstein, 1998) (BERS-2)</td>
<td>5-18 years</td>
<td>Teacher, Parent, Self – dependant on age</td>
<td>No reference to joint activities or play.</td>
</tr>
<tr>
<td>Brief Infant-Toddler Social Emotional Assessment (Briggs-Cowan &amp; Carter, 2006) (BITSEEA)</td>
<td>12-36 months</td>
<td>Parent Childcare Provider</td>
<td>One statement in reference to early pretend play development</td>
</tr>
</tbody>
</table>

The primary purpose of most measures of social behaviour and social-emotional development is to identify problems of social interaction over a range of environments such as home,
school, and day-care. Play settings are not specifically considered. The measures referred to in Table 4.1 mostly pose one statement concerning play, such as “Plays well with other children (not including sister or brother)” with only the ITSEA making reference to pretend play, by stating “Hugs or feeds dolls or stuffed animals” (Carter & Cowan-Briggs, 2006). Some measures also attempt to diagnose the child’s social–emotional difficulties, such as Internalising or Externalizing disorders.

Two measures which specifically focus on social interaction in play are The Social Play Record (SPR) (White, 2006) and The Penn Interactive Peer Play Scale (PIPPS) (Fantuzzo & Hampton, 2000). “The SPR assessment identifies a child’s social play skills and needs, considers others’ perceptions and examines the contexts in which social play occurs” (White, p. 9). This assessment examines the different types of social play in which a child engages. The assessment is completed by a parent, a practitioner, and the child themselves, and includes a questionnaire on friends for self-evaluation. The assessment forms a profile of “with whom” and “where” the child plays, the types of play engaged in such as reactive play, reciprocal play, and unoccupied play. The SPR has one sub-section of the section Independent Play which specifically relates to pretend play, for example, “Pretends actions or feelings”, “Uses imaginary objects in play” (p. 34). All other statements relate to skills which are involved in social play such as “Can enter into a group”, “Shows friendliness to others”. The SPR does not measure whether a child can maintain social interactions while involved in social pretend play, or whether the child maintains pretence in a social situation.

The PIPPS is a tool that is “designed to differentiate those children who demonstrate positive peer interactions from those who display less positive relationships with peers, based on skills observed within play” (Gagnon & Nagle, 2004, p. 175). The PIPPS uses a parent and teacher
rating scale and categorises a child’s social interaction into Play Interactions, Play Disruption or Play Disconnect. The PIPPS uses verb statements such as “starts fights and arguments”, “grabs others things” and “directs other’s actions politely” and then categorises these into the three factors of Interaction, Disruption and Disconnection. The first category denoted those social interactions that are positive and pro-social, while the second and third categories denoted the more negative aspects of play, such as aggression, and non-social play, or withdrawn and non-participatory behaviours. This social play scale has been designed to accommodate low socio-economic factors and children classed as living in high-risk environments. The PIPPS does consider cultural diversity. Consideration of cultural diversity is important as “the Anglo-centric approach has resulted in characterization of minority children as “deviant” from majority-based norms and has highlighted perceived deficiencies rather than real strengths” (Fantuzzo et al, 1995, p. 116). The PIPPS requires at least one month of observation of the child before it is filled in. It is, then, designed to capture the child’s social play skills over a period of time.

Of the assessments of social interaction during play with a peer, none was found that could be used in conjunction with the ChIPPA where the child is observed in real time as they interact with a peer in play. The BITSEA (Briggs-Cowan & Carter, 2006) and the ITSEA (Carter & Briggs-Cowan, 2006) were not appropriate for the age in respect to the ChIPPA, and had limited relationship to pretend play contexts. The SRSS (Gresham & Elliott, 1990) and the BASC-2 (Reynolds & Kamphaus, 2004) while appropriate for age in relation to the ChIPPA, had only inferential and limited application to pretend play settings, and the BERS (Epstein, 1998) has no reference to pretend play. The lack of attention to pretend play limits the applicability of these assessments to be used with a cultural appropriate ChIPPA. This chapter now presents Study 2 which aimed to begin the process of developing an assessment
of social interaction during pretend play when children’s spontaneous ability to initiate pretend play was being observed through the ChIPPA.

Study 2: The Development of a Social Interaction Scale Congruent with the ChIPPA

Study 2 was carried out because it was culturally appropriate for children to come in pairs to play which impacted on the administration of the ChIPPA with the sample population.

Study 2 was an analysis of the social interaction of children who played in pairs in Study 1. Study 2 had two aims:

\textit{ Aim 1:} To investigate if playing in pairs influences the frequency of pretend play actions.

\textit{Aim 2:} To develop a social interaction in pretend play measure within the culturally appropriate ChIPPA.

Participants

The participants in this sample are the same children from Study 1. Twelve children of the sample of 23 participants from Study 1 were observed playing in a pair, that is, there were six pairs of children. Pairs were of same and mixed gender, and same and mixed age. The summary of the pairs are shown in Table 4.2. Eleven children played singly.

The children all knew each other both in the school setting and within the community. It was known that pair number five were cousins however the relationships of the other children were not known. There were no siblings in the pairs in the study.
### Table 4.2

**Gender and Age Combinations of Children Playing in Pairs**

<table>
<thead>
<tr>
<th>Pair Number</th>
<th>Age of children in pair</th>
<th>Gender of children</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>4 years 4 years</td>
<td>Female Male</td>
</tr>
<tr>
<td>2</td>
<td>4 years 4 years</td>
<td>Female Male</td>
</tr>
<tr>
<td>3</td>
<td>4 years 4 years</td>
<td>Female Female</td>
</tr>
<tr>
<td>4</td>
<td>4 years 4 years</td>
<td>Male Male</td>
</tr>
<tr>
<td>5</td>
<td>5 years 6 years</td>
<td>Male Male</td>
</tr>
<tr>
<td>6</td>
<td>6 years 6 years</td>
<td>Male Male</td>
</tr>
</tbody>
</table>

### Procedure

The procedure was the same as Study 1 described in Chapter 3. The children were videoed as they played in pairs with the four sets of toys. Children who played on their own were also videoed as they played with the four sets of toys.

### Data Analysis

**Aim 1: To investigate if playing in pairs influences the frequency of pretend play actions.**

To determine if playing in pairs impacted upon the frequency of pretend play actions, the frequency of pretend play actions in the 20 minute play session for each paired child, and
each single child, was calculated. The frequency of the pretend play actions were analysed using descriptive statistics, to determine the range, median and mean of pretend play action frequency counts.

Aim 2: To develop a social interaction in pretend play measure within the culturally appropriate ChIPPA.

The social interactions of children were transcribed from the videos of the 12 paired children playing. The videos were stopped after each interaction between the children and a description of the interaction was recorded, for example, “grabs toy without asking”, “looks at other child and smiles”, “throws toy into other’s play scene”. The interactions were then assigned a verb to characterise that action, for example, “waiting for an answer = Wait”, “gesturing for toy without speech = Communicate”. A total of 19 verbs were compiled in a list (see Appendix I for example of social interaction verb list). The use of verbs to describe the social interactions is consistent with the use of verbs as descriptors and definitions of functional play actions and behavioural actions in the ChIPPA (2007) (see Appendix J for ChIPPA functional and behavioural verbs).

Results

Aim 1: To Investigate if Playing in Pairs Influences the Frequency of Pretend Play Actions

The results for the total sample of 23 children were a mean of 128.3 pretend play actions with a median of 122 pretend play actions and a range of 27-231 pretend play actions. The results
in Table 4.3 show the frequency of pretend play actions for children who played in pairs and the frequency of pretend play actions for the 11 children who played on their own when compared to the range, median and mean frequencies of pretend play actions for the total sample. These results show that a greater number of children in pairs performed fewer pretend play actions than those who were in individual pretend play situations.

Table 4.3

*Summary of Frequency of Pretend Play Actions of Paired Children (n= 12) and Single Children (n= 11) Compared to the Total Sample Frequencies*

<table>
<thead>
<tr>
<th>Total sample Pretend Play actions</th>
<th>Paired children (n=12)</th>
<th>Single children (n=11)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Median ≤ 122</td>
<td>8</td>
<td>2</td>
</tr>
<tr>
<td>Mean ≤ 128.3</td>
<td>9</td>
<td>3</td>
</tr>
<tr>
<td>Median ≥ 122</td>
<td>4</td>
<td>9</td>
</tr>
<tr>
<td>Mean ≥ 128.3</td>
<td>3</td>
<td>8</td>
</tr>
</tbody>
</table>

**Observations**

Two of the children in pairs were observed to stop their play to watch the play of their partner. This may have influenced the frequency of pretend play actions counted for that child. Two other children in pairs were observed to imitate the actions of the other child and make pretend play scenes such as paddocks for the animals similar to those of their partner.

There did not appear to be any play specifically based on the gender of the players, for example, no children assigned each other roles based on gender such as the girl playing with
only the dolls and the boys using the trucks. The children did not verbalise any gender differences or role assignment.

**Aim 2: To Develop a Social Interaction in Pretend Play Measure Within the Culturally Appropriate ChIPPA.**

Analysis of the social interaction verbs indicated that there were various levels of social interaction within pretend play, including social interactions relating to play, the toys and the play story, and social interaction which was based in the pragmatics of social interaction such as eye contact, asking, responding to requests, and smiling at the other in acknowledgement. Categorisation of the interaction verbs resulted in the grouping of the 19 verbs under five headings:

1. Positive Non-verbal social interaction (five verbs).
2. Verbal social interaction (four verbs).
3. Physical positioning (one verb).
4. Passive or imitative involvement in social pretend play (four verbs).
5. Negative social interactions (five verbs).

Positive Non-verbal social interaction included interactions which were considered an “intuitive” interaction, showing presumption of the other person’s response. For example, intuitive interactions were accepting a toy offered by the other child without speaking, placing a toy into the other child’s play scene without asking, removing a toy from the other child’s play scene without asking, or gesturing for a toy without speech. In this study children were observed to frequently take toys from the other child’s play scene without protest from the other child, or stockpile toys without asking without protest from the other child, or quietly follow the instructions of the other child in setting up the play scene.
The second category, Verbal social interactions, included those actions which take place when one child uses verbal communication to interact with the other child within pretend play. For example, asking for a toy to add to their scene, describing what the toy is doing, verbally assisting in the setting of the scene, establishing and developing the story-line and communicating the meaning of the symbolism being used in the pretend play. The Indigenous children in this study used verbal communication in both English and their Aboriginal language to describe toys, such as “See, he’s a little joey, he’s jumping,” and “Is he going to the hospital? Is he dead?”

Physical positioning within the play scene, the third category, occurs when children feel the need to be in closer contact with the other person or with the play scene. Brownell and Carriger (1990) stated that older children move to positions opposite one another when involved in a play task more often than younger children as these position changes were necessary for solutions and problem-solving, and indicated the ability to adopt complementary roles. This re-positioning was noted in all the pairs of children in this study.

Some children appeared passive, however they are not uninvolved. The fourth category of Passive and Imitative involvement in social pretend play included behaviour which indicated involvement cognitively, and possibly emotionally, with the other child, but not physically contributing. The child could be considered the “interested audience”. For example, watching the player’s actions silently, looking at the responses of the other child to the unfolding story, or listening intently to the narrative of the other child. It was observed that two of the children completely stopped their play to observe and listen to the other child’s play, then recommenced their own play only after the other child finished playing.
The fifth category of Negative social interaction includes social interactions which may be perceived as unfriendly, unkind, or impolite, and may also include destructive or potentially injurious actions such as hitting or pushing the other child. For example, asking for a toy but not waiting for an answer, taking the other child’s toy, snatching the toy from the other child’s grasp or destroying the other child’s play scene. In this study no child was physically aggressive to the other child, and only two children of the six pairs used louder voices to assert their will on the other. Two children also snatched toys, and stopped the other child from completing their play action, coercing them verbally to play in another way or with other toys. One child destroyed the other child’s play scene however there was little response to the destruction by the other child.

The five verb categories were termed as positive and negative, and required further examination for cultural appropriateness as the actions had been categorised through a Western perception and judgement (see Table 4.4 for the five verb categories).

<table>
<thead>
<tr>
<th>Positive Non-verbal social interaction</th>
<th>Verbal social interaction</th>
<th>Physical Positioning</th>
<th>Passive/Imitative involvement in social pretend play</th>
<th>Negative social interaction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enhance</td>
<td>Communicate</td>
<td>Engage</td>
<td>Maintain</td>
<td>Diminish</td>
</tr>
<tr>
<td>Elaborate</td>
<td>Negotiate</td>
<td></td>
<td>Wait</td>
<td>Exclude</td>
</tr>
<tr>
<td>Extend</td>
<td>Narrate</td>
<td></td>
<td>Imitate</td>
<td>Extinguish</td>
</tr>
<tr>
<td>Achieve</td>
<td>Apply social rules</td>
<td></td>
<td>Self-contain</td>
<td>Impose</td>
</tr>
<tr>
<td>Encourage</td>
<td></td>
<td></td>
<td></td>
<td>Withdraw</td>
</tr>
</tbody>
</table>
Discussion

Howes et al. (1989) reported that children of 3 years of age participate in complementary pretend play with each child taking roles and understanding each other’s symbolism in play. Only two of the six paired children in the current study were observed to play in this way. The play of the other four pairs of children was observed to be more illustrative of Howe and Matheson’s (1992) classification of the social pretend play of the 24-30 month old child where there is a common theme in the pretend play, each child understanding the symbolism but not integrating or elaborating the other’s pretence. This may have been due to the contrived play situation where time was limited in which to form elaborate pretend play scenarios in which both children felt engaged. It could also be indicative that the theories of development of social pretend play are not appropriate to Australian Indigenous children (Fleer, 1990). There may have been the effects produced from being observed by an unfamiliar non-Indigenous person, the awareness of the video camera being used to record their play, and unfamiliar toys, which may have meant that time was spent exploring the toys together, rather than engaging in complementary pretend play.

Two of the children who were in a paired play situation had very low frequencies of pretend play actions compared to their partner, and this appeared to be due to the child watching the play of their partner with intensity, so much so that their own play diminished or ceased completely. It cannot be determined, within Study 2, if this was due to the child being a poor player, or easily distracted from their own play, or if they were so absorbed in the play of the partner, fully entering into the play story and symbolism, such that their own play became secondary to the other’s story.
Imitation, direction and instruction all occurred during pretend play, and are considered to be typical development in social pretend play as part of the scaffolding process (M. Dunn, 2004; Howes & Matheson, 1992; Vygotsky, 1978). Two of the children in the paired play situation scored similar frequencies of pretend play actions to their partner, however many of their actions were imitations of the other’s actions, or they followed the verbal and non-verbal direction of the other child without initiating the action for themselves, or modifying the pretend play so that it was their own play story. The results therefore may be inflated for the child imitating or following direction.

The type of play materials also had an effect because when the unstructured play materials were introduced less than half of the children engaged with the unstructured play materials. It was observed in three pairs, that one child made some attempt to copy the actions of the first child who engaged in some pretend play with unstructured play materials. In these pairs when one child was prompted by the other child to engage with the play material and that child complied with the prompt, the action was counted as a pretend play action for that child. Within this study it was not determined if the children using imitation or tending to follow the other child’s directions had poor play skills, as this study did not evaluate the children’s ability to pretend play.

Some children were distracted by the other child, losing the theme and progression of their pretend play by the interaction and interruption of their play partner. It was observed that the child who had been interrupted took time to regain their story-line and their re-engagement in pretend play, and this affected the number of pretend play actions observed within a timed play situation.
No children had lengthy or vigorous altercations over toys, though it was observed that toys were frequently taken from another child’s store of toys, or snatched from their hand. A small number of the children protested, though not vigorously, when a toy was taken. It was more usual for the children to acquiesce and adapt to the situation. Indigenous children are given the freedom to play with other children of all ages as soon as they can leave their mother’s side. The peer group is determined not by proximity or chronological age but by relationship (Dudgeon, et al., 2000; Hamilton, 1981). The most important function of the peer group is the setting for play which it provides, and the kind of play in which the children indulge, as primarily it is unregulated by the adults of the group. The older children tend to initiate the play (Hamilton, 1981). These factors may affect how the children performed in pairs as culturally they are attuned to playing in groups, and understood the cultural rules for relationships which guided behaviour and social place within the play situation.

**Conclusion**

Assessing the pretend play of Indigenous children using a standardised assessment such as the ChIPPA with a single participant was considered culturally insensitive. However when the administration of a culturally appropriate ChIPPA demands that children be assessed in pairs, there has to be an accurate and reliable measure of the impact of the peer social relationship on the child’s play. The use of Western terminology and perceptions, such as positive and negative behaviours in play situations, also posed a potential impediment to developing a valid, culturally sensitive and non-biased assessment of the social interactions. This analysis led to the need for Study 3, which was community consultation on the social verb list as well as community confirmation of the toys and unstructured play materials. Study 3 is presented in Chapter 5.
CHAPTER 5

Study 3: Community Consultation on Social Verbs and Play Materials

“You can discover more about a person in an hour of play than in a year of conversation”

(Plato)

Social Interaction Verbs and Final Toy Selection

Chapter 4 described the verbs of social interaction that were transcribed from the videos of pairs of children playing. These social interactions were written as verbs which described the interactions, for example, talks to other child, takes toy without asking, or, laughs at other’s play (see Appendix J for the list of social interaction verbs). Some verbs had brief adverbial qualification such as “taking gently” or “grabbing quickly” to assist in the understanding of the quality of the interaction within the play setting, and the potential impact it may have on the play of the other child. The verbs were categorised into five groups (see Table 4.4 for the categorised verbs). This chapter will discuss the third study which aimed to elucidate in more detail the nature of the verbs used and the final selection of the toy sets proposed for inclusion in a culturally sensitive assessment of pretend play.

The social interaction verbs used, such as “grab” and “snatch”, may have a negative connotation in some languages or cultural groups. In a Western mind-set the word grab can mean to take quickly, to remove or to take illegally and with force (Merriam Webster, 2012). Such words may be interpreted as a negative or an anti-social action. Words convey perceptions due to being culturally and contextually value-laden, therefore it was important to examine whether the social verbs being used to describe the Indigenous children’s play were
culturally appropriate and not pejorative. The verbs had been placed into categories which included the words negative and positive in the titles however these were based on Western interpretations of actions rather than Indigenous interpretation. In developing a culturally appropriate assessment it was imperative to gain knowledge of the Indigenous perception of the behaviours and the verbs describing them to ensure the validity of a social scale developed in congruence with the culturally appropriate ChIPPA. Gould (2008) argued that assessments can be non-beneficial and even harmful to Indigenous children in educational and therapeutic settings. Hence Study 3 had two objectives. The first objective was to consult with members within the Indigenous communities which would ameliorate the effect of culturally inappropriate or insensitive language use in an assessment of social interactions expressed as verbs.

The second objective was to consult with the communities to validate the selection of the toy sets from Study 1. The conventional toy set contained a small wrench which was used very infrequently by all children (less than 1.3% of all pretend play actions). Community consultation was needed for guidance on changing the wrench for a more culturally appropriate toy. In Study 1 only nine of the 23 children in the sample group used the unstructured (symbolic) play materials of the standardised ChIPPA (see Appendix B4 for description of ChIPPA). No recommendations had been made by the Indigenous communities in respect to the cultural appropriateness of the unstructured play materials, however it is not known whether playing with unstructured play materials was common, or encouraged, within the culture of the Indigenous peoples of the region and within these communities. To ensure that the play materials were culturally appropriate, and did not place the children in a deficit situation in the assessment, consultation with the Indigenous community as to the possible reasons for the lower frequencies of play with these materials needed to be undertaken.
Study 3: Community Consultation on Social Verbs and Play Materials

There were two aims in Study 3:

*Aim 1*: To ascertain the communities’ opinion of the social verbs as to their cultural appropriateness, and,

*Aim 2*: To refine the conventional toy and unstructured play material sets for the culturally appropriate ChIPPA.

Research Design

The most appropriate method to gather data concerning the communities’ views of both the social interaction verbs and the toy and play material sets was considered to be focus groups. Willis, Pearce and Jenkin (2005, p. 112) stated that “researchers hoping to work effectively and sensitively with Aboriginal Australians are faced with a number of methodological and ethical dilemmas.” These dilemmas included aspects such as remoteness of location, distance from the researcher’s institution, cultural differences between the researcher and the target population and language barriers. Willis et al. (p. 112) stated that the sometimes evident cynicism of Aboriginal people towards outside researchers need to be considered when deciding what methods of research and the procedure to ensure the credibility of “claims of reliability and validity of findings”. Liamputtong and Ezzy (2005) suggested that adaptation of the traditional investigative, question-based model of focus group be adapted to suit an Indigenous population. This concept is supported by Halcomb, Gholideh, Di Giacomo, Phillips and Davidson (2007) who examined focus group methodology in different cultural contexts.
An important factor considered in this research design was the cultural sensitivity of using a focus group methodology with an Indigenous population, where questioning and probing of issues, especially by a Western researcher, may be considered offensive, or at least inappropriate. Indigenous populations can be described as “vulnerable populations” as they are more likely to be “susceptible to coercive or undue influence” due to being “economically or educationally disadvantaged” (Liamputtong & Ezzy, 2005, p. 204). The Australian Indigenous population has a high incidence of illiteracy, low educational achievement, are amongst the most disadvantaged groups in Australian society, and are considered to be a vulnerable population (ABS, 2010; Dudgeon, et al., 2000).

The advantages and disadvantages of focus groups were taken into account in the design of the research method. The advantages supported the use of focus groups as the most appropriate research method in these remote Indigenous communities where limited access to the communities was available to the researcher and quick and cost-effective methods of data collection were a consideration. Flexibility in delivery and moderation of groups was to ensure cultural sensitivity and to encourage participation of as many respondents as possible, especially for those who may have felt threatened or intimidated by the presence of a white, well-educated researcher from “the city”. The majority of participants in the study reported low levels of formal education, therefore the focus group was advantageous in this situation, where direct and open rapport with the researcher assisted in decreasing the sense of difference between the researcher and the participants. The immediate clarification of responses, especially where cultural differences affect understanding of responses, was important for reliability of the findings as well as to allow for difference of opinion within the group to be clarified. Also, data from a focus group was immediately accessible to the researcher, whereas paper-based surveys traditionally have a very poor return rate in
Indigenous communities, especially where remoteness, lack of access to postal services, high rates of mobility and low literacy levels are factors which were considered (Hunter & Smith, 2002).

There is limited literature which provides information or guidelines on the use of focus groups as a research method in culturally and linguistically diverse populations (Halcomb, et al., 2007). Therefore, through personal communication with Indigenous academics in Perth, and allied health professionals in the Pilbara, it was considered appropriate to have non-structured focus groups, without the usual interview or question-based format. The focus groups would be more conversational and non-directed in style to obviate the need to question and use what may be considered “interrogative” methods of obtaining information. The researcher would not have the traditional role of directing the group, other than to be part of the conversation where appropriate or when the participants asked questions of the researcher or required more information.

**Participants**

The participants were members of the communities and some were Elders within their communities. All participants were Indigenous Australians. All participants spoke Standard Australian English or Aboriginal English. Three focus groups were conducted and there were a total of 14 participants (n=14). The first group had five participants (n=5), the second had seven participants (n=7) and the third group had two participants (n=2). All participants were women. The invitation to be part of the focus groups was extended to both genders in both communities, however as young children and their care is culturally considered to be the
work of Indigenous women, only women attended. All participants volunteered to be part of the groups.

All of the women who attended were mothers however one woman was also a grandmother. The ages and marital status of the women was not disclosed to the researcher. Some of the women were related to each other. In two of the focus groups all the women attended a Mother’s group run by a community psychologist and the third group was conducted at a school where the parents had been invited to be involved in the research.

**Procedure**

Ethics approval was gained through Deakin University (see Appendix K1 and 2 for letters of approval). The participants in the focus groups were recruited from two remote Indigenous communities which included schools. The procedure followed the steps in the design and use of focus groups as enunciated by Stewart et al, (2007). Figure 5.1 represents the sequence of steps proposed by Stewart et al., and how the procedure was adapted for use in this study.
Figure 5.1: Steps in the design and use of focus groups with the sample population. (Adapted from Stewart, Shamdasani & Rook, 2007, p. 48)
The recruitment of participants commenced with the involvement of the community psychologist discussing the research and its implications for the development and education of young children with members of the mother’s groups. Following this discussion the researcher was asked to send further information about the research and consent forms and Plain Language Statements (PLS) (see Appendix L1 and L2 for the consent forms and PLS.) An invitation to parents, Indigenous teachers and education assistants at the towns’ schools was sent to the Principals to be distributed, and consent forms and plain language statements were included with the invitation (see Appendix M for letter of invitation). Recruitment was also encouraged through a notice in the schools’ weekly newsletters.

At the commencement of each focus group the participants were introduced to the topics of the study by the researcher and presented with the two toy sets (the conventional toys and unstructured play materials) proposed for the culturally appropriate ChIPPA. Members of the focus group were asked to consider what they thought about the toys, and if they thought the toys would be suitable for play by children like their own. The resultant discussions about the toys were recorded in writing by the researcher as the participants had not agreed to be either videoed or audio-taped as they felt that was culturally unacceptable. This is common in many Indigenous situations, and was respected (Graffigna, et al., 2008).

The topic of social verbs was also explored through indirect questioning, that is by posing scenarios which allowed for discussion, rather than by direct questions. An example of this indirect approach is the researcher reporting that in a particular play session Child X had continually taken child Y’s toys without asking, and Child Y had not objected, and that when white Australian children played in this situation this behavior usually resulted in conflict or protestation. The researcher left the scene open to discussion by the members of the group.
Exploration of cultural beliefs regarding children’s relationships and how they affect a child’s play with other children was included in the focus group session. The focus groups were terminated when the members felt they had exhausted the topic and felt it appropriate to leave. Two groups were terminated after approximately one and a half hours and the third group duration was 45 minutes.

**Data Analysis**

Qualitative data were recorded as notes and verbatim quotes as the focus group progressed. These notes and quotes were then organised into transcriptions reflecting the discussion in each focus group. The data were then analysed by coding the transcripts. After coding, further analysis was carried out by categorising the codes into three main themes.

The themes were then scrutinised for congruency between focus groups. Member checking is the opportunity provided to participants of the focus group to check and confirm the interpretation of the data and accuracy of the transcription developed from the focus group (Carlson, 2010). Member checking with the groups was offered to all the groups’ members, however all focus groups’ members declined to receive written transcriptions. Culturally, offering a “time of talking” (discussion) for the group with the researcher would have been more appropriate than written transcriptions (Walker, Fredericks & Anderson, 2012), however this was not possible due to the remoteness of communities; members of the group considering it not necessary, and the leader of two of the groups leaving the community which broke down the contacts with and access to the community for the researcher.
Results

Three themes were identified which were: (a) background of Indigenous understanding of play, (b) proposed social interaction verbs, and (c) play and play materials. Each of these themes is described below.

Background in Indigenous Communities’ Understanding of Play

Participants in all three focus groups felt it important to explain the social “rules” which children understand in Indigenous society, and which are reinforced as appropriate by parents and Elders of the communities. Participants described the characteristics of their children’s play as totally integrated with social rules, that is, play occurs within a social context which children learn from an early age. The participants felt this understanding was particularly important to explain as the researcher was non-Indigenous.

These rules were described as:

1. There is a strong sense of family in play relationships therefore children understand relationships in any setting,

2. play often centres around the relationships of the community, and in this way important relationship rules and relationship literacy are learned,

3. age doesn’t matter, as all children play with other children and are taught that they are all equal from an early age,

4. children are taught to share and collaborate with each other from a very early age,

5. there is no real ownership of toys, or objects, so sharing is expected,
6. older children are expected to give way to the requests and demands of the younger children, for example demanding a toy, as the younger ones do not understand sharing as well as older ones do and younger children are given more freedom and are indulged more by all members of the community,

7. the older child will probably “dominate” or direct the play and its theme,

8. the older child has the responsibility for the younger in all situations including play,

9. relationship is determined mainly by age and to some degree familial relationship, though this is not a “kinship” issue, which has a more legalistic social connotation, for example who can speak to whom, who has obligations to whom within the community,

10. relationship and familiarity are factors which would enhance the quality of play

11. competition is not encouraged in play situations, and,

12. “shame” can be felt by children in the play situation if they feel they make errors in front of unfamiliar adults, older children or relatives, or if they have behaved inappropriately for the situation.

Members of the groups were concerned that assessment of their children may be difficult for the children, and that they felt the Elders of the two communities were correct in asking for children to attend in pairs. The member of the focus groups felt the children may not perform well in assessments as they may not be sure of how to respond, or felt shy, and did not know how to react especially with an unfamiliar White person. They felt the children may not be sure of the behavioural boundaries and expectations of the White person. Members of the groups also suggested if the assessments were not “hands-on” then their children could be disadvantaged. This also applied if the assessments were technology-based as their children in the rural setting had limited access at home, and at school, to technology.
Social interaction verbs.

The participants, having read the list of verbs and the descriptions as described in Chapter 4, agreed that the verbs such as grab and snatch were appropriate as they would use similar words themselves to describe the actions. They stated that there is no judgemental value placed on the verb, that is, it is not necessarily bad to grab a toy without asking, nor is it a negative action. The participants felt that there should not be emotion attached to the words, that the words were simply ways to describe the action being observed. The focus group members felt that placing the actions into the proposed categories, for example, Negative Social Interactions, was inappropriate, as the actions are not intended to be anti-social or negative, rather they are merely an action. An example given was that a younger child may hit out at an older child as they wanted the toy, and that this is typical as the younger child is indulged due to their inability to understand the rules of games at an early age. There is no judgement of negativity, and no action taken by an adult, unless the situation warrants it, for example if biting or a fight erupted.

Playing and play materials.

The participants of the three focus groups outlined their thoughts about play in general prior to discussing the two toy sets presented. They described the children’s style and types of play as:

1. Not being based in socio-dramatic narrative, that is the children tend not to take on roles such as “You are the prince, I am the princess, and this is the baby,”
2. being focussed outdoors because toys and resources are less available in most communities, so children play more gross motor games, and have to share in play more than in the school setting where toys are more abundant,

3. children tending not to play in the usual kindergarten and pre-school areas known as “dress-up corner” and “kitchen corner,” nor did they engage in this type of play at home, and,

4. children tending not to re-enact stories such as “Three Little Pigs” which they learn in school, their play is more functional than pretend.

Conventional play materials.

In relation to the toy sets presented, members of Focus Group 1 affirmed the Pilbara toy set as being appropriate for the children in the Pilbara region, however suggested that as the two towns are close to the coast, toy animals from the sea, which are traditionally hunted and eaten by the Indigenous population, should be included. These toys should be turtles, fish, sharks and starfish. The group members also thought that the fish would be useful for inland children as there are fish in many of the billabongs. No comment was made by this group regarding the wrench’s suitability.

Focus Group 2 members affirmed the Pilbara toy set, however also suggested sea animals such as fish, crabs and sharks. They also suggested sea snakes but conceded that the plastic toy snakes already in the set could be used as sea snakes. The members of this group felt it was important there were different sized toy kangaroos as playing about families is important in the Indigenous culture. There was also a suggestion that the dingoes may not be familiar to the children as there are no longer dingoes close to town. However as a group it was decided
that dingoes should be kept in the toy set as the children see dogs daily in their homes and town and may see dingoes in the bush on family trips. One group member suggested kittens and puppies could be included as children had pets at home, but also agreed the dogs could be sufficient, and that there should be the family of kangaroos to elicit family play.

This group also felt the small metal wrench was too similar to a real wrench and therefore may not be seen by the children as a play item. They suggested a toy wrench made of plastic, however after discussion the group decided a plastic kitchen knife would be more suitable as children from the age of 18 months accompanied the adults on hunting trips and were encouraged to use a knife to learn to skin kangaroos. Focus Group 3 members affirmed the toys already chosen and also suggested sea animals to be included. No suggestion to replace the wrench was made.

**Symbolic (unstructured) play materials.**

Members of all three focus groups were of the opinion that unstructured toys were not played with by the children very much and that they were not encouraged to do so by parents in the Indigenous communities. While Haagen’s book (1994) described Indigenous children’s toys made from used tin cans, discarded wire, rope and car parts this was not reported by the focus group members as occurring in the communities in recent times. There was a general agreement that technology and commercially available toys had replaced unstructured toys for many Indigenous children. Also the participants described the Indigenous children’s play in the Pilbara as being more centred on outdoor, games-oriented play, or organised sports, and generally doing a lot of running and walking with peers, not as much indoor and imaginative play or fine motor play, so the children have not been exposed to very much non-
conventional, symbolic play. It was noted by mothers of children at school that the children get some exposure to unstructured materials in box and cardboard construction activities at school.

Focus Group 1 members expressed the opinion that the two white cloth dolls could be frightening to the children, reminding them of the bad spirits in the Dreaming stories so they may not play with them. It was suggested the material be blue instead of white for the cloth dolls. It was also discussed that a box with sand would be appropriate as the children loved to play and draw in sand and that this also reflected traditional story-telling methods and their connectedness to the natural environment.

Focus Group 2 participants suggested that the cloth dolls should be “a darker colour” rather than white, but were not strongly against the white coloured cloth dolls being used. They also felt the sand would be a good material to encourage imaginative play, and that a block of wood could be used in the sand. Focus Group 3 members were not concerned by the colour of the dolls, however was concerned the doll’s face should look friendly, not like an angry person, so it would not frighten the children. No other changes were suggested.

Refinement of the Social Verbs: Content Validity Based on Community Input

The feedback of the Indigenous community members of the social verbs resulted in the refinement of the definitions and descriptions of the verbs. This also led to the verbs not being placed into the proposed groups of positive behaviours of social play or negative behaviours of social play. By placing the verbs into a positive stream or negative stream, a judgement is placed on the action/s which is contradictory to community feedback and may
also be a perception of the researcher’s Western view of social interaction and its intent rather than reflecting the qualitative and quantitative impact of the action/s on the play itself. This new understanding led to the development of a list of social interaction verbs which described a group of behaviours or actions with common traits. The verbs were not defined as a negative action or a positive action. The verbs were considered to be valueless, that is, purely descriptive of the action. It was recognised, however, that proposed verbs such as Diminish or Extinguish and their relevant definitions and descriptions may carry a perception of negativity to any particular individual. Language and its meaning are contextual and cultural.

Further analysis of the list of social interactions showed patterns or similarities which allowed for verbs to be grouped, for example, four observed social interactions such as glancing at another’s play action; giving them a toy without asking; placing a toy into the other child’s toy scene; and smiling at the other’s comment were all seen as fitting the definition of the verb titled “Engage”. Similarly, pushing the other’s hand away, physically removing all the other’s toys or dismantling the play scene of the other all have effect of stopping the other’s pretend play and were seen describing the social interaction verb “Extinguish”.

These social verb interactions were defined and described so that the verbs would be clear for scoring of the social interactions of children in peer pretend play assessments. For example, **Maintain**: defined as supporting actions or words that do not change the theme or the action but assist in the pretend actions of the play partner continuing, such as adding a toy without asking, or handing over a toy; re-setting up fences when they fall so that the farm is intact and the animals don’t get out (see Appendix N for the draft of social interaction verbs and their definitions).
Further refinement of social verbs following community feedback.

With a deeper understanding of social play interaction in the Pilbara community further refinement of the social verbs took place between the researcher and the co-researcher (that is, the PhD student’s primary supervisor). The social verbs were reviewed through video analysis of the children in Study 1. There were two significant changes to the verbs, firstly the recognition that the “Engage” was too broad and did not differentiate between complexity and level of engagement with the other’s play, and secondly, that the time children spent engaging with the assessor should be added and considered non-peer social interactions.

Differentiation of the two forms of engagement was important as it reflects the existence of a simpler, passive interaction which may not involve any understanding of the other player’s pretence in play, and this was termed “literal engagement.” In contrast “symbolic engagement” indicated that the child showed understanding of the other’s pretence and use of symbolism. This is a more complex, cognitive social interaction as it requires the child to be able to anticipate and understand the symbolic representations of another.

These two forms of engagement are defined and described as:

**Literal engage:**

- to be involved physically or visually with the other person’s pretend play;
- includes joint shared attention;
- re-positioning self to be more engaged with the play;
- Accepting a toy offered by the play partner, or toy placed into the play scene.
Symbolic Engage:

- showing signs of comprehending the play partner’s symbolic representations;
- having the effect of being an active or passive support of the pretend play;
- accepting a toy offered by the play partner, or toy placed into the play scene to use symbolically.

The interaction with the assessor or other persons in the room and not the play peer was important as time spent with the assessor could affect the time a child spends in pretend play, therefore affecting the ChIPPA scores. Also the play of the partner in the play session may be affected by the child-assessor interaction occurring outside of the peer play. Non-peer interaction included interaction with others who may be in the room, but not in the play session. This form of social interaction was termed “Non-Peer Interaction” and was defined and described as:

Non-Peer Interaction (NPI):

- The child ceases or pauses in their play to look at others in the room;
- Interaction with the assessor;
- Listening into or observing the other child and assessor interact without contributing to that interaction.

Development of further variables of social verbs.

Some of the verbs had a semblance of hierarchical order to them, for example, Diminish included actions which caused the other’s play to momentarily cease, to decrease in intensity,
or to lose its form, but not to cease completely. The category Extinguish included actions which completely stopped play for the other so that they had to re-establish the whole play scene and narrative, or that they left the play altogether. Similarly the category Maintain included social actions which kept the play of the other going with the same intensity, complexity and theme, while the category Enhance showed the child was able to have more input into the play of the other through adding to the theme, and developing the theme to a deeper level and keeping the play flowing.

The frequency of social interactions was not the only aspect when considering the impact upon the players in a play assessment situation. The duration of each action was also important as a child may make only one social interaction, but it may have a lengthy duration. It was important to consider whether the action had any discernible impact or effect on the other’s play, for example, whether taking a toy from the other child’s play scene had an observable effect on the other child’s play. A lack of effect of this action could be due to: the other child’s play abilities easily accommodating change in the scene; the immediate decision that the toy was worth forfeiting to the other; the child’s own personality as being accepting of the action of the other; and / or the understanding of the relationship allowing the other to be indulged. In the Indigenous collectivist culture, and as discussed with focus group members, toys are for sharing without having to ask. Hence the effect of social interactions on the play of the child’s play partner was a critical factor in ascertaining whether social interactions had an impact on the play partner’s scores on his/her ChIPPA and therefore on how the play abilities of the child was interpreted.

Being able to measure the frequency, duration and effect of each child’s social interactions upon each child’s pretend play is the basis of the refinement of the social verbs. According to
Streiner and Norman (2003, p. 5) review of a measure by an expert panel to determine its content validity is a “minimum pre-requisite for the acceptance of the measure” therefore the community feedback into the refinement of the social verbs was considered the content validation process. Streiner and Norman (p. 5) stated that content validity assumes “the instrument measures such-and-such because an expert says it does.” The community of Indigenous mothers was the expert panel, as they have the knowledge required to validate the social verbs to be used in the assessment of Indigenous children. Therefore the verbs and descriptors used in the proposed social interaction assessment were deemed valid by the expert panel.

To have an acceptable degree of reliability the researcher and co-researcher analysed video recordings using the proposed social interaction assessment. One social interaction verb was discarded, the verb Engage was formed into two categories (that is, Symbolic Engage and Literal Engage), and the Non-Peer Interaction verb was added. This resulted in 20 social interaction verbs. Table 5.1 shows the refined social interaction verbs. The researcher and co-researcher refined the verbs on several occasions and reached 100% agreement regarding the verbs and their definitions and descriptions.
Table 5.1

*Social Interaction Verbs, Their Definitions and Descriptions*

<table>
<thead>
<tr>
<th>Social interaction verbs</th>
<th>Definition</th>
<th>Descriptions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Literal engage</td>
<td>Being involved without symbolism</td>
<td>• Does not show signs of comprehending the play partner’s symbolic representations or symbolic intent;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• to be involved physically or visually with the other person’s pretend play;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• includes joint shared attention;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• re-positioning self to be more engaged with the play;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Accepting a toy offered by the play partner, or toy placed into the play scene.</td>
</tr>
<tr>
<td>Symbolic engage</td>
<td>Being engaged with symbolism</td>
<td>• show signs of comprehending the play partner’s symbolic representations or symbolic intent;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• having the effect of being an active or passive support of the pretend play;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Accepting a toy offered by the play partner, or toy placed into the play scene to use symbolically.</td>
</tr>
</tbody>
</table>
| Maintain      | Keeping sameness | - supporting actions and words that **do not change** the theme or the action but assist in the pretend actions of the play partner continuing without taking or adding other toys/objects into the scene e.g. moving the same toys into other positions, making a toy lie down, moving the doll from sitting to standing;  
|              |                  | - re-setting the fence up when it falls so that the farm is intact and the animals don’t get out. |
| Enhance      | Adding to, improving the play | - to add to another’s play so that the theme is continued with the play remaining on the same theme e.g. “Then the man jumps over the fence and saves the dog from drowning” i.e. a logical continuation of the theme that was playing out;  
|              |                  | - adding more characters/ symbolic objects but remaining with the same theme;  
|              |                  | - showing the play partner a toy, and/or describing it to them. |
| Extend       | increasing time in play; adding more to the theme; bringing in more depth of theme. | - actions and/or words show the child adding their own theme into the play partner’s play and developing that theme;  
<p>|              |                  | - has a “time” component so that the play may be continued for longer, but with same theme – “let’s keep going with this play.” |</p>
<table>
<thead>
<tr>
<th>Category</th>
<th>Description</th>
<th>Examples</th>
</tr>
</thead>
</table>
| Elaborate | bringing in more depth of theme, more complex play, more themes, different themes | - actions and/or words which change the theme significantly;  
- building on the theme so that it is more complex, characters take on more roles with greater complexity;  
- moving the theme to a higher level e.g. from familiar themes like mothers and fathers to the unfamiliar and not-experienced theme of astronauts flying to Saturn;  
- joining themes with the play partner, to combine themes and increase complexity e.g. demolishing own and partner’s play scenes and joining the two together into a similar or different themed scene. |
| Diminish | Decreasing but not stopping play | - actions and/or words which cause pretend actions, or themes and roles of the play partner to be decreased in intensity, duration, complexity but not ceased;  
- mutually exclusive to Withdraw. |
| Extinguish | Ceasing; no shared understanding | - actions and/or words which cause the pretence of the play partner to stop e.g. “Stop doing that”, or adding in toys which have no relevance to the pretence of the other child and causing the theme to disintegrate and the |
child to abandon their pretend play;

- showing no understanding of the theme, roles, symbolism or deliberate refusal to make-believe;

- includes aggressive or destructive behaviours which cause pretend play to cease, e.g. the alligator attacks the child, or the doll chops up the other with a toy axe, or breaks down the whole scene, so that all play stops.

<table>
<thead>
<tr>
<th>Exclude</th>
<th>stop play by not allowing; stop initiation; stop imagination</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>to stop the other person from being part of the pretend through actions or words such as “no, dogs can NEVER fly”;</td>
</tr>
<tr>
<td></td>
<td>to physically constrain/restrict the other child from coming into the play scene.</td>
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</tbody>
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<table>
<thead>
<tr>
<th>Withdraw</th>
<th>physical withdrawal</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>leaving the play partner’s scene during the play causing the play partner to cease playing or change themes;</td>
</tr>
<tr>
<td></td>
<td>refusing to interact to questions or invitations to join in the pretend play so that play does not commence or continue.</td>
</tr>
<tr>
<td>Self-contain</td>
<td>non-interactive play; shared comfortableness</td>
</tr>
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<td>--------------</td>
<td>---------------------------------------------</td>
</tr>
<tr>
<td></td>
<td>• actions and/or words which indicate the child is engaged in own theme-related play and no interaction with the other occurs during pretend play;</td>
</tr>
<tr>
<td></td>
<td>• occasional glance or answer but no attempt to be part of the pretence;</td>
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<tr>
<td></td>
<td>• sets up and continues own play theme and scene;</td>
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<tr>
<td></td>
<td>• appears to play alongside in own unrelated pretend play.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Encourage</th>
<th>Showing desire to play and for other to play</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>• actively asks the other to play;</td>
</tr>
<tr>
<td></td>
<td>• asks for assistance in setting up a scene;</td>
</tr>
<tr>
<td></td>
<td>• shows encouraging facial expression to increase interaction during pretend play;</td>
</tr>
<tr>
<td></td>
<td>• uses encouraging language e.g. “I like your farm” or “that’s a cool rocket.”</td>
</tr>
</tbody>
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<table>
<thead>
<tr>
<th>Apply social rules</th>
<th>Manners; pragmatics.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>• during pretend play exhibits social rules e.g. turn-taking, thanking; using name of other; excusing self; shows social rules in the pretend play e.g. has doll say thank you to the other player.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Wait</th>
<th>Not acting immediately</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>• actions or words which interrupt the other’s pretend play while waiting for a response from play partner;</td>
</tr>
<tr>
<td></td>
<td>• asking for a toy with no response from play partner so that child’s pretend actions are on-hold;</td>
</tr>
</tbody>
</table>
• repeating a question involving the pretend play scene and actions e.g. “does he jump over it?”

<table>
<thead>
<tr>
<th>Achieve</th>
<th>Goals being met</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>actions/behaviours which specifically work towards spoken or non-spoken common goals between the play partners in pretend play.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Negotiate</th>
<th>Compromise; bargain</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>verbal interactions to share toys, solve problems, swap or compromise before or during the play scene set-up and within a play sequence e.g. “I’ll have these three horses and you can have the two ladies, ‘cos I need the animals for the farm, OK?”</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Impose</th>
<th>Control or direct</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>to dominate and dictate the theme, roles and progression of the play;</td>
</tr>
<tr>
<td></td>
<td>to continually control the pretend play of the play partner through words and actions such as controlling the type of toy, or the number of toys so that the other has little/no choice in the pretend situation.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Imitate</th>
<th>Copy</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>modelling on the pretend play of the other child, not assessor, using little or no or limited initiative or own theme.</td>
</tr>
<tr>
<td>Communicate</td>
<td>Verbal or non-verbal</td>
</tr>
<tr>
<td>-------------</td>
<td>---------------------</td>
</tr>
<tr>
<td></td>
<td>• Verbal, gestural or inferred communication e.g. gesturing for a toy to be given, nodding in agreement at an action, looking at the other to communicate e.g. indicating with inclination of head as to wanting the toy to be passed over;</td>
</tr>
<tr>
<td></td>
<td>• Actively joining into a conversation where the other child is communicating with the assessor.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Non-Peer interaction</th>
<th>Interaction with others/objects other than the peer</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>• The child ceases or pauses in their play to look at others in the room</td>
</tr>
<tr>
<td></td>
<td>• Interaction with the assessor;</td>
</tr>
<tr>
<td></td>
<td>• Listening into or observing the other child and assessor interact, <strong>without</strong> contributing to that interaction.</td>
</tr>
</tbody>
</table>
Final Selection of Play Materials

The toy sets for the culturally appropriate ChIPPA were determined according to the quantitative data from Study 1 and the qualitative results of the focus groups. The conventional toy set contained the Pilbara toy set as described in Chapter 3, with the addition of a fish, a shark, and crab and a turtle. A plastic kitchen knife was included in the conventional set, and the wrench removed.

The unstructured play materials included the addition of sand into the big box. The sand would be from the natural environs of the Pilbara with which the children are familiar, rather than commercially available white sand. This would increase the familiarity of the material to the children. The cloth dolls were changed to be a blue fabric, and the faces were smiling. The dowel stick was changed to a larger diameter as this was found to be more useful in the sand play. A flat wooden shape, similar to a spade end in form, was included in this toy set rather than a block shape.

Discussion

In cross-cultural research it is widely accepted that no assessments are culture-free, rather the aim is to develop culture-fair or culturally appropriate assessments which do not disadvantage a particular population group (Frijda & Jahoda, 1966). Through two studies conducted in remote Indigenous communities, which included consultation with the members of the communities, a culturally appropriate assessment of child initiated pretend play and social interaction measure is being developed. This assessment has been named the Indigenous-
ChIPPA (I-ChIPPA), which includes a measure of social interaction during pretend peer play called the Play Partner Scale.

The I-ChIPPA

The study to establish culturally appropriate play materials and administration of a play assessment for Indigenous Australian children has resulted in the toy sets which are considered culturally appropriate for rural and remote Australian Indigenous children.

The I-ChIPPA consists of two toy sets which are listed in Table 5.2:

Table 5.2

The I-ChIPPA Toy Sets

<table>
<thead>
<tr>
<th>Conventional toy set</th>
<th>Unstructured (Non-conventional) toy set</th>
</tr>
</thead>
<tbody>
<tr>
<td>12 wooden fences</td>
<td>1 shoe box</td>
</tr>
<tr>
<td>1 truck &amp; trailer</td>
<td>1 larger box filled with sand</td>
</tr>
<tr>
<td>1 female dark skinned doll</td>
<td>1 cone</td>
</tr>
<tr>
<td>1 male dark skinned doll</td>
<td>1 tin</td>
</tr>
<tr>
<td>1 plastic knife</td>
<td>3 pebbles</td>
</tr>
<tr>
<td>2 dark coloured horses</td>
<td>1 thick dowel stick</td>
</tr>
<tr>
<td>1 dark coloured bull</td>
<td>1 flat stick</td>
</tr>
<tr>
<td>1 dark coloured cow</td>
<td>1 flat wooden shape</td>
</tr>
<tr>
<td>1 dark coloured calf</td>
<td>1 tea towel</td>
</tr>
<tr>
<td>2 galahs</td>
<td>1 face washer</td>
</tr>
<tr>
<td>2 adult kangaroos</td>
<td>2 blue coloured cloth dolls</td>
</tr>
<tr>
<td>1 small kangaroo</td>
<td></td>
</tr>
<tr>
<td>3 snakes</td>
<td></td>
</tr>
<tr>
<td>2 dingoes</td>
<td></td>
</tr>
<tr>
<td>1 emu</td>
<td></td>
</tr>
<tr>
<td>1 shark &amp; 1 fish</td>
<td></td>
</tr>
<tr>
<td>1 crab</td>
<td></td>
</tr>
<tr>
<td>1 turtle</td>
<td></td>
</tr>
<tr>
<td>1 goanna</td>
<td></td>
</tr>
</tbody>
</table>
The number of toys in the Pilbara conventional set does not exactly replicate that of the ChIPPA. This is not considered inappropriate for the Indigenous ChIPPA because by the age of 4 years, children should be able to utilise a large number of toys in their play (Stagnitti, 2009) and children come in pairs.

**Administration of the I-ChIPPA.**

Analysis of the results and observations made during Study 1 did not indicate that having children in pairs required the instructions to change. The ChIPPA is administered in a non-directive manner, where the child is told they can play with the toys in whatever way they want. The emphasis is on the child initiating and maintaining the pretend play without adult intervention (Stagnitti, 2007). The ChIPPA, being an assessment of child initiated, rather than adult directed pretend play, is consistent with the concepts of play within Australian Indigenous culture. In Australian Indigenous culture, play is child-centred and is not an activity in which adults are actively involved. Children are expected to initiate and maintain play on their own or with peers with little direction or interference from adults except in situations of danger (Coombs, et al., 1994; Kearins, 1984; Johns, 1999). The present Indigenous culture was explained by the members of the Indigenous communities through the focus groups and results from the focus groups were consistent with this literature.

The instructions in the ChIPPA include specific modelling of pretend play by the assessor using various toys during the middle five minute period of the 15 minute sessions. This also occurs with two children in the play setting however the assessor needs to position him/herself so that both children can see the actions of assessor to allow them to imitate the actions if they wanted. This allows the assessor to count the number of imitated actions of
each child. The effect on scoring of a child imitating the other child had to be considered in the development of the Play Partner Scale. Table 5.3 presents the modelling actions carried out by the assessor in the ChIPPA and the I-ChIPPA. A change in modelled actions was necessary because of the change in toy and play material sets.

Table 5.3

*Modelling Actions in the ChIPPA and I-ChIPPA for Conventional and Non-conventional Toy Sets*

<table>
<thead>
<tr>
<th>ChIPPA conventional toy set</th>
<th>I-ChIPPA conventional toy set</th>
<th>ChIPPA non-conventional toy set</th>
<th>I-ChIPPA non-conventional toy set</th>
</tr>
</thead>
<tbody>
<tr>
<td>Doll walks</td>
<td>Doll walks</td>
<td>Cloth doll waves</td>
<td>Cloth doll waves</td>
</tr>
<tr>
<td>Doll waves</td>
<td>Doll waves</td>
<td>Cloth doll drinks</td>
<td>Cloth doll drinks</td>
</tr>
<tr>
<td>Doll drives truck</td>
<td>Doll drives truck</td>
<td>from cone</td>
<td>from cone</td>
</tr>
<tr>
<td>Doll pats cow</td>
<td>Doll pats animal</td>
<td>Cloth doll drives</td>
<td>Cloth doll drives</td>
</tr>
<tr>
<td>Doll uses wrench on truck</td>
<td>Doll picks up knife and cuts up kangaroo</td>
<td>Cloth doll sleeps in shoebox bed</td>
<td>Cloth doll sleeps in shoebox bed</td>
</tr>
</tbody>
</table>

The modelled actions for the I-ChIPPA included the doll picking up the plastic knife and cutting up the kangaroo. This is a culturally appropriate action as traditionally many Indigenous children are encouraged to participate in the hunting and butchering of kangaroos for meat. Children are encouraged to imitate the actions and develop this skill by the parents and caregivers. Therefore including this modelled action was considered to be culturally appropriate and acceptable to the community members.
The I-ChIPPA has a specific number of toys and unstructured play materials included in the assessment kit. It could not be determined from the first study whether the number of toys had an impact on the frequency of use of the toys due to the children having to share the toys and materials. While it is considered to be developmentally appropriate for this age group to be sharing toys in associative and cooperative play situations (Parten, 1932), time spent in negotiation, turn taking, making alternative pretend scenes if the toy of choice was being used, may have an effect on the quality and amount of elaboration in a child’s play. Therefore, in relation to toy sets of the I-ChIPPA, there are an increased number of conventional toys in comparison to the ChIPPA.

**Scoring of the I-ChIPPA.**

The scoring for a child who is in the individual play situation does not vary from the scoring in the standardised ChIPPA. Scoring for children in pairs is more problematic. The scoring of the ChIPPA has been standardised for a single participant in a clinical setting, where there has been no influence of a second player in the assessment session. An experienced assessor can score the play assessment session as the child plays without the need for video recording of the session.

In the clinical application of the I-ChIPPA, it cannot be presumed that both of the Indigenous children are being assessed. It is due to cultural sensitivity that it is more appropriate to assess the referred child in a paired situation. Assessment therefore is of the referred child only, however the social interactions that take place, in particular with a typically developing peer, may influence the scoring of the pretend play abilities of the referred child. This in turn affects the interpretation of the results. Therefore it was essential to develop the Play Partner
Scale to accompany the I-ChIPPA as a measure of social interaction within a pretend play assessment. The Play Partner Scale considers the effects of social interaction on pretend play. The scoring of the I-ChIPPA is the same of the ChIPPA and includes the calculation of the Percentage of Elaborate Pretend Play Actions (PEPA), the Number of Object Substitutions (NOS) and the Number of Imitated Actions (NIA) (Stagnitti, 2007). Each of these scores is used to measure the quality of a child’s ability to self-initiate pretend play. For children in pairs, each of these scores may be affected by being in a pair. The PEPA score and the NOS scores may be affected by those issues previously discussed such as taking time to negotiate or wait for a toy, or to listen to the other child’s story. These scores can be compared to norm-referenced scores in the ChIPPA. However, for children who come in pairs, the norms could not be reliably and validly used without consideration of the social interaction taking place. For children who came in pairs for the I-ChIPPA the raw scores of the children’s play were used in analysis as the I-ChIPPA has no norm scores.

The Number of Imitated Actions (NIA) is counted when the child “imitates a modelled action within two actions of the examiner’s modelled action” (Stagnitti, 2007). In the ChIPPA the child may model the examiner’s actions however in a paired situation the child may imitate the examiner’s actions, or those of the other child. If both of these are counted as NIA it may inflate the child’s NIA scores, intimating that they are a less capable player. In peer play imitation is an expected social interaction, however it may not be due to lack of the ability to initiate play rather than trying to gain peer acceptance (Vygotsky, 1978). Hence, peer imitation is accounted for in the Play Partner Scale.
The Play Partner Scale

The social interaction verbs, referred to from this point as the Play Partner Scale consists of 20 verbs with the definitions and descriptions as presented in Table 5.1.

Administering the Play Partner Scale.

There were no administrative requirements for the scale as it was scored by the researcher from video of the children in the I-ChIPPA session. That is, the administration of the PPS is that of the ChIPPA.

Scoring the Play Partner Scale.

The Play Partner Scale is an observational assessment of the social interactions occurring during the videoed I-ChIPPA session, and is scored from the video after the session for each child in the play assessment. Social interaction of the children is scored based on 20 social interaction verbs (see Table 5.1 for the social interaction verbs). At this time in development, each social interaction verb is scored according to three factors, frequency, duration and effect. Frequency is the number of times the child, for example, Literally Engages, or Enhances, or Extinguishes the play of the other child. Duration is a timed factor, and is recorded as the number of whole seconds the social interaction continues. Effect is the score for impact on the play of the other child in the play assessment session and was recorded as either Effect or No Effect (see Appendix O for an example of the score sheet).

The development of the I-ChIPPA and the Play Partner Scale attempted to address the issue of cultural-bias in assessment of Indigenous children’s play. Both these assessments were
developed with consultation of the Indigenous community members and Elders, and content validity was sought through the community based focus groups. A fourth study was required to examine construct validity of these assessments to provide accurate results of the children’s pretend play abilities and social interaction abilities within pretend of the Indigenous children. The methodology for Study 4 will be discussed in Chapter 6.
CHAPTER 6

Study 4: Development of the Play Partner Scale

“It is paradoxical that many educators and parents still differentiate between a time for learning and a time for play without seeing the vital connection between them.” (Leo F Bruscaglia, n.d)

Introduction

Chapter 4 outlined Study 2 where video tapes of Indigenous children playing in pairs were analysed for social verbs describing their interaction. Nineteen verbs were listed that described the children’s interaction while playing with a peer. Chapter 5 described the community consultation that was undertaken with community Elders and women to ask them for their input into the social verbs and if the verbs were culturally acceptable. Following the community consultation, further analysis was undertaken of the verbs from the video tapes of the children playing in pairs and the verbs were refined with a final list of 20 verbs. This chapter describes Study 4, which is the development of the Play Partner Scale which aims to measure the impact of Indigenous children’s social interactions during the I-ChIPPA. The social verbs were the items for the Play Partner Scale.

Aims of Study 4

There were two aims to Study 4:

Aim 1: To select the items for the Play Partner Scale
Aim 2: To investigate the underlying factors of the selected items of the Play Partner Scale

Participants

For Study 4, a new second sample of children was recruited to the study. The participants for this study (Study 4) met the following inclusion criteria:

1. Indigenous Australian children living in rural and remote Aboriginal communities in Western Australia,
2. children without a disability, intellectual disability and those conditions related to Pervasive Developmental Disorders, as these conditions have a known impact on play skills and would therefore add a confounding variable of non-typical development,
3. children aged 4 years to 7 years 11 months, and,
4. children without guardianship of the Department of Child Protection, because the department does not allow the video recording of children under their care.

Forty three children (n=43) were included in the sample. Children were recruited from a primary school and a district high school which incorporates a kindergarten, pre-primary and primary school. There were more female participants (n=23) than male (n=20), and of the 43 participants there were six 4-year-olds (n=6), nine 5-year-olds (n=9), twelve 6-year-olds (n=12), and sixteen 7-year-olds (n=16). Some of the children were related to each other and all children knew each other through their community life or school life. The mean age of the children was 6.36 years and the standard deviation for age is 1.1 years.
Instrument: The Indigenous ChIPPA with Play Partner Scale

The Indigenous ChIPPA (I-ChIPPA) was set up in a quiet room in the local school with a sheet across two adult chairs to make a cubby house. For the conventional imaginative play session of the Indigenous ChIPPA the children were presented with the toys which comprised: two dark skinned dolls, truck, trailer, 12 fences, one plastic kitchen knife, and Pilbara animals (two large kangaroos, one baby kangaroo, one goanna, one emu, two dingoes, three snakes, two galahs, two dark coloured horses, one dark coloured bull, one dark coloured cow, one dark coloured calf) and Pilbara sea animals (one shark, one fish, one crab, one turtle) (see Table 5.2 for list of toys). For the symbolic session of the Indigenous ChIPPA, the children were presented with: two blue cloth dolls, one large flat box filled with sand, one small box, one flat stick, one thick dowel stick, one spade shaped stick, one cone, one tin, three pebbles, one tea towel, one face washer) (see Table 5.2 for list of play materials). For the symbolic (unstructured) play materials, a large plastic cloth was placed on the floor in front of the cubby house with the play materials on the plastic cloth. This was done so that the sand could be quickly collected after each play session.

The I-ChIPPA takes 30 minutes for children aged 4 years to 7 years 11 months and is divided into two sessions of 15 minutes each. For the conventional imaginative session, children are presented with the conventional imaginative Pilbara toy set and invited to play how they were liked for five minutes. After five minutes, a second dark skinned doll is introduced to the children by the examiner. For this second five minute segment of the conventional imaginative play session, the examiner models five play actions when possible and without disrupting or destroying the children’s play scenes. These actions are: Doll walks, doll waves,
doll drives truck, doll pats animal, doll picks up knife and cuts up kangaroo (see Table 5.3 for the modelled actions). For the final five minutes of the 15 minute session, the examiner is once again passive and does not model any play actions. The symbolic play session is also 15 minutes with the same administration for each of the five minute segments. For the middle five minute segment, the modelling actions by the examiner are: cloth doll waves, cloth doll drinks from cone, cloth doll drives small box car, cloth doll sleeps in small box bed (see Table 5.3 for the modelled actions).

The Play Partner Scale was based on the social interaction of the children while they were engaged in pretend play playing with the toys and play materials from the Indigenous ChlPPPA. The refined social verbs from Study 3 were the items of the Play Partner Scale.

**Procedure**

Ethics approval was obtained from Department of Education and Training (Western Australia) (DET) (D10/0158145) prior to the commencement of data collection (see Appendix P for DET approval). Modification to ethics approvals was obtained from Deakin University Human Research Ethics Committee (HREC) (EC 2006-368) (see Appendix K1 for Deakin HREC approval). Children were recruited through two local schools with the assistance of an Aboriginal teacher. Parents and children were informed about the study and given a plain language statement and consent form (see Appendices Q1-Q4 for documentation provided to parents and children). Those parents who consented let the Aboriginal and Islander Education Officer (AIEO) know of their interest and the AIEO informed the researcher. All the children with parental consent were seen at their school.
The children were invited to play in a quiet room at their school. All children attended the play assessment sessions in pairs. Children were invited from their classes to come in pairs for the play assessment. Teachers assisted with matching the pairs from the list of children with parent consent. All children were videotaped in their pairs playing. There were single and mixed gender pairs, and mixed age pairs. Some children attended two play sessions with different partners due to the need to assess all children for whom consent had been given. Each child was assessed once for the I-ChIPPA and video-recorded. Table 6.1 summarises the age and gender combinations of children playing in pairs.

Table 6.1

_Gender and Age Combinations of Children Playing in Pairs for the ChIPPA Play Sessions and PPS_

<table>
<thead>
<tr>
<th>Pair combinations</th>
<th>Number of pairs (n=22)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Same gender Same age</td>
<td>6</td>
</tr>
<tr>
<td>Same gender Mixed age</td>
<td>9</td>
</tr>
<tr>
<td>Mixed gender Same age</td>
<td>2</td>
</tr>
<tr>
<td>Mixed age Mixed gender</td>
<td>5</td>
</tr>
</tbody>
</table>

Data Analysis

_Aim 1: To select the items for the Play Partner Scale._

The social interaction was scored from the videos using the verb list refined in Study 3. Each social interaction of each child observed was assigned a social verb. As well as frequency of the social interaction (identified by verb), the duration of the interaction based on the social verb list was noted in seconds, as well as the effect on the play of the other child. The video
was stopped when the social action ceased and the duration was calculated and the effect scored. That is, for each social interaction verb, the verb was scored by frequency, the duration of the interaction in seconds, and a score was given for effect on the other child (that is, E for Effect and NE for No Effect). To fully understand the effect of one child’s play on another’s the Effect or No Effect of the play was recorded for duration and for frequency. The recording was then re-started, and the process repeated for the 30 minutes of the play session. Each paired video was then watched again and the other child in the pairing was scored.

The following excerpt from a continuous observation of social interaction within the I-ChIPPA session demonstrates the scoring for the social interaction taking place. Child A is the child being scored on the PPS.

**Social interaction 1:** Child A watched child B for 13 seconds, and it appeared to have had no effect on the play of Child B.

**Scored:** This was scored as one occasion of Literal Engage, with duration of 13 seconds and No Effect (NE).

**Social interaction 2:** Child A leant over and took a toy without asking from Child B’s play, and Child B stopped to watch Child A take the toy and place it in Child A’s own play scene, which took 5 seconds.

**Scored:** This was scored for Child A as being one occasion of Literal Engage, with duration of 15 seconds and Effect.

**Social Interaction 3:** Child A picked up a doll and walked it to Child B and made the doll climb the fence to be a jackaroo, which was in theme with Child B’s pretend
farming scene, and Child B stopped to take the doll and put it on the horse. This interaction lasted 20 seconds.

*Scored:* For child A, this was scored as one occasion of Symbolic Engage, one occasion of Enhance, duration of 20 seconds and Effect.

**Social Interaction 4:** Child A looked at assessor and asked “Can I have the sand box?” Child B ignored the interaction with the assessor. The interaction lasted 2 seconds before Child A returned to his own play.

*Scored:* For child A this was scored as one occasion of Non-Peer Interaction, duration 2 seconds, and No Effect.

An action less than one (1) second in duration was considered to be 1 second as timing very short interactions was problematic. Duration was recorded to the closest second.

Some social interactions could be described by more than one social verb. For example, in Social Interaction 3 in the previous example the social interaction showed both an engagement that demonstrated the child shared symbolic meaning with the other, and where it enhanced the play theme of the other without changing the theme. The interaction from Child A was assigned both Symbolic Engage and Enhance to describe it.

The observation record sheet as shown in Table 6.2 presents how Child A’s social interaction on Child B’s play for the entire 30 minutes of the play assessment was recorded by the type, frequency, duration and effect of Child A’s social interaction.
Table 6.2

*Excerpt of Record Sheet of Scoring of the PPS.*

<table>
<thead>
<tr>
<th>Name: Child A</th>
<th>Age: 4.58</th>
<th>Gender: Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>CATEGORY OF ACTION (Verb)</td>
<td>FREQUENCY</td>
<td>DURATION (secs)</td>
</tr>
<tr>
<td>Literal Engage</td>
<td>1</td>
<td>13</td>
</tr>
<tr>
<td>Literal Engage</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>Symbolic Engage</td>
<td>1</td>
<td>20</td>
</tr>
<tr>
<td>Enhance</td>
<td>1</td>
<td>20</td>
</tr>
<tr>
<td>Non-Peer Interaction</td>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>

**Procedure for item selection.**

Each social interaction verb consisted of six variables which were: total frequency, total duration (seconds), frequency with effect, duration with effect (seconds), frequency with no effect, duration with no effect (seconds). In the aforementioned example for female child A (4.8 years) the results for the verb Literal Engage is illustrated in Table 6.3.

Table 6.3

*Recording of Results of the PPS*

<table>
<thead>
<tr>
<th>Literal engage total frequency</th>
<th>Literal Engage total duration (secs)</th>
<th>Literal engage frequency with effect</th>
<th>Literal engage frequency with no effect</th>
<th>Literal engage duration with effect (secs)</th>
<th>Literal engage duration with no effect (secs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>18</td>
<td>1</td>
<td>1</td>
<td>5</td>
<td>13</td>
</tr>
</tbody>
</table>
The data set included the six (6) variables for each of the 20 social interaction verbs for 43 children. Therefore there were 120 variables in the scoring of social interaction (six variables x 20 verbs). These 120 variables were analysed by using Pearson Product Moment Correlation and Factor Analysis.

Results

Aim 1: To Select Items for the Play Partner Scale

First, the 120 variables were examined for those items which gave minimal information or were not able to be observed during a play session and therefore not able to be scored.

Removal of items “not able to be scored/observed” within each set.

Twelve of the variables had a raw score of zero. These social interaction verbs were as follows:

1. Duration of Diminish with no effect in play session.
2. Frequency of Diminish with no effect in play session.
3. Duration of Extinguish with no effect in play session.
4. Frequency of Extinguish with no effect in play session.
5. Frequency of Exclude with no effect in play session.
6. Duration of Exclude with no effect in play session.
7. Frequency of Withdraw with no effect in play session.
8. Duration of Withdraw with no effect in play session.
9. Frequency of Achieve with no effect in play session.
10. Duration of Achieve with no effect in play session.
11. Frequency of Negotiate with no effect in play session.

12. Duration of Negotiate with no effect in play session.

Diminish, Extinguish, Exclude, and Withdraw, by definition, are social interaction verbs which must have an effect on the other player. For example, Extinguish is defined as being actions and/or words which cause the pretend play of the other player to stop; or adding in toys which have no relevance to the pretence of the other player and causes the play theme to disintegrate and the other child to abandon their pretend play. Extinguish also is characterised by the child showing no understanding of the role, theme, symbolism of the pretence of the other, or refusing to pretend therefore stopping the play of the other child completely. Extinguish can also include aggressive and destructive behaviour which causes the pretend play to cease. Therefore the social interaction always has an effect on the play of the other and cannot have “no effect”. The variable Extinguish with No Effect cannot be observed in the pretend play session, and therefore cannot be scored for either frequency or duration. The score must be zero.

The social interaction verb variables for Negotiate and Achieve, by definition, must always have an effect on the other player. The variables Negotiate with No Effect and Achieve with No Effect cannot be observed therefore the score is zero for these variables. For example, Negotiate is defined as verbal interactions to share toys, solve problems, or compromise before or during play scene set-up, and within a play sequence, for example, “I can have the dolls and you can have the dogs, ‘cos I need the people to drive the car, OK?” Correlations were carried out with each verb set, for Diminish, Extinguish, Exclude, Withdraw, Achieve and Negotiate. The variables with no correlations were those with a score of 0 and were removed from the data set, which left 108 variables of social interaction remaining. Tables 6.4 – 6.9 present the results of the correlations.
Table 6.4

**Correlation of Social Interaction Verb Diminish (n=43)**

<table>
<thead>
<tr>
<th></th>
<th>Total frequency of Diminish interactions in play session</th>
<th>Total duration of Diminish interactions in play session</th>
<th>Frequency of Diminish interactions with effect in play session</th>
<th>Duration of Diminish interactions with effect in play session</th>
<th>Frequency of Diminish interactions with no effect in play session</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total duration of Diminish interactions in play session</td>
<td>.900**</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Frequency of Diminish interactions with effect in play session</td>
<td>.717**</td>
<td>.670**</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Duration of Diminish interactions with effect in play session</td>
<td>.900**</td>
<td>1.000**</td>
<td>.670**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Frequency of Diminish interactions in play session</td>
<td>b</td>
<td>b</td>
<td>b</td>
<td>b</td>
<td>b</td>
</tr>
<tr>
<td>Duration of Diminish interactions with no effect in play session</td>
<td>b</td>
<td>b</td>
<td>b</td>
<td>b</td>
<td>b</td>
</tr>
</tbody>
</table>

*Note:* ** p< 0.01. b. Cannot be computed because at least one of the variable is constant
Table 6.5

*Correlation of Social Interaction Verb Extinguish (n=43)*

<table>
<thead>
<tr>
<th></th>
<th>Total frequency of Extinguish interactions in play session</th>
<th>Total duration of Extinguish interactions in play session</th>
<th>Frequency of Extinguish interactions with effect in play session</th>
<th>Duration of Extinguish interactions with effect in play session</th>
<th>Frequency of Extinguish interactions with no effect in play session</th>
<th>Duration of Extinguish interactions with no effect in play session</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total duration of Extinguish interactions in play session</td>
<td>.856**</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Frequency of Extinguish interactions with effect in play session</td>
<td>1.000**</td>
<td>.856**</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Duration of Extinguish interactions with effect in play session</td>
<td>.856**</td>
<td>1.000**</td>
<td>.856**</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Frequency of Extinguish interactions with no effect in play session</td>
<td>b</td>
<td>b</td>
<td>b</td>
<td>b</td>
<td>b</td>
<td>b</td>
</tr>
<tr>
<td>Duration of Extinguish interactions with no effect in play session</td>
<td>b</td>
<td>b</td>
<td>b</td>
<td>b</td>
<td>b</td>
<td>b</td>
</tr>
</tbody>
</table>

Note: ** p< 0.01. b. Cannot be computed because at least one of the variable is constant
Table 6.6

Correlation of Social Interaction Verb Exclude (n=43)

<table>
<thead>
<tr>
<th></th>
<th>Total frequency of Exclude interactions in play session</th>
<th>Total duration of Exclude interactions in play session</th>
<th>Frequency of Exclude interactions with effect in play session</th>
<th>Duration of Exclude interactions with effect in play session</th>
<th>Frequency of Exclude interactions with no effect in play session</th>
<th>Duration of Exclude interactions with no effect in play session</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total duration of Exclude interactions in play session</td>
<td>.814**</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Frequency of Exclude interactions with effect in play session</td>
<td>1.000**</td>
<td>.814**</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Duration of Exclude interactions with effect in play session</td>
<td>.814**</td>
<td>1.000**</td>
<td>.814**</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Frequency of Exclude interactions with no effect in play session</td>
<td>b</td>
<td>b</td>
<td>b</td>
<td></td>
<td>b</td>
<td></td>
</tr>
<tr>
<td>Duration of Exclude interactions with no effect in play session</td>
<td>b</td>
<td>b</td>
<td>b</td>
<td>b</td>
<td>b</td>
<td>b</td>
</tr>
</tbody>
</table>

Note: ** p< 0.01. b. Cannot be computed because at least one of the variable is constant
Table 6.7

Correlation of Social Interaction Verb Withdraw (n=43)

<table>
<thead>
<tr>
<th></th>
<th>Total frequency of Withdraw interactions in play session</th>
<th>Total duration of Withdraw interactions in play session</th>
<th>Frequency of Withdraw interactions with effect in play session</th>
<th>Duration of Withdraw interactions with effect in play session</th>
<th>Frequency of Withdraw interactions with no effect in play session</th>
<th>Duration of Withdraw interactions with no effect in play session</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total duration of Withdraw interactions in play session</td>
<td>.947**</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Frequency of Withdraw interactions with effect in play session</td>
<td>1.000**</td>
<td>.947**</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Duration of Withdraw interactions with effect in play session</td>
<td>.947**</td>
<td>1.000**</td>
<td>.947**</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Frequency of Withdraw interactions with no effect in play session</td>
<td>b</td>
<td>b</td>
<td>b</td>
<td>b</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Duration of Withdraw interactions with no effect in play session</td>
<td>b</td>
<td>b</td>
<td>b</td>
<td>b</td>
<td>b</td>
<td>b</td>
</tr>
</tbody>
</table>

Note: ** p< 0.01. b. Cannot be computed because at least one of the variable is constant
Table 6.8

*Correlation of Social Interaction Verb Achieve (n=43)*

<table>
<thead>
<tr>
<th></th>
<th>Total frequency of Achieve interactions in play session</th>
<th>Total duration of Achieve interactions in play session</th>
<th>Frequency of Achieve interactions with effect in play session</th>
<th>Duration of Achieve interactions with effect in play session</th>
<th>Frequency of Achieve interactions with no effect in play session</th>
<th>Duration of Achieve interactions with no effect in play session</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total duration of Achieve interactions in play session</td>
<td>.858**</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Frequency of Achieve interactions with effect in play session</td>
<td>1.000**</td>
<td>.858**</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Duration of Achieve interactions with effect in play session</td>
<td>.858**</td>
<td>1.000**</td>
<td>.858**</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Frequency of Achieve interactions with no effect in play session</td>
<td>b</td>
<td>b</td>
<td>b</td>
<td>b</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Duration of Achieve interactions with no effect in play session</td>
<td>b</td>
<td>b</td>
<td>b</td>
<td>b</td>
<td>b</td>
<td>b</td>
</tr>
</tbody>
</table>

*Note:* ** p< 0.01. b. Cannot be computed because at least one of the variable is constant
Table 6.9

*Correlation of Social Interaction Verb Negotiate (n=43)*

<table>
<thead>
<tr>
<th></th>
<th>Total frequency of Negotiate interactions in play session</th>
<th>Total duration of Negotiate interactions in play session</th>
<th>Frequency of Negotiate interactions with effect in play session</th>
<th>Duration of Negotiate interactions with effect in play session</th>
<th>Frequency of Negotiate interactions with no effect in play session</th>
<th>Duration of Negotiate interactions with no effect in play session</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total duration of Negotiate interactions in play session</td>
<td>.457**</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Frequency of Negotiate interactions with effect in play session</td>
<td>1.000**</td>
<td>.457**</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Duration of Negotiate interactions with effect in play session</td>
<td>.457**</td>
<td>1.000**</td>
<td>.457**</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Frequency of Negotiate interactions with no effect in play session</td>
<td>b</td>
<td>b</td>
<td>b</td>
<td>b</td>
<td>b</td>
<td>b</td>
</tr>
<tr>
<td>Duration of Negotiate interactions with no effect in play session</td>
<td>b</td>
<td>b</td>
<td>b</td>
<td>b</td>
<td>b</td>
<td>b</td>
</tr>
</tbody>
</table>

*Note:* ** p< 0.01. b. Cannot be computed because at least one of the variable is constant
Removal of variables with high and low correlations within each set.

Next, the variables were examined through correlation within each set of verbs. When a significantly high correlation between variables exists, that is, the correlation is greater than $r=0.8$, the variables can be considered to be highly associated and therefore measuring the same aspect of the behaviour of interest (Streiner & Norman, 1998). High correlations allow a person to predict that a high score on one variable will also yield a high score on the other variable (Portney & Watkins, 2009). For example, the correlation between the variable Duration of Self-contain interactions with effect in play session and Frequency of Self-contain interactions with effect in play session was $r=0.918$, therefore these variables were measuring the same aspect of social play interaction and one could be removed. In consequence one of the variables can be deleted from the set to decrease redundancy, which is important in the development of a clinically viable assessment tool.

A low correlation between items indicates that there is very little association between the items (Anastasi & Urbina, 1988). Items with low correlations, that is, $r < 0.3$, were removed from further analysis. As six of the variables had been examined by correlation, the remaining 14 variables of the social interaction verbs, that is, Literal Engage, Symbolic Engage, Enhance, Elaborate, Extend, Encourage Maintain, Imitate, Self-contain, Apply Rules, Communicate, Wait, Impose and Non-Peer Interactions were analysed through using the Pearson product-moment correlation. Correlations of all 20 variable sets were examined to reduce the number of variables to leave only those with a moderate degree of association, that is between $r = 0.3$ to $r = 0.7$. This moderate degree of association indicated that these variables, while they have some association do not measure the same aspect of a behaviour (Anastasi & Urbina, 1988). The results of the correlations are presented in Tables 6.10 – 6.23.
**Table 6.10**

Correlation of Social Interaction Verb *Literal Engage* (n=43)

<table>
<thead>
<tr>
<th></th>
<th>Total frequency of Literal Engage interactions in play session</th>
<th>Total duration of Literal Engage interactions in play session</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frequency of Literal Engage interactions with effect in play session</td>
<td>Frequency of Literal Engage interactions with no effect in play session</td>
<td></td>
</tr>
<tr>
<td>Frequency of Literal Engage interactions with effect in play session</td>
<td>Duration of Literal Engage interactions with effect in play session</td>
<td></td>
</tr>
<tr>
<td>Duration of Literal Engage interactions with no effect in play session</td>
<td>Duration of Literal Engage interactions with no effect in play session</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Frequency of Literal Engage interactions</th>
<th>Duration of Literal Engage interactions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total frequency of</td>
<td>.798**</td>
<td>.841**</td>
</tr>
<tr>
<td>Literal Engage</td>
<td></td>
<td></td>
</tr>
<tr>
<td>interactions in play</td>
<td></td>
<td></td>
</tr>
<tr>
<td>session</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total duration of</td>
<td>.761**</td>
<td>.535**</td>
</tr>
<tr>
<td>Literal Engage</td>
<td></td>
<td></td>
</tr>
<tr>
<td>interactions in play</td>
<td></td>
<td></td>
</tr>
<tr>
<td>session</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Frequency of Literal</td>
<td>.831**</td>
<td>.536**</td>
</tr>
<tr>
<td>Engage interactions</td>
<td></td>
<td></td>
</tr>
<tr>
<td>with effect in play</td>
<td></td>
<td></td>
</tr>
<tr>
<td>session</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Duration of Literal</td>
<td>.771**</td>
<td>.349*</td>
</tr>
<tr>
<td>Engage interactions</td>
<td></td>
<td></td>
</tr>
<tr>
<td>with effect in play</td>
<td></td>
<td></td>
</tr>
<tr>
<td>session</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Frequency of Literal</td>
<td>.685**</td>
<td>.637**</td>
</tr>
<tr>
<td>Engage interactions</td>
<td></td>
<td></td>
</tr>
<tr>
<td>with no effect in play</td>
<td></td>
<td></td>
</tr>
<tr>
<td>session</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Duration of Literal</td>
<td>.856**</td>
<td>.102</td>
</tr>
<tr>
<td>Engage interactions</td>
<td></td>
<td></td>
</tr>
<tr>
<td>with no effect in play</td>
<td></td>
<td></td>
</tr>
<tr>
<td>session</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: ** p < 0.01; * p < 0.05.
Table 6.11

*Correlation of Social Interaction Verb Symbolic Engage (n=43)*

<table>
<thead>
<tr>
<th></th>
<th>Total frequency of Symbolic Engage interactions in play session</th>
<th>Total duration of Symbolic Engage interactions in play session</th>
<th>Frequency of Symbolic Engage interactions with effect in play session</th>
<th>Duration of Symbolic Engage interactions with effect in play session</th>
<th>Frequency of Symbolic Engage interactions with no effect in play session</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total duration of Symbolic Engage interactions in play session</td>
<td>.802**</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Frequency of Symbolic Engage interactions with effect in play session</td>
<td>.340*</td>
<td>-.017</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Duration of Symbolic Engage interactions with effect in play session</td>
<td>.764**</td>
<td>.984**</td>
<td>.002**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Frequency of Symbolic Engage interactions with no effect in play session</td>
<td>.172</td>
<td>-.189</td>
<td>.976**</td>
<td>-.189</td>
<td></td>
</tr>
<tr>
<td>Duration of Symbolic Engage interactions with no effect in play session</td>
<td>.357*</td>
<td>.277</td>
<td>-.081</td>
<td>.101</td>
<td>-.035</td>
</tr>
</tbody>
</table>

*Note: ** p< 0.01; * p< 0.05.*
Table 6.12

**Correlation of Social Interaction Verb Enhance (n=43)**

<table>
<thead>
<tr>
<th></th>
<th>Total frequency of Enhance interactions in play session</th>
<th>Total duration of Enhance interactions in play session</th>
<th>Frequency of Enhance interactions with effect in play session</th>
<th>Duration of Enhance interactions with effect in play session</th>
<th>Frequency of Enhance interactions with no effect in play session</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total duration of Enhance interactions in play session</td>
<td>-0.078</td>
<td>-0.078</td>
<td>-0.177</td>
<td>-0.158</td>
<td>-0.049</td>
</tr>
<tr>
<td>Frequency of Enhance interactions with effect in play session</td>
<td>0.835**</td>
<td>-0.177</td>
<td>-0.158</td>
<td>-0.170</td>
<td>-0.049</td>
</tr>
<tr>
<td>Duration of Enhance interactions with effect in play session</td>
<td>0.835**</td>
<td>0.976**</td>
<td>0.667**</td>
<td>-0.170</td>
<td>-0.049</td>
</tr>
<tr>
<td>Frequency of Enhance interactions with no effect in play session</td>
<td>0.154</td>
<td>-0.177</td>
<td>0.667**</td>
<td>-0.170</td>
<td>-0.049</td>
</tr>
<tr>
<td>Duration of Enhance interactions with no effect in play session</td>
<td>0.154</td>
<td>0.276</td>
<td>-0.122</td>
<td>0.108</td>
<td>-0.054</td>
</tr>
</tbody>
</table>

*Note: ** p< 0.01; * p< 0.05.*
Table 6.13

*Correlation of Social Interaction Verb Elaborate* *(n=43)*

<table>
<thead>
<tr>
<th></th>
<th>Total frequency of Elaborate interactions in play session</th>
<th>Total duration of Elaborate interactions in play session</th>
<th>Frequency of Elaborate interactions with effect in play session</th>
<th>Duration of Elaborate interactions with effect in play session</th>
<th>Frequency of Elaborate interactions with no effect in play session</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total duration of Elaborate interactions in play session</td>
<td>.835**</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Frequency of Elaborate interactions with effect in play session</td>
<td>.970**</td>
<td>.867**</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Duration of Elaborate interactions with effect in play session</td>
<td>.814**</td>
<td>.997**</td>
<td>.863**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Frequency of Elaborate interactions with no effect in play session</td>
<td>.375*</td>
<td>.094</td>
<td>.139</td>
<td>.027</td>
<td></td>
</tr>
<tr>
<td>Duration of Elaborate interactions with no effect in play session</td>
<td>.361*</td>
<td>.168</td>
<td>.167</td>
<td>.088</td>
<td>.836**</td>
</tr>
</tbody>
</table>

*Note:* ** p< 0.01; * p< 0.05.
Table 6.14

*Correlation of Social Interaction Verb *Extend* (n=43)*

<table>
<thead>
<tr>
<th></th>
<th>Total frequency of Extend interactions in play session</th>
<th>Total duration of Extend interactions in play session</th>
<th>Frequency of Extend interactions with effect in play session</th>
<th>Duration of Extend interactions with effect in play session</th>
<th>Frequency of Extend interactions with no effect in play session</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total duration of Extend interactions in play session</td>
<td>.009</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Frequency of Extend interactions with effect in play session</td>
<td>.931**</td>
<td>-.046</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Duration of Extend interactions with effect in play session</td>
<td>.004</td>
<td>.996**</td>
<td>-.047</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Frequency of Extend interactions with no effect in play session</td>
<td>-.051</td>
<td>-.123</td>
<td>.314*</td>
<td>-.126</td>
<td></td>
</tr>
<tr>
<td>Duration of Extend interactions with no effect in play session</td>
<td>.012</td>
<td>.175</td>
<td>-.031</td>
<td>.086</td>
<td>.013</td>
</tr>
</tbody>
</table>

*Note:* **p< 0.01; *p< 0.05.*
Table 6.15

*Correlation of Social Interaction Verb Encourage (n=43)*

<table>
<thead>
<tr>
<th></th>
<th>Total frequency of Encourage interactions in play session</th>
<th>Total duration of Encourage interactions in play session</th>
<th>Frequency of Encourage interactions with effect in play session</th>
<th>Duration of Encourage interactions with effect in play session</th>
<th>Frequency of Encourage interactions with no effect in play session</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total duration of Encourage interactions in play session</td>
<td>.856**</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Frequency of Encourage interactions with effect in play session</td>
<td>.930**</td>
<td>.806**</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Duration of Encourage interactions with effect in play session</td>
<td>.836**</td>
<td>.983**</td>
<td>.840**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Frequency of Encourage interactions with no effect in play session</td>
<td>.523*</td>
<td>.425**</td>
<td>.174</td>
<td>.294</td>
<td></td>
</tr>
<tr>
<td>Duration of Encourage interactions with no effect in play session</td>
<td>.565**</td>
<td>.636**</td>
<td>.312*</td>
<td>.484**</td>
<td>.792**</td>
</tr>
</tbody>
</table>

*Note:* ** p< 0.01; * p< 0.05.
Table 6.16

*Correlation of Social Interaction Verb Maintain (n=43)*

<table>
<thead>
<tr>
<th></th>
<th>Total frequency of Maintain interactions in play session</th>
<th>Total duration of Maintain interactions in play session</th>
<th>Frequency of Maintain interactions with effect in play session</th>
<th>Duration of Maintain interactions with effect in play session</th>
<th>Frequency of Maintain interactions with no effect in play session</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total duration of Maintain interactions in play session</td>
<td>.050</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Frequency of Maintain interactions with effect in play session</td>
<td>.933**</td>
<td>-.008</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Duration of Maintain interactions with effect in play session</td>
<td>.035</td>
<td>.885**</td>
<td>.037</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Frequency of Maintain interactions with no effect in play session</td>
<td>.856*</td>
<td>.105</td>
<td>.622**</td>
<td>-.039</td>
<td></td>
</tr>
<tr>
<td>Duration of Maintain interactions with no effect in play session</td>
<td>.084</td>
<td>.542**</td>
<td>-.051</td>
<td>.089</td>
<td>.337*</td>
</tr>
</tbody>
</table>

*Note:* ** p< 0.01; * p< 0.05.
Table 6.17

Correlation of Social Interaction Verb *Imitate* (n=43)

<table>
<thead>
<tr>
<th></th>
<th>Total frequency of Imitate interactions in play session</th>
<th>Total duration of Imitate interactions in play session</th>
<th>Frequency of Imitate interactions with effect in play session</th>
<th>Duration of Imitate interactions with effect in play session</th>
<th>Frequency of Imitate interactions with no effect in play session</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total duration of Imitate interactions in play session</td>
<td>.737**</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Frequency of Imitate interactions with effect in play session</td>
<td>.937**</td>
<td>.734**</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Duration of Imitate interactions with effect in play session</td>
<td>.690**</td>
<td>.979**</td>
<td>.741**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Frequency of Imitate interactions with no effect in play session</td>
<td>.233</td>
<td>.160</td>
<td>.053</td>
<td>.086</td>
<td></td>
</tr>
<tr>
<td>Duration of Imitate interactions with no effect in play session</td>
<td>.299</td>
<td>.224</td>
<td>.067</td>
<td>.030</td>
<td>.118</td>
</tr>
</tbody>
</table>

*Note: ** p< 0.01; * p< 0.05.*
### Table 6.18

**Correlation of Social Interaction Verb Self-contain (n=43)**

<table>
<thead>
<tr>
<th></th>
<th>Total frequency of Self-contain interactions in play session</th>
<th>Total duration of Self-contain interactions in play session</th>
<th>Frequency of Self-contain interactions with effect in play session</th>
<th>Duration of Self-contain interactions with effect in play session</th>
<th>Frequency of Self-contain interactions with no effect in play session</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total duration of Self-contain interactions in play session</td>
<td>.635**</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Frequency of Self-contain interactions with effect in play session</td>
<td>.263</td>
<td>.028</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Duration of Self-contain interactions with effect in play session</td>
<td>.169</td>
<td>.154</td>
<td>.918**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Frequency of Self-contain interactions with no effect in play session</td>
<td>.951**</td>
<td>.634**</td>
<td>-.023</td>
<td>-.103</td>
<td></td>
</tr>
<tr>
<td>Duration of Self-contain interactions with no effect in play session</td>
<td>.582**</td>
<td>.956**</td>
<td>-.242</td>
<td>-.138</td>
<td>.661**</td>
</tr>
</tbody>
</table>

*Note: ** p< 0.01; * p< 0.05.*
Table 6.19

*Correlation of Social Interaction Verb Apply Rules (n=43)*

<table>
<thead>
<tr>
<th></th>
<th>Total frequency of Apply Rules interactions in play session</th>
<th>Total duration of Apply Rules interactions in play session</th>
<th>Frequency of Apply Rules interactions with effect in play session</th>
<th>Duration of Apply Rules interactions with effect in play session</th>
<th>Frequency of Apply Rules interactions with no effect in play session</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total duration of Apply Rules interactions in play session</td>
<td></td>
<td></td>
<td>.685**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Frequency of Apply Rules interactions with effect in play session</td>
<td>.954**</td>
<td>.683**</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Duration of Apply Rules interactions with effect in play session</td>
<td>.707**</td>
<td>.904**</td>
<td>.767**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Frequency of Apply Rules interactions with no effect in play session</td>
<td>.420*</td>
<td>.200</td>
<td>.129</td>
<td>.015</td>
<td></td>
</tr>
<tr>
<td>Duration of Apply Rules interactions with no effect in play session</td>
<td>.069</td>
<td>.377*</td>
<td>-0.069</td>
<td>-0.056</td>
<td>.434**</td>
</tr>
</tbody>
</table>

*Note:* ** p< 0.01; * p< 0.05.
<table>
<thead>
<tr>
<th></th>
<th>Total frequency of Communicate interactions in play session</th>
<th>Total duration of Communicate interactions in play session</th>
<th>Frequency of Communicate interactions with effect in play session</th>
<th>Duration of Communicate interactions with effect in play session</th>
<th>Frequency of Communicate interactions with no effect in play session</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total duration of Communicate interactions in play session</td>
<td>.810**</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Frequency of Communicate interactions with effect in play session</td>
<td>.969**</td>
<td>.867**</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Duration of Communicate interactions with effect in play session</td>
<td>.778**</td>
<td>.994**</td>
<td>.858**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Frequency of Communicate interactions with no effect in play session</td>
<td>.449*</td>
<td>.070</td>
<td>.214</td>
<td>-.027</td>
<td></td>
</tr>
<tr>
<td>Duration of Communicate interactions with no effect in play session</td>
<td>.402**</td>
<td>.186</td>
<td>.195</td>
<td>.078</td>
<td>.882**</td>
</tr>
</tbody>
</table>

*Note: ** p< 0.01; * p< 0.05.*
Table 6.21

**Correlation of Social Interaction Verb Wait (n=43)**

<table>
<thead>
<tr>
<th></th>
<th>Total frequency of Wait interactions in play session</th>
<th>Total duration of Wait interactions in play session</th>
<th>Frequency of Wait interactions with effect in play session</th>
<th>Duration of Wait interactions with effect in play session</th>
<th>Frequency of Wait interactions with no effect in play session</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total duration of Wait</td>
<td>.980**</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>interactions in play session</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Frequency of Wait interactions</td>
<td>.739**</td>
<td>.726</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>with effect in play session</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Duration of Wait interactions</td>
<td>.680**</td>
<td>.722**</td>
<td>.937**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>with effect in play session</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Frequency of Wait interactions</td>
<td>.954*</td>
<td>.935**</td>
<td>.502**</td>
<td>.455**</td>
<td></td>
</tr>
<tr>
<td>with no effect in play session</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Duration of Wait interactions</td>
<td>.932**</td>
<td>.937**</td>
<td>.470**</td>
<td>.434**</td>
<td>.986**</td>
</tr>
<tr>
<td>with no effect in play session</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Note: ** p< 0.01; * p< 0.05.*
Table 6.22

**Correlation of Social Interaction Verb Impose (n=43)**

<table>
<thead>
<tr>
<th></th>
<th>Total frequency of Impose interactions in play session</th>
<th>Total duration of Impose Rules interactions in play session</th>
<th>Frequency of Impose interactions with effect in play session</th>
<th>Duration of Impose interactions with effect in play session</th>
<th>Frequency of Impose interactions with no effect in play session</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total duration of Impose interactions in play session</td>
<td>.950**</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Frequency of Impose interactions with effect in play session</td>
<td>.986**</td>
<td>.948**</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Duration of Impose interactions with effect in play session</td>
<td>.941**</td>
<td>.998**</td>
<td>.950**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Frequency of Impose interactions with no effect in play session</td>
<td>.544**</td>
<td>.459**</td>
<td>.398**</td>
<td>.402**</td>
<td></td>
</tr>
<tr>
<td>Duration of Impose interactions with no effect in play session</td>
<td>.507**</td>
<td>.439**</td>
<td>.359*</td>
<td>.380*</td>
<td>.987**</td>
</tr>
</tbody>
</table>

*Note: ** p< 0.01; * p< 0.05.*
Table 6.23

*Correlation of Social Interaction Verb Non-Peer Interactions (n=43)*

<table>
<thead>
<tr>
<th></th>
<th>Total frequency of Non-Peer Interactions in play session</th>
<th>Total duration of Non-Peer Interactions in play session</th>
<th>Frequency of Non-Peer Interactions with effect in play session</th>
<th>Duration of Non-Peer Interactions with effect in play session</th>
<th>Frequency of Non-Peer Interactions with no effect in play session</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total duration of Non-Peer Interactions in play session</td>
<td>.749**</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Frequency of Non-Peer Interactions with effect in play session</td>
<td>.818**</td>
<td>.606**</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Duration of Non-Peer Interactions with effect in play session</td>
<td>.695**</td>
<td>.740**</td>
<td>.880**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Frequency of Non-Peer Interactions with no effect in play session</td>
<td>.866**</td>
<td>.650**</td>
<td>.423**</td>
<td>.329*</td>
<td></td>
</tr>
<tr>
<td>Duration of Non-Peer Interactions with no effect in play session</td>
<td>.556**</td>
<td>.863**</td>
<td>.205</td>
<td>.309*</td>
<td>.694**</td>
</tr>
</tbody>
</table>

*Note:* ** p< 0.01; * p< 0.05.
In this analysis it was found that Duration and Frequency variables, in almost all cases were highly correlated, that is $r \geq .8$. For example, Frequency of Non-Peer Interactions with effect in play session had a significant and high positive correlation of $r = .818$ with Total frequency of Non-Peer Interactions in play session. As duration is a more difficult and less accurate factor to measure in a play situation with two players, it was decided that duration variables would be removed from the data set. Timing numerous one and two second interactions over a 30 minute play session is not clinically viable and would always necessitate the use of visual recording such as video. Examination of the correlations of the verb sets resulted in 75 variables, including 54 duration variables, being removed leaving 33 social interaction variables (see Appendix R for table of removed variables). The Pearson product-moment correlation was used to analyse the remaining 33 variables of social interaction. Similarly the correlations were examined for degree of association and those with either high or low correlations were removed. The correlation of the 33 variables resulted in the removal of a further 23 variables (see Appendix S for the list of removed variables). For example, Frequency of Symbolic Engagement with effect in play session scored $r = .976$ with Frequency of Symbolic Engagement with no effect in play session, therefore the variable with no effect was removed as being redundant.

The analysis indicated that the frequency of a particular variable with or without effect had high correlation with each other and with the Total frequency for that variable, therefore the variables, that is with effect and no effect, were removed in favour of the Total frequency for that verb category. For clinical viability, the Total frequency is a more useful measure than scoring two separate frequencies where the variables are essentially measuring the same aspect of social interaction.
In the instance of three variables having high correlations with each other, and having the same aspect of social play interaction as their focus, a decision was made to keep only one of those variables. That is, Total frequency of Enhance interactions, Total frequency of Extend interactions and Total frequency of Elaborate interactions had correlations of $r \geq 0.9$. These variables describe social play interactions which were measuring the frequency with which a child symbolically interacts with the other player to increase the quantity, quality, themes, or complexity of the pretend play. The high degree of association indicated these variables were measuring degrees of the same social play aspect, and clinically one of these variables would suffice. Therefore, Total frequency of Extend and Total frequency of Enhance were removed. Total frequency of Elaborate was considered to be the more clinically useful interaction verb as it encompassed the aspects of increasing quantity, quality, and extension of play and relates with the concept of elaboration of play in the I-ChIPPA. Applying this clinical reasoning to the verbs Total frequency of Diminish, Total frequency of Extinguish and Total frequency of Exclude which had high correlation with each other, Total frequency of Exclude and Extinguish were removed. Total frequency of Diminish was kept as it encompasses the broader definition of the social interactions verbs which indicate a decrease in play of the other child. The correlation of these 33 variables resulted in the removal of 23 variables which left 10 variables.

The selection of items for the PPS was:

1. Total frequency of Literal Engagement interactions in play session.
2. Total frequency of Symbolic Engagement interactions in play session.
3. Total frequency of Maintain interactions in play session.
4. Total frequency of Diminish interactions in play session.
5. Total frequency of Elaborate interactions in play session.
6. Total frequency of Self-contain interactions in play session.
7. Total frequency of Encourage interactions in play session.
8. Total frequency of Impose interactions in play session.
9. Total frequency of Communicate interactions in play session.
10. Total frequency of Non-Peer Interactions in play session.

**Aim 2: To Investigate the Underlying Factors of the Selected Items of the Play Partner Scale**

**Factor analysis.**

An underlying principle in assessment development is that the assessment must have construct validity, that is, the ability to measure an abstract concept or latent variable, in this case the abstract traits of measuring social play interactions (Portney & Watkins, 2009). Field (2009, p. 629) describes this process as “explaining the maximum amount of common variance in a correlation matrix using the smallest number of explanatory constructs.” Factor analysis allowed the researcher to determine the underlying theoretical or explanatory constructs of the variables, thereby explaining the inter-relationships of the items of the PPS (Anastasi & Urbina, 1997). This type of analysis answers the question “Which PPS variables have relationships with each other, and what does that relationship mean?” The relationship can then be named for the items of the PPS.

The decision to use factor analysis was determined by the Kaiser-Meyer-Olkin measure of sampling adequacy (KMO). This measure indicates to the researcher whether a set of variables is suitable for factor analysis. According to Field (2009, p. 648) the “KMO statistic varies between 0 and 1,” and, the closer the value to 1, “the patterns of correlations are
relatively compact and so factor analysis should yield distinct and reliable factors.” Field also stated that lower KMO values should cause the researcher to re-think the suitability of factor analysis, or to consider other variables. The KMO value for the ten variables of the PPS was calculated at .661, therefore while not a high value, factor analysis would assist in establishing the loading of factors to theoretical inter-relationships. The factor analysis would allow clustering of factors, which in a clinically viable assessment is useful to determine which variables measure the social interactions which support social pretend play and which do not.

A factor analysis was used with the 10 variables of the PPS. Table 6.24 presents the factor analysis results for these 10 variables.
### Table 6.24

**Factor Analysis of Variables of the PPS**

<table>
<thead>
<tr>
<th>Factor</th>
<th>Factor 1</th>
<th>Factor 2</th>
<th>Factor 3</th>
<th>Factor 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total frequency of Literal Engagement in play session</td>
<td>.807</td>
<td>.208</td>
<td>-.054</td>
<td>-.056</td>
</tr>
<tr>
<td>Total frequency of Symbolic Engagement in play session</td>
<td>-.260</td>
<td>-.138</td>
<td>.817</td>
<td>.067</td>
</tr>
<tr>
<td>Total frequency of Maintain interactions in play session</td>
<td>-.074</td>
<td>.735</td>
<td>.285</td>
<td>-.322</td>
</tr>
<tr>
<td>Total frequency of Diminish interactions in play session</td>
<td>.382</td>
<td>.720</td>
<td>-.216</td>
<td>.142</td>
</tr>
<tr>
<td>Total frequency of Elaborate interactions in play session</td>
<td>-.245</td>
<td>.254</td>
<td>.201</td>
<td>.654</td>
</tr>
<tr>
<td>Total frequency of Self-Contain interactions in play session</td>
<td>.856</td>
<td>.009</td>
<td>-.041</td>
<td>-.149</td>
</tr>
<tr>
<td>Total frequency of Encourage interactions in play session</td>
<td>-.041</td>
<td>-.087</td>
<td>.163</td>
<td>.772</td>
</tr>
<tr>
<td>Total frequency of Impose interactions in play session</td>
<td>.151</td>
<td>.774</td>
<td>-.137</td>
<td>.394</td>
</tr>
<tr>
<td>Total frequency of Communicate interactions in play session</td>
<td>.087</td>
<td>.080</td>
<td>.885</td>
<td>.185</td>
</tr>
<tr>
<td>Total frequency of Non-Peer Interactions in play session</td>
<td>.583</td>
<td>.137</td>
<td>-.174</td>
<td>.568</td>
</tr>
</tbody>
</table>
Figure 6.1 presents the results of the factor analysis in the form of a Scree Plot. The Scree plot allows the relative importance of each factor to be graphed and examined.

Figure 6.1: Scree Plot of PPS Factors

This Scree plot for factors 1 to 5 would be considered strong factors with factors 6-10 having lower Eigenvalues and hence were weaker comparatively.

Four factors were extracted from the ten variables of the PPS. At this point, for the purpose of clustering the factors, Factor 1 will be titled “Supportive Interactions”, Factor 2 will be titled “Non-supportive Interactions”, Factor 3 will be titled “Neutral Interactions” and Factor 4 will be titled “Shared Comfortableness”. These factors were named with consideration from the community consultation that negative implications, such as “Negative factors” are not culturally appropriate. It is evident in Table 6.26 that three factors have loadings which could
cluster them with more than one group, for example, they can be considered both a Supportive Interaction and a Non-Supportive Interaction which has clinical implications. This aspect of the results of the factor analysis will be discussed later in this chapter. Table 6.27 shows the results of the factor clustering.

Table 6.27

<table>
<thead>
<tr>
<th>Supportive Interactions Factors</th>
<th>Non-supportive Interactions factors</th>
<th>Neutral factors</th>
<th>Shared Comfortableness</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total frequency of Symbolic engagements in play sessions</td>
<td>Total frequency of Literal Engagement in play sessions</td>
<td>Total frequency of Maintain interactions in play sessions</td>
<td>Total frequency of Self-contain interactions in play sessions*</td>
</tr>
<tr>
<td>Total frequency of Elaborate interactions in play sessions</td>
<td>Total frequency of Diminish interactions in play sessions</td>
<td></td>
<td>Total frequency of Communicate interactions in play sessions*</td>
</tr>
<tr>
<td>Total frequency of Encourage interactions in play sessions</td>
<td>Total frequency of Self-contain interactions in play sessions*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total frequency of Communicate interactions in play sessions*</td>
<td>Total frequency of Impose interactions in play sessions*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total frequency of Impose interactions in play sessions*</td>
<td>Total frequency of Non-Peer interactions in play sessions</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* denotes variable which is loaded in more than one factor
Discussion

The results of statistical analysis together with clinical reasoning resulted in the first version of the Play Partner Scale having 10 items. The 10 items in the Play Partner Scale were able to be placed into four factors relating to social interaction during pretend play with another child. These were provisionally entitled Supportive Interactions, Non-Supportive Interactions, Neutral Interactions and Shared Comfortableness. The naming of the four factors was quite deliberate in the context of culturally appropriate assessment as there should be no value-laden terms such as “positive or negative”, or “constructive and destructive”.

Supportive Interactions were those social interactions which enabled pretend play to continue, or to be encouraged, enhanced and made more complex, and which increased the amount, duration and quality of the pretence of the other player. The Supportive Interactions were made up of five social interaction items which were Total frequency of Symbolic Engagement, Total frequency of Elaborate Engagement, Total frequency of Encourage, Total frequency of Communicate, and Total frequency of Impose. Some of these items were an agglomeration of the original 20 social interaction verbs, for example, Enhance, Extend, Achieve, Apply social rules, and Negotiate. The items in this factor included social interactions that resulted in the play situation being more intense, longer, more complex and engaging, more collaborative and developing themes that would further increase the quality and quantity of the pretend play, and increased the sociability of the play. With this factor there is an element of shared symbolic meaning and a desire to be involved in the pretend play of another player.

Non-supportive Interactions can be described as those which in some way cause the pretend play to cease, become more simple, less social, more erratic or chaotic or even destructive, or
cause the other player to completely abandon the play, be less engaged in symbolism, or seek another person with whom to engage. Therefore Non-supportive Interactions were made up of five social interaction items which were Total frequency of Literal Engage, Total frequency of Diminish, Total frequency of Self-contain, Total frequency of Impose, and Total frequency of Non-Peer Interactions. Some of these items were a composite of the social verbs such as Withdraw, Imitate, Extinguish, Exclude, and Wait. These verbs indicate a sense of lack of shared meaning, and a lack of desire to be involved in the pretend play of the other player.

The third factor is Neutral Interactions and includes only the social verb Maintain. This verb is about ‘status quo’ where the child does not seek to make any changes to the other child’s pretend actions, may or may not fully understand the symbolism of the other player, and does not attempt to change, add to, or cause the play or the social interaction to be anything other than what it is at that moment. Neutral Interactions have an element of “sameness” which could be interpreted as “just being there” with the other player with minimal social or symbolic interaction.

Self-contain is listed under Non-supportive Interactions as well as Shared Comfortableness. The definition of Self-contain has some similarity to the concept of parallel play, in that it is non-interactive play, where the child plays with their collection of toys. The definition of Self-contain was actions/words which indicate the child was engaged in their own theme-related play and no interaction with the other player occurred during the pretend play; occasional glances and answers but no attempt to be part of the other’s pretend play; sets up and continues to play with own play theme and scene; may take another toy from the other without interaction to add to their own theme; narrating to self; appears to play alongside in own unrelated play. From the definition there is not a negative or destructive connotation to
the play which is described as Self-contain, rather it is about the child willingly playing alongside, acknowledging the other and their play, but not feeling the need to take part in, add to, or impact upon the other child’s play. This aspect of play may or may not have an effect on the other child’s play and was supported through the correlational analysis that the effect and no effect aspect was subsumed in the Total frequency of Self-contain variable.

The concept of Self-contain may be unique to the Indigenous children’s play. The observations of Indigenous children from ages 4 years to 7 years 11 months, showed children deeply engaged in their own play themes, setting up similar themes to the other child, for example setting up a farm each, but with a small distance between their each other’s scene. They frequently, but briefly, looked at each other, smiled at the other’s play, showing comprehension of the other’s symbolism, or just watched momentarily without any comment or overt display of understanding the other’s theme. This may explain the factor analysis showing some smaller degree of loading on Total Frequency of Literal Engagement and Total Frequency of Symbolic Engagement in play sessions.

Often one child would approach the other’s scene and take a toy to add to their own play, with no response from the other child as they continued to play. They may also move to replace a toy into the other’s scene, or may move from Self-contained play into Symbolic engagement in the other’s play for a short period, then just as easily retreat to their own scene and theme again, without response or acknowledgement from the other. This behaviour appeared to be part of the communal understanding of sharing which is encouraged from an early age in Indigenous children, which assumes permission and understanding. Such interactions were consistent with the opinion of the focus group members. This could be assumed to be the essence of play in a collectivist society. Hence the term Shared Comfortableness can be applied to this situation, as there was a sense of “easy going
understanding and relationship” in this acceptance of the other’s desire to move in and out of Self-contained social play.

The concept of collectivism, relationship, and the traditions and customs within a society can also explain the reason why the PPS item Im pose has been placed in both Supportive Interactions and Non-Supportive Interactions. The verb was defined as, “to dominate and dictate the play theme, roles and progression of play; to continually control the pretend play of the play partner through words and actions such as controlling the type of toy, or number of toys so that the other has no/little choice in the pretend situation”. From a Western perspective these could easily be construed as behaviours which decreased or removed choice from the other’s play. However in the Indigenous children’s play situation it could also be seen as Supportive and encouraging of play as the customs and beliefs of the culture allow for younger children to be “given in to” so their will could be the dominating force and shape the play. Also there were mixed ages, genders and of course personalities which could also account for the situations which were scored in the observation as “Impose.” Imposition is a word which suggests taking away the will of one player and forcing them to be compliant to the will of the more “dominant” child. However if the other willingly accepts without question the “imposition”, one can question whether it actually is an imposition in the negative sense of the word, or whether the recipient of the impost is actually actively and willingly receiving from the play partner. Consequently the Item “Total frequency of Impose in play sessions, should be renamed to have a less Western and negative interpretation, and it is suggested the variable be renamed “Total Frequency of Direction interactions.” Directive interactions capture the essence of this aspect of Indigenous play.
Renaming the PPS Items

The Play Partner Scale was developed as a consequence of the need to address the effect of social play on the pretend play of the participants during the I-ChIPPA assessment. The first version of the PPS consists of 10 items. After the correlational and factor analysis, a greater understanding of the relationships between the items was developed. The 10 PPS items could now be re-defined to include some of the nuances, or elements of “degree of interaction.” Clinical viability requires the items to be explicitly named and defined so that social play of children during play assessment can be measured as accurately as possible.

Renaming the items of the PPS was also important where there could be confusion with the items of the I-ChIPPA. In the I-ChIPPA elaborate play is play where a child uses play actions including symbolic thinking, decentration, and those actions which are part of a logical sequence of play. The term Elaborate in the PPS, has the same meaning of increasing the complexity of the play, adding to the symbolism of the play and therefore should be changed so that it is not confused with the ChIPPAn item. As the term Elaborate represents those PPS items which all were considered to support play, to enhance, extend or enrich it, Elaborate was replaced with the term “Enrich”. The definitions of the items capture the characteristics of the social intercourse taking place within the play session. These are now explained in the following section.

Definitions of the Play Partner Scale items.

1. **Literal engage**: this item is characterised by the simple actions of the child where the child does not show any understanding of the other child’s pretend play and symbolism, but has
some either momentary or prolonged connection with the other during their play. The actions are not supportive of the other’s pretend play, though the action is not actively destructive or having a reductionist effect on the other’s play.

**Definition**

- To be involved physically or visually with the other person’s pretend play without showing understanding of the other player’s symbolism, e.g., looking at the other playing,
- Re-positioning self to be closer to the other’s play,
- Accepting a toy offered by the play partner, or accepting a toy placed into their play scene,
- Showing a toy to the other or describing it with no symbolism, or a toy not related to the play scene

**2. Symbolic engage:** this item describes play which is inherently more complex and is characterised by the shared understanding of the pretence, and involves actions or words which demonstrate that the child can conceive of the shared symbolic representation.

**Definition:**

- Shows signs of comprehending the play partner’s symbolic representation.
- Having the effect of being a passive or active support of the pretend play through being involved or watching and showing understanding of the pretend play.
- Accepting a toy offered by the other player and using it to develop the play theme or to use a toy placed into the scene symbolically.
• Narration of the story as it is acted out with the other player or through one of the toys e.g. a doll.

3. **Diminish:** this item encompasses those actions and words which have a non-supportive effect on the play of the other player in that it reduces the quality or quantity of the other’s play, with either minimal effect or maximal effect to the point of cessation of play. It encompasses the aspects of stopping the other entering the play, or removing oneself from the play, and having no understanding of the symbolic nature of the other’s play.

**Definition:**

• Actions or words which cause the pretend play of the other to decrease in intensity, quality, and complexity.

• Actions or words which cause the other’s play to stop entirely, to change theme, or to cause distress in the other player including making the other player leave the scene.

• Showing no understanding of the themes, roles, symbolism of the other, and showing no desire to make-believe.

• Destructive and/or aggressive behaviour which causes the pretend play to cease.

• Refusal to interact, refusal to accept invitations to play so that the play does not commence or continue.

• Leaving the play scene.

4. **Maintain:** this item characterises social play interactions which maintain the “sameness”, the status quo, which neither supports, nor changes or stops the play of the other. There is a sense of understanding the others symbolism in play, however there is no desire to fully
engage, the change the theme, to add to or improve the level of symbolism. It is more concerned with the continuation of the scene in a more passive way.

**Definition:**

- Supporting actions or words that do not change the theme or actions but assist in the pretend play actions of the play partner continuing without taking or adding other toys/objects into the scene, e.g. moving the toys into a slightly different position, adding in another cow to the farm, moving a doll from sitting to standing.
- Re-setting up of toys or objects which have fallen over, adjusting the fences.
- Allowing the other to take a toy from their scene to add to another scene without any reaction.

5. **Enrich:** this item encompasses the concepts of making the play more complex, more enriched, extending in time, and developing the play and symbolism, and bringing greater depth to the theme. This item includes the concept of negotiation, and planning of pretend play scenes and themes.

**Definition:**

- Adding to the other’s play so that the theme stays the same in a logical continuation, but extends in time.
- Adding more characters/toys or roles to expand the theme, and increase the complexity of the pretence.
• Showing the play partner a toy, or describing it to them, and the toy is brought into play so that the theme is expanded, or changed significantly e.g. the doll is brought in to be a cattle rustler and steals the cows.

• Planning and negotiating the theme of the play, the characters, and how the scene will play out.

• Changing the themes from the familiar e.g. mummies and daddies, to the unfamiliar e.g. rocket ships and aliens.

6. Self-contain: this item describes play which sits alongside another player’s play, without becoming part of the play, but which may be left and come back to with ease. It recognises the play as being developed by one child, acknowledged by the other but separate from the other. It is non-interactive play but has the sense of “shared comfortableness” where the other is content with the situation.

Definition:

• Actions /words which indicate the child is engaged in their own theme-related play and no interaction with the other player occurs.

• Occasional glances or an answer without any attempt to join in the play of the other.

• Setting up and continuing with own play theme whether other tries to interact or not.

• Narrating own play to self.

• A sense of “happiness” or comfortableness with the situation of separate play.

7. Encourage: this item refers to the behaviours actively invite others into the play scene whether verbally, with a glance or gesture. It also encompasses asking the other for assistance in setting up a scene, changing a scene to a completely new scene, or offering praise.
**Definition:**

- Actively asks the other to join in play, or to be more involved in the process.
- Asks for assistance in setting up a scene or moving toys/objects to set up another scene which involves them both.
- Showing encouraging facial expressions to increase interaction during pretend play.
- Acknowledging the other’s play or play scene or affirming their choice and ideas, verbally or non-verbally
- Asking for the play to be continued for longer.

8. **Direction:** this item can be both a supportive or non-supportive item. It describes the social interactions which serve the player’s purpose of guiding the play of the other or both. It encompasses one player having the ideas, and themes and these are the dominant theme which is kept going by the player and accepted or enacted by another player in the play session.

**Definition:**

- Control and dictate the theme, roles and progression of the play for the other and themselves.
- Prescribing the type of toy, object or number of toys so that the other has little choice
- Taking control of the play when the pretend play is flagging or losing direction and the players are becoming disengaged, or when the other player has no ideas to offer.

9. **Communicate:** this item includes verbal and non-verbal messages directed to the other player for the purpose of communicating ideas, needs, wants, agreement and disagreement, and also includes conversation. It does not include narration of the action of the play, which
is considered to be part of Symbolic engagement. It also does not include describing the toys or objects in play. It does not include the player talking to a doll as this is Symbolic engage.

**Definition:**

- Verbal, gestural or inferred communication e.g. gesturing for a toy to be given, nodding in agreement, shaking the head to disagree, looking at the other then the toy to indicate the toy should be passed over, or indicating a want or need with the inclination of the head towards the object.
- Actively joining in a conversation where the other child is communicating with the Non-Peer e.g. the assessor.

**10. Non-Peer Interactions:** this item describes the behaviours where a child momentarily or for prolonged periods, ceases to interact with the other player, or ceases their own play to interact with the assessor, or another person present. It is not supportive of the other child’s play and may distract the other child from their play.

**Definition:**

- The child ceases their own play or pauses in their play to look at others in the play area who is not the other player.
- Interactions with the assessor.
- Listening into or observing the other child and assessor interact without contributing to their conversation.
Conclusion

The Play Partner Scale has been developed to measure the effect of social play within the context of pretend play assessment. This chapter described the selection of the 10 items for the PPS. For an assessment to be valid it requires both construct and concurrent validity. Concurrent validity indicates “the effectiveness of a test in predicting an individual’s performance in specified areas.” (Anastasi & Urbina, 1997, p. 117). New assessments should be measured against an already existing tool to the same sample of people, and as a consequence determine whether there is a relationship between the two measures (Streiner & Norman, 2003). Concurrent validity of the PPS was performed with the Play Partner Scale and the Penn Interactive Peer Play Scale (PIPPS) and is presented in Chapter 7.
Chapter 7

Study 5: Concurrent Validity of Play Partner Scale and the Indigenous ChIPPA

“Play, while it cannot change the external realities of children’s lives, can be a vehicle for children to explore and enjoy their differences and similarities and to create, even for a brief time, a more just world where everyone is an equal and valued participant.” Patricia G. Ramsey, Contemporary American educational psychologist, n.d.)

Introduction

The development of the Play Partner Scale (PPS) and selection of items was discussed in Chapter 6. The items were selected, defined and described with the aim to measure children’s social play within the pretend play assessment context. It was concluded that the Play Partner Scale required examination of the validity of the scale. Uren and Stagnitti (2009) and McAloney and Stagnitti (2009) found that social competence of the child could be inferred from their ChIPPA scores. The I-ChIPPA has been adapted from the ChIPPA to measure the same qualities of play as the ChIPPA (that is, elaborateness of play, use of symbols in play and ability to self-initiate play) for Indigenous children aged 4.0 to 7.11 years. It cannot be claimed that the I-ChIPPA has the same psychometric properties as the ChIPPA due to the administration of the assessment being focused on two children playing simultaneously in the assessment context. Therefore it was important to also examine the concurrent validity of the I-ChIPPA with the PPS. Study 5 now describes the concurrent validity of the PPS and I-ChIPPA.

Concurrent validity determines the degree of relationship between two measures which have been administered to the sample population at approximately the same time. The measures
therefore “reflect the same incident of behaviour” (Portney & Watkins, 2009, p103). The criterion test of social play and social competence in this study was the Penn Interactive Peer Play Scale (McWayne, Sekino, Hampton & Fantuzzo, 2002) against which the concurrent validity of the Play Partner Scale and I-ChIPPA was measured.

**Study 5: The concurrent validity of the Play Partner Scale and I-ChIPPA.**

Study 5 had three aims which were:

*Aim 1:* To examine the relationship between the PPS and the PIPPS.

*Hypothesis 1:* There will be significant moderate correlation between the PPS factors and the PIPPS scores.

*Aim 2:* To examine the relationship between the PPS and the I-ChIPPA.

*Hypothesis 2:* There will be significant moderate correlation between the PPS factors and the I-ChIPPA scores.

*Aim 3:* To examine the relationship between the I-ChIPPA and the PIPPS.

*Hypothesis 3:* There will be significant moderate correlation between the I-ChIPPA scores and the PIPPS scores.

**Participants**

The sample of children was the same as described in Chapter 6. Forty-three Indigenous children were recruited from local schools in the Pilbara region of Western Australia. There were more female participants (n=23) than male (n=20), and of the 43 participants there were six 4-year-olds (n=6), nine 5-year-olds (n=9), twelve 6-year-olds (n=12), and sixteen 7-year-
olds (n=16). The mean age of the children was 6.36 years and the standard deviation for age is 1.1 years. Some of the children were related to each other and all children knew each other through their community life or school life.

**Instruments**

**Penn Interactive Peer Play Scale (McWayne et al., 2002).**

The Penn Interactive Play Scale (PIPPS) is an assessment developed to rate peer play behaviours. The PIPPS can be used with kindergarten and pre-primary children, and has parallel versions of the 32 item rating scale for teachers and parents, or care-givers. According to McWayne, Sekino, Hampton and Fantuzzo (2002, p.1) the PIPPS assesses “both the competencies and needs within play to identify children who demonstrate successful peer relationships and those who have difficulties with peers.” The teacher or parent rates the child from their observations using a 4-point Likert scale, indicating the behaviour occurs, “Always”, “Often”, “Seldom” or “Never”.

From the teacher or parent rating, scores are obtained which are then categorised into three dimensions of play behaviour, these being, Play Interaction, Play Disruption and Play Disconnection. Play Interaction refers to the child’s strengths in peer play such as comforting and encouraging others, and showing creativity in play (McWayne et al., 2002). Play Disruption describes those behaviours which negatively affect the social play of others such as aggression in play, or anti-social behaviours (McWayne et al., 2002). Play Disconnection describes the child’s ability to enter into, and sustain peer play behaviours (McWayne et al., 2002). To score the PIPPS, the responses from the items for each dimension are summed
where never = 1, seldom = 2, often = 3, and always = 4. The raw scores for each dimension are then converted to standard T-scores, using the conversion tables appended to the PIPPS. The T-scores have a mean of 50 and a standard deviation of 10. A score above two standard deviations of the mean is considered to show a child demonstrating a higher level of the specific play dimension than most children in the norm sample, and a child whose score is two standard deviations below the mean demonstrates a lower level of the specific play dimension than most the standardisation sample (McWayne et al, 2002). Therefore a child who has a score of 70 (+2SD) for Play Interaction demonstrates higher than the norm for the ability to be creative in play, enter into peer play, share toys, verbalise during stories and show positive emotions in play with peers. The norms were based on an urban-living, low income, English speaking, and predominantly African-American population therefore use of the norm scores with other populations must be interpreted with caution.

In this study, some of the teachers placed a score on the line between two descriptors, for example, between Always and Often. When correct scoring procedures were not adhered to by teachers a number of arbitrary rules were made. For example, the lower scoring response was counted in all instances. Where a teacher omitted to give a response, the average was calculated over the 32 items and that score was assigned.

**Properties of the PIPPS.**

The PIPPS has established content validity as reported in Fantuzzo et al (1995). Construct validity of the PIPPS was established through a three-factor orthogonal analysis, and indicated that the items were valid for both pre-school aged boys and girls (Fantuzzo et al, 1995). Agreement of the equivalence of the kindergarten and pre-school was examined using
factor matching techniques and the study reported that the PIPPS measures the same constructs across the pre-school and kindergarten versions of the instrument (Fantuzzo & Hampton, 2000)

Reliability of the PIPPS has been found to be highly internally consistent with Cronbach’s alphas for the pre-school teacher version to be .76 overall, and .90-.92, .87-.89, and .89 for the dimensions of Play Disruption, Play Disconnection and Play Interaction respectively. Reliability coefficients for the kindergarten teacher version of the scale were found to be .78 overall, with .94, .91 and .91 for the Play Disruption, Play Disconnection and Play Interaction dimensions respectively (Fantuzzo, Mendez et al., 1998). An inter-rater reliability study reported a significantly high correlation of .88 for the PIPPS (Fantuzzo, et al., 1995).

**Indigenous Child-Initiated Pretend Play Assessment.**

This assessment was explained in Chapter 6. The I-ChIPPA conventional-imaginative toys and the unstructured play materials are shown in Table 7.1.
Table 7.1

*The I-ChIPPA Toy Sets*

<table>
<thead>
<tr>
<th>Conventional toy set</th>
<th>Unstructured play material set</th>
</tr>
</thead>
<tbody>
<tr>
<td>12 wooden fences</td>
<td>1 shoe box</td>
</tr>
<tr>
<td>1 truck</td>
<td>1 larger box filled with sand</td>
</tr>
<tr>
<td>1 trailer</td>
<td>1 cone</td>
</tr>
<tr>
<td>1 female dark skinned doll</td>
<td>1 tin</td>
</tr>
<tr>
<td>1 male dark skinned doll</td>
<td>3 pebbles</td>
</tr>
<tr>
<td>1 plastic knife</td>
<td>1 thick dowel stick</td>
</tr>
<tr>
<td>2 dark coloured horses</td>
<td>1 flat stick</td>
</tr>
<tr>
<td>1 dark coloured bull</td>
<td>1 flat wooden shape</td>
</tr>
<tr>
<td>1 dark coloured cow</td>
<td>1 tea towel</td>
</tr>
<tr>
<td>1 dark coloured calf</td>
<td>1 face washer</td>
</tr>
<tr>
<td>2 galahs</td>
<td>2 blue coloured cloth dolls</td>
</tr>
<tr>
<td>2 adult kangaroos</td>
<td>1 plastic cloth to place on the floor in front of</td>
</tr>
<tr>
<td>1 small kangaroo</td>
<td>the cubby house</td>
</tr>
<tr>
<td>3 snakes</td>
<td></td>
</tr>
<tr>
<td>2 dingoes</td>
<td></td>
</tr>
<tr>
<td>1 emu</td>
<td></td>
</tr>
<tr>
<td>1 shark &amp; 1 fish</td>
<td></td>
</tr>
<tr>
<td>1 crab</td>
<td></td>
</tr>
<tr>
<td>1 turtle</td>
<td></td>
</tr>
<tr>
<td>1 goanna</td>
<td></td>
</tr>
</tbody>
</table>

For administration the children come in pairs to play in a play space created by a sheet thrown over two chairs (a cubby house). The children and examiner sit on the floor and the first set of toys are introduced to the children with the instruction that the children can “play whatever they want to”. For children aged 4 years to 7 years 11 months, the play assessment is 30 minutes and this is divided into two 15 minute sessions for conventional imaginative play (using the Indigenous toy set) and symbolic play (using the Indigenous unstructured play
materials set). For the first 5 minutes the children are invited to play, for the second 5 minutes the examiner models five play actions and for the final 5 minutes the children are encouraged to continue playing and the examiner is passive. The modelled actions for the I-ChIPPA are shown in Table 7.2.

Table 7.2

*Modelled Actions of the I-ChIPPA for Conventional and Non-conventional Toy Sets*

<table>
<thead>
<tr>
<th>I-ChIPPA conventional toy set</th>
<th>I-ChIPPA non-conventional toy set</th>
</tr>
</thead>
<tbody>
<tr>
<td>Doll walks</td>
<td>Cloth doll walks</td>
</tr>
<tr>
<td>Doll waves</td>
<td>Cloth doll waves</td>
</tr>
<tr>
<td>Doll drives truck</td>
<td>Cloth doll drinks from cone</td>
</tr>
<tr>
<td>Doll pats animal</td>
<td>Cloth doll drives shoebox car</td>
</tr>
<tr>
<td>Doll picks up knife and cuts up kangaroo</td>
<td>Cloth doll sleeps in shoebox bed</td>
</tr>
</tbody>
</table>

The scoring for the I-ChIPPA has remained the same as for the ChIPPA. Each action of the child is coded as either Behavioural (non-play), Functional (uses objects functionally), Repetitive (when children repeat play actions and don’t extend the play), and Elaborate (a logical sequence of functional actions). A percentage of elaborate actions over total actions is calculated for Percentage of Elaborate Pretend Play for conventional imaginative play (PEPA conventional), PEPA for symbolic play (PEPA symbolic) and PEPA for combined conventional imaginative play and symbolic play (PEPA combined). An object substitution is scored when a child uses an object in a symbolic manner. Number of object substitutions is also calculated for each I-ChIPPA session and combined scores. If the child imitates the examiner in the middle five minute segment, then the child scores one for each imitated action. Number of Imitated Actions is then calculated for conventional imaginative play,
symbolic play and the combined score. This study, Study 5, is the first study to examine the validity of the I-ChIPPA with a sample of Indigenous children.

**Play Partner Scale (PPS).**

The Play Partner Scale (PPS) is scored during the I-ChIPPA assessment as two children come to play in the I-ChIPPA. The aim of the PPS is to take into account social interaction between peers while they play. The administration of the PPS is the same as the I-ChIPPA but for the scoring of the PPS, the I-ChIPPA needs to be videotaped. The PPS is scored from the videotapes of the children playing. There are 10 items on the PPS which are scored as frequency counts. (The items were explained in Chapter 6).

**Procedure**

Ethics was granted from Deakin University, Curtin University and the Department of Education and Training (see Appendices C1, C2, D and E). The children were assessed individually in the classroom and in the playground by the teacher over at least two months. As in Study 4, the children were recruited through local schools in the Pilbara region of Western Australia with the assistance of the teachers and Aboriginal and Islander Education Officers within the schools. For those children with parental consent, the PIPPS forms were given to each classroom teacher to fill in for each child with consent. The teachers were instructed as to the purpose and scoring of the rating scale. Teachers were required to reflect on the play behaviour of the child over the preceding two months and tick the appropriate descriptor on the Likert Scale, for example, Never, or Always. Teachers filled in the 32 item PIPPS form for each child in the study (see Appendix T for the PIPPS score sheet.).
The children were invited to play in pairs in a separate room at the school. Teachers assisted with the pairing of the children among the children with consent. The children played for 30 minutes in pairs with the toys and play materials from the I-ChIPPA. The play assessment was videoed for scoring of the I-ChIPPA and scoring of the PPS.

**Data Analysis**

The raw scores were calculated for the three domains of the PIPPS for each child. It was decided that the raw scores would be used for analysis instead of the T-scores. As previously discussed the PIPPS is valid for a population group which has significantly different characteristics to the Indigenous Australian population of the Pilbara region and therefore the norms could be misleading. The 10 items of the PPS were scored for each child from the video tapes of the children playing in pairs. The items were scored as frequency counts for each item. The nine scores of the I-ChIPPA scores were recorded for each child from the video tapes of the children playing in pairs.

The analysis used descriptive statistics to determine the mean and standard deviations of the data sets. A two-tailed Pearson’s Product Moment Correlation was used to investigate the strength of the relationship between the PIPPS and PPS (for Aim 1), the I-ChIPPA and PPS (for Aim 2) and the I-ChIPPA and the PIPPS (for Aim 3). The results and discussion for each aim are addressed in the following section.

**Results and Discussion for Each Aim**

Table 7.3 presents the mean and standard deviations of the I-ChIPPA, the PIPPS and the PPS.
Table 7.3

Descriptive Statistics of the I-ChIPPA, PIPPS and PPS for Children in the Sample Group (n=43)

<table>
<thead>
<tr>
<th>Assessment</th>
<th>Mean</th>
<th>Standard deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>I-ChIPPA</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PEPA Conventional</td>
<td>47.88</td>
<td>17.00</td>
</tr>
<tr>
<td>PEPA Symbolic</td>
<td>37.30</td>
<td>22.3</td>
</tr>
<tr>
<td>PEPA Combined</td>
<td>85.83</td>
<td>35.81</td>
</tr>
<tr>
<td>NOS Conventional</td>
<td>0.48</td>
<td>0.79</td>
</tr>
<tr>
<td>NOS Symbolic</td>
<td>14.74</td>
<td>12.36</td>
</tr>
<tr>
<td>NOS Combined</td>
<td>15.27</td>
<td>12.46</td>
</tr>
<tr>
<td>NIA Conventional</td>
<td>0.04</td>
<td>0.21</td>
</tr>
<tr>
<td>NIA Symbolic</td>
<td>0.13</td>
<td>0.41</td>
</tr>
<tr>
<td>NIA Combined</td>
<td>0.18</td>
<td>0.50</td>
</tr>
<tr>
<td><strong>PIPPS</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PIPPS Disruption</td>
<td>28.30</td>
<td>8.88</td>
</tr>
<tr>
<td>PIPPS Disconnection</td>
<td>17.83</td>
<td>7.04</td>
</tr>
<tr>
<td>PIPPS Interaction</td>
<td>24.44</td>
<td>5.21</td>
</tr>
<tr>
<td><strong>PPS</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total frequency</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Literal Engagement</td>
<td>20.58</td>
<td>10.05</td>
</tr>
<tr>
<td>Symbolic Engagement</td>
<td>24.00</td>
<td>14.9</td>
</tr>
<tr>
<td>Maintain Interactions</td>
<td>3.41</td>
<td>4.15</td>
</tr>
<tr>
<td>Enrich Interactions</td>
<td>7.27</td>
<td>5.41</td>
</tr>
<tr>
<td>Encourage Interactions</td>
<td>1.48</td>
<td>1.96</td>
</tr>
<tr>
<td>Direction Interactions</td>
<td>1.30</td>
<td>2.15</td>
</tr>
<tr>
<td>Communicate Interactions</td>
<td>19.88</td>
<td>14.00</td>
</tr>
<tr>
<td>Self-contain Interactions</td>
<td>26.16</td>
<td>11.60</td>
</tr>
<tr>
<td>Diminish Interactions</td>
<td>3.72</td>
<td>3.54</td>
</tr>
<tr>
<td>Non-Peer Interactions</td>
<td>22.6</td>
<td>11.19</td>
</tr>
</tbody>
</table>

*Note:* Abbreviations: PEPA = Percentage of Elaborate Play Actions; NOS = Number of Object Substitutions; NIA = Number of Imitated Actions;
Results: Aim 1: To Examine the Relationship between the PIPPS and PPS

Hypothesis 1: There will be significant correlation between the PPS factors and the PIPPS scores.

A Pearson’s Correlation was used to determine the relationship between the PIPPS and the PPS. The results are shown in Table 7.4.

Table 7.4

Correlation results for PIPPS and PPS

<table>
<thead>
<tr>
<th>Disruption of Peer Play Interactions</th>
<th>Disconnection of Peer Play Interactions</th>
<th>Interactions in Peer Play</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total frequency of Non-Peer Interactions in play session</td>
<td>.273</td>
<td>.146</td>
</tr>
<tr>
<td>Total frequency of Communicate Interactions in play session</td>
<td>.366*</td>
<td>.134</td>
</tr>
<tr>
<td>Total frequency of Direction Interactions in play session</td>
<td>.633**</td>
<td>.392**</td>
</tr>
<tr>
<td>Total frequency of Literal Engagement Interactions in play session</td>
<td>.162</td>
<td>-.037</td>
</tr>
<tr>
<td>Total frequency of Symbolic Engagement Interactions in play session</td>
<td>.155</td>
<td>.153</td>
</tr>
<tr>
<td>Total frequency of Maintain Interactions in play session</td>
<td>.250</td>
<td>.055</td>
</tr>
<tr>
<td>Total frequency of Enrich Interactions in play session</td>
<td>.256</td>
<td>.189</td>
</tr>
<tr>
<td>Total frequency of Diminish Interactions in play session</td>
<td>.424**</td>
<td>.253</td>
</tr>
<tr>
<td>Total frequency of Self-contain Interactions in play session</td>
<td>.211</td>
<td>.006</td>
</tr>
<tr>
<td>Total frequency of Encourage Interactions in play session</td>
<td>.043</td>
<td>-.042</td>
</tr>
</tbody>
</table>

Note: Significance: * = p < .05; ** = p < .01
Items with moderate to high positive or negative correlations between the PPS and the PIPPS.

The item Total frequency of Communicate Interactions on the PPS had a positive moderate correlation of $r = .366$ with Disruptions in Peer Play Interactions. This is not easily explained as communication is generally seen as a social play enhancing activity, and therefore a strength rather than a negative social attribute.

The Total frequency of Direction Interactions in play session had a significant positive moderately high correlation of $r = .633$ with Disruption of Peer Play Interactions and a significant positive moderate correlation of $r = .392$ with Disconnection of Peer Play, while a low negative correlation with Interactions in Peer Play. This suggested that this item on the PPS, that is, Total frequency of Direction Interactions appears to be measuring a similar aspect as do Disruption of Peer Play Interactions and Disconnection of Peer Play.

The item Total frequency of Diminish Interactions in play session had a significantly moderate positive correlation with Disruption of Peer Play Interactions and a significantly moderate negative correlation with Interactions in Peer Play. This suggested that this item on the PPS appears have some association with these two measures of social play ability on the PIPPS. The hypothesis was partially supported.

Items with low correlations between the PPS and the PIPPS.

All other seven items on the PPS had low correlation with the PIPPS, that is less than $r = .300$ which indicated that the two measures do not measure the same aspects of social play (see Table 7.4 for the correlation results). For these items the hypothesis was not supported.
Discussion of Aim 1: The Relationship Between the PPS and PIPPS

Wainer and Braun (1998) stated that two tests may have similar names but do not necessarily measure the same behaviour. For examination of concurrent validity correlations are often made between a new test and an existing one, which may or may not be considered the gold standard for that particular behaviour or set of behaviours (Anastasi & Urbini, 1997; Streiner & Norman, 2003). If the correlations are too high, the assessments would be measuring the same items, and the newly developed assessment would have no additional or alternative advantages for clinical use (Anastasi & Urbini). It would therefore be a replica of already existing valid and reliable assessment.

The PIPPS was regarded as the gold standard of social peer play for this study. From the results, Total frequency of Direction Interactions was highly positively correlated with Disruption of Peer Play Interactions and moderately correlated with Disconnection of Peer Play Interactions. Directions Interactions are the social actions which the Indigenous children used to direct the play of another or to have their needs and wishes take preference over the other child’s in the pretend play session. In the Indigenous culture this behaviour is not seen as necessarily disruptive or having a negative impact on the other child’s play, however this type of behaviour could be rated as negative by a non-Indigenous rater, for example a teacher. Therefore there would be a positive correlation with the Disruption of Peer Play on the PIPPS, and to a lesser extent to the Disconnection of Peer Play Interactions of the PIPPS.

Total frequency of Diminish Interactions was significantly positively correlated with the Disruption of Peer Play Interactions, and had a significant and moderate negative correlation with Interactions in Peer Play. Diminish Interactions are those behaviours in social pretend
play which decrease the play partner’s ability to carry out their play, or to elaborate and expand their themes in the play session. These actions are similar to the PIPPS criteria which would be scored as negative social play behaviours on the PIPPS, for example, “Does not share toys”, “Rejects play ideas of others” (Fantuzzo & Hampton, 2006). A child who enhances and engages with another child in play would have infrequent Diminish Interactions and would be scored as having positive social play behaviours on the PIPPS such as “Creative in making up play”, “Encourages others to join in play”. Therefore there is a significant and negative moderate correlation between Interactions in Peer Play and Diminish Interactions.

Total Frequency of Communicate Interactions on the PPS had a positive moderate correlation with Disruptions in Peer Play Interactions. This relationship is difficult to explain, however Communicate Interactions is both a Supportive Factor and a Shared Comfortableness Factor of the PPS. The social verb was defined to include oral and gestural communication and did not discriminate between what could be perceived as positive communication such as smiling, and chatting, or negative communication such as shouting at the play partner or angrily gesturing. It is possible that the definition of social verb Communicate may have been too inclusive of all communication taking place which affected the scoring of the item and therefore affected the correlation.

It can be argued from the results of this study that the PPS cannot be replaced by the PIPPS and that the PPS is measuring social play behaviours which the PIPPS does not measure. Both assessments are needed as the PIPPS measures different aspect of social peer play from the PPS. The PIPPS has been developed to measure children’s social play interactions in urban, African-American populations during free play periods at school in a multi-child
context. The PPS is focussed on measuring children’s social interactions during a culturally appropriate, child-initiated pretend play assessment with specific toy sets and in a dyad.

Results: Aim 2: To Examine the Relationship between the I-ChIPPA and the PPS

*Hypothesis 2:* There will be significant correlation between the PPS factors and the I-ChIPPA scores.

The results have been summarised and presented in Table 7.5 to show those correlations which have significance and a moderate degree of relationship.

The negative correlations between the PPS and the I-ChIPPA showed that as Literal Engagement Interactions increased pretend play decreased. Two items of the PPS showed very low correlation with the items of the I-ChIPPA, namely the Total Frequency of Direction Interactions in play session and Total frequency of Non-Peer Interactions in play session. The hypothesis was partially supported.
Table 7.5

**Summary of Results of Correlation of the PPS and the I-ChIPPA**

<table>
<thead>
<tr>
<th>PPS items</th>
<th>I-ChIPPA</th>
<th>$r$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total frequency of Literal engagement in play session</td>
<td>Elaborate actions for conventional imaginative session</td>
<td>-.320*</td>
</tr>
<tr>
<td>Total frequency of Literal engagement in play session</td>
<td>Elaborate actions for symbolic play session</td>
<td>-.396**</td>
</tr>
<tr>
<td>Total frequency of Literal engagement in play session</td>
<td>Elaborate actions for combined sessions</td>
<td>-.409**</td>
</tr>
<tr>
<td>Total frequency of Literal engagement in play session</td>
<td>Object substitutions for symbolic play session</td>
<td>-.339*</td>
</tr>
<tr>
<td>Total frequency of Literal engagement in play session</td>
<td>Object substitutions for combined play session</td>
<td>-.340*</td>
</tr>
<tr>
<td>Total frequency of Symbolic engagement in play session</td>
<td>Elaborate actions for conventional imaginative session</td>
<td>.421**</td>
</tr>
<tr>
<td>Total frequency of Symbolic engagement in play session</td>
<td>Elaborate actions for symbolic play session</td>
<td>.513**</td>
</tr>
<tr>
<td>Total frequency of Symbolic engagement in play session</td>
<td>Elaborate actions for combined sessions</td>
<td>.533**</td>
</tr>
<tr>
<td>Total frequency of Symbolic engagement in play session</td>
<td>Object substitutions for symbolic play session</td>
<td>.374*</td>
</tr>
<tr>
<td>Total frequency of Symbolic engagement in play session</td>
<td>Object substitutions for combined play session</td>
<td>.371*</td>
</tr>
<tr>
<td>Total frequency of Maintain interactions in play session</td>
<td>Imitated actions for conventional play session</td>
<td>.594**</td>
</tr>
<tr>
<td>Total frequency of Maintain interactions in play session</td>
<td>Imitated actions for combined play session</td>
<td>.444**</td>
</tr>
<tr>
<td>Total frequency of Enrich interactions in play session</td>
<td>Elaborate actions for conventional imaginative session</td>
<td>.371*</td>
</tr>
<tr>
<td>Total frequency of Enrich interactions in play session</td>
<td>Elaborate actions for symbolic play session</td>
<td>.399**</td>
</tr>
<tr>
<td>Total frequency of Enrich interactions in play session</td>
<td>Elaborate actions for combined sessions</td>
<td>.435**</td>
</tr>
<tr>
<td>Total frequency of Self- contain interactions in play session</td>
<td>Imitated actions for symbolic play session</td>
<td>.306*</td>
</tr>
<tr>
<td>Total frequency of Encourage interactions in play session</td>
<td>Object substitutions for conventional play session</td>
<td>.370*</td>
</tr>
</tbody>
</table>

*Note: Significance: * = $p < .05$; ** = $p < .01$*
Discussion of Aim 2: The Relationship Between the I-ChIPPA and PPS

Six of the nine items of the PPS had significant moderate correlation with the items of the I-ChIPPA, with two items above $r = .5$. The relationship between Total frequency of Maintain Interactions with the Imitated actions (NOS) for conventional play session can be explained as when a child is maintaining play in the pretend play assessment context they are not actively developing any play actions such as elaborating or extending the play with new themes or changing the story. They simply maintain the status quo of the play. According to Stagnitti (2007), a child who relies on imitation, during the play sessions in the ChIPPA, is not a player who extends or initiates play as they require impetus provided by the assessor to create play themes or actions. This child would be considered a poorer player than a child who does initiate elaborate play. The PPS indicated that a child in a dyad, who is maintaining or preserving the state of play, is also not a player who is developing the play and could be considered a poorer player than someone who is initiating and extending the pretend play. Therefore the correlation is consistent with, and reflects, the observations made during the play assessment session. The children who maintained play were typically engaged in adjusting fences that fell down, adding a toy but not changing the theme or adding to the narrative, or moved toys around in the other child’s play scene without elaborating the play. This child was also the player who did not initiate setting up a scene, but did join in with the play partner occasionally replicating aspects of the play scene of the peer.

Total frequency of Symbolic Engagement Interactions in play session related moderately highly with both the Elaborate actions (PEPA) for symbolic play session and Elaborate actions for combined sessions. The I-ChIPPA items in this relationship are reflecting the child’s ability to use symbolic play and to be able to elaborate, that is make play more
complex, develop themes, follow a logical sequence and extend that sequence of play (Stagnitti, 2007). The PPS item of Symbolic Engagement relates to the child’s ability to use similar elaborate play in a didactic pretend play situation. Therefore it is reasonable that the two assessments have some degree of relationship in respect to the use of and development of symbolism in play. The degree of association was only moderately high, indicating that the assessments are again related but not replicating the other. The PPS is able to distinguish aspects of social behaviours in symbolic play, while the I-ChIPPA is determining the quality of the play occurring for each child in the pretend play situation.

The item Total frequency of Symbolic Engagement in play session also had moderate correlations with both Object substitutions (NOS) in symbolic and combined play sessions. Object substitution is the ability of a child to use one object to represent another (Stagnitti, 2007) and its presence in pretend play is indicative that the child is using symbolism upon which elaboration of play and extension of themes and sequences depend. Without the ability to substitute objects the child is limited in their ability to engage with another child in social pretend play, as there can only be limited or no shared understanding of the symbolism in the play or play story. A study by Rakoczy (2008) stated that young children have the ability to share the meaning and intention of each other’s pretend play, and that this is a mutual social understanding of the pretend play.

The item Total frequency of Literal Engagement Interactions in play session had moderate negative correlations with three I-ChIPPA items indicating that as the elaborateness of play and Object substitutions in play sessions decreases the play becomes more literal. Literal Engagement is defined as being simple peer play interactions which do not change, extend, develop the play relationship, nor changes the pretence theme, and where the child appears to
have no understanding of the pretence of the other child. Therefore it is logical that these two items would be negatively correlated, as Literal Engagement does not reflect elaboration of play. Literal Engagement is negatively correlated to Object substitution. Object substitution is present when symbolic play is being used, and Literal Engagement has no symbolic aspect to social pretend play. There were moderate positive correlations between Total frequency of Enrich Interactions in play sessions and the three I-CHIPPA items of elaboration. When a child enhances or enriches another’s play, by definition this has the effect of making the play more elaborate, extended and complex. Therefore there should be some association between these items however the strength of the relationship is indicative that the two measures are not measuring the same aspect of play.

Two items of the PPS had one I-ChIPPA item with which they correlated to a moderate degree. The first was Total frequency of Self-contain which had a significant correlation moderate with Imitated actions for symbolic play. Imitation of actions indicates the child is not initiating play on their own and requires imitation to perform pretend play actions, suggestive of a poor player, as typical children in play in the sample age range do not rely on modelling of play (Stagnitti, 2007). The verb Self-contain describes play which sits alongside another player’s play, without becoming part of the play, but which may be left and come back to with ease. It recognises the play as being developed by one child, acknowledged by the other but separate from the other. It is non-interactive play but has the sense of “shared comfortableness” where the other is content with the situation. At times the child may set up the exact play scene as the other child, but plays with their own theme in mind. In the clinical setting children who are Self-contained in their play may appear to be imitating the other child, or unable to join in the other child’s play therefore lacking self-initiation or shared understanding of the other’s play. However, this is a Western interpretation based on
information from the ChIPPA which was developed with non-Indigenous Australian children (Stagnitti, 2007). In the Indigenous context this Western interpretation may not apply as observations of the children noted there is a shared-comfortableness with playing alongside one another with minimal contact with and some acknowledgement of the other and their play.

The second item with one correlation was Total frequency of Encourage Interactions in play session with Object substitutions for conventional play. This moderate correlation reflects that children who encourage each other to engage in social pretend play will use symbolism in the play and have shared understandings of the meaning of the symbolism which could include an agreed object substitution, for example, “this fence is the train track, right?” A study by McAloney and Stagnitti (2009) found that the greater the number of object substitutions performed by a child, the more socially interactive the child was likely to be.

Three items of the PPS had very low or no correlation with the I-ChIPPA items. This indicated they are unique to the PPS and have little to no relationship to the I-ChIPPA. The item Total frequency of Diminish had low negative correlations with items on the I-ChIPPA that indicate a child is engaged in elaboration of play, or with object substitution in play. The PPS verb Diminish is defined in Chapter 6 as “actions and words which have a non-supportive effect on the play of the other player in that it reduces the quality or quantity of the other’s play, with either minimal effect or maximal effect to the point of cessation of play. It encompasses the aspects of stopping the other entering the play, or removing oneself from the play, and having no understanding of the symbolic nature of the other’s play”. The verb Diminish is by definition opposed to the actions which are supportive of play and the actions which indicate a high quality of pretend play for a child. The I-ChIPPA is not designed to
measure how the play of one child affects the play of another, which is what the PPS has been developed to ascertain.

The item Total frequency of Direction Interactions in play also has low to no correlations with the I-ChIPPA items. Again this is an item which is not reflected in any way in the I-ChIPPA, as it measures the degree to which a child is influencing another’s play. Similarly the Total frequency of Non-Peer Interactions in play is concerned with the influence on the play behaviours of another child in the pretend play dyad through non-social play interactions. There was no corresponding item in the I-ChIPPA that had a relationship with this item.

**Results: Aim 3: To Examine the Relationship Between the I-CHIPPA and the PIPPS**

*Hypothesis 3:* There will be significant correlation between the I-ChIPPA scores and the PIPPS scores.

The results of Pearson’s Correlation to determine the relationship of the I-ChIPPA and the PIPPS are shown in Table 7.6. The results indicate there were no significant correlations between these two assessments and the hypothesis was not supported.
Table 7.6

**Correlation Results of the PIPPS and the I-ChIPPA**

<table>
<thead>
<tr>
<th></th>
<th>Disruption of Peer Play Interactions</th>
<th>Disconnections of Peer Play Interactions</th>
<th>Interactions in Peer Play</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elaborate actions for conventional imaginative session</td>
<td>.085</td>
<td>-.078</td>
<td>-.020</td>
</tr>
<tr>
<td>Elaborate actions for symbolic play session</td>
<td>.096</td>
<td>.180</td>
<td>-.057</td>
</tr>
<tr>
<td>Elaborate actions for combined play session</td>
<td>.103</td>
<td>.080</td>
<td>-.046</td>
</tr>
<tr>
<td>Object substitutions for conventional play session</td>
<td>-.008</td>
<td>-.176</td>
<td>.073</td>
</tr>
<tr>
<td>Object substitutions for symbolic play session</td>
<td>-.004</td>
<td>.004</td>
<td>-.055</td>
</tr>
<tr>
<td>Object substitutions for combined play session</td>
<td>-.009</td>
<td>-.012</td>
<td>-.043</td>
</tr>
<tr>
<td>Imitated actions for conventional play session</td>
<td>.043</td>
<td>-.074</td>
<td>0.45</td>
</tr>
<tr>
<td>Imitated actions for symbolic play session</td>
<td>.086</td>
<td>-.098</td>
<td>-.284</td>
</tr>
<tr>
<td>Imitated actions for combined play session</td>
<td>.089</td>
<td>-.113</td>
<td>-.215</td>
</tr>
</tbody>
</table>

*Note: Significance: * = p < .05; ** = p < .01*
Discussion of Aim 3: The Relationship between the I-ChIPPA and the PIPPS

The I-ChIPPA measures the quality of pretend play of a child and the PIPPS measures the ability of a child to perform social play with peers during free play. The results indicated that there is no relationship between the two assessments in an Australian Indigenous context.

This finding is in contrast to two previous studies using these assessments. In a study by McAloney and Stagnitti (2009), it was reported that the results indicated children’s social competence can be inferred from their play scores on the ChIPPA. This was determined as the authors found a significant positive correlation between the scores for elaborateness and peer play interactions ascertained from the PIPPS. The results of these two assessments also revealed a significant negative relationship between the ability to substitute objects, elaborate in play and with play disconnection which is the term describing withdrawal behaviours and non-participation in peer play (McWayne, et al., 2002; McAloney & Stagnitti). Finally McAloney and Stagnitti’s study also indicated that there was a negative relationship between the scores reflecting the ability to substitute objects in play and play disruption, which is the term used to describe aggressive, antisocial, and destructive play behaviours according to the PIPPS (McWayne, et al, 2002; McAloney & Stagnitti). These findings were supported by a similar study by Uren and Stagnitti (2009). In the current study these findings were not substantiated, an issue that requires further examination.

The PIPPS was developed for a population in the USA which would appear on the surface to have some similar socio-economic factors as those which a large proportion of the Indigenous Australian population experience. These include low levels of education, poverty or low-income, and a poorer health status than non-Indigenous Australians (Australian Bureau of Statistics, 2010; McWayne, et al., 2002). However there are many other factors
which may have affected the validity of the PIPPS when transposed into a different cultural and educational context such as a rural and remote Australian setting.

The PIPPS was administered by teachers who observed the children both in free play and in their classrooms. It is possible that teachers were scoring the children on the PIPPS from a more general behavioural perspective than purely from a free play perspective. For example, the items “Tattles”, “Wanders aimlessly” and “Doesn’t take turns”, may be easily observed in the classroom, and these observations may affect the way in which a teacher interpreted the PIPPS. So a child who frequently tattles in the classroom may not do so in the playground, however the teacher scores the child as “Often”.

Indigenous Australians have a very complex social society with rules and morés which are well understood to the children and affect their social relationships and therefore presumably their social play relationships. Complex social interactions and the aspect of shared comfortableness may, to the non-Indigenous assessor, be seen as the child being withdrawn or being ignored by others and scored accordingly. This interpretation of behaviour by a non-Indigenous assessor using the PIPPS could result in a false negative score and place the child as a Disconnected peer player.

During the assessment sessions of this study, it was noted that a moderately high proportion of children were very quiet, preferring to listen or to answer each other monosyllabically. Anecdotally this behaviour was noted in playground behaviours also. Parents often report their children are quiet at school, and this may have been interpreted by teachers filling in the PIPPS as not being able to socially interact, and therefore their scores would be low on the PIPPS for social interaction.
These examples reinforce the need for assessments to be valid and culturally appropriate, sympathetic to the cultural context within which they are being used. Concurrent validity could be regarded as having the inherent problem that the benchmark test may have some contextual inadequacies and, if the new test shows a strong correlation, it can be assumed that the new test has the same problems (Craighead & Nemeroff, 2004; Stevens, 2009). This was not the case with the PPS and I-ChIPPA, confirming the validity of the PPS with the I-ChIPPA with Indigenous children in the Pilbara region.

**Conclusion**

Berg and Latin (2004, p. 163) stated that the criterion tool should be “the most accurate available measure of the variable in question, and its selection is perhaps the most important point to consider in this type of validity”. In the current study the PIPPS was considered to be the most appropriate test of peer play as the properties of the test indicated good reliability and validity, there was some similarity in population groups, and it had been used in previous studies with non-Indigenous Australian children and the ChIPPA. There were no other tests of social peer play which were considered suitable. In analysing the relationships between all three assessments, the results suggested that the PPS has moderate correlation with the I-ChIPPA, providing concurrent validity. These two assessments appeared to have adequate relationship to show they are relating to the same construct, that is play, but the I-ChIPPA gauges the quality of children’s pretend play and the PPS measures the social relationships within pretend play. The PPS was developed within the context of the I-ChIPPA play session to augment the information about the players for clinical use. The clinical viability of the PPS as a stand-alone test must be examined further to ascertain if the PPS can only be used
simultaneously with the I-ChIPPA or if it can measure the social play abilities of children in any pretend play setting.

The I-ChIPPA was developed to be the culturally appropriate equivalent assessment of pretend play abilities for Australian Indigenous children, primarily in the rural and remote areas of Western Australia. The I-ChIPPA measures the pretend play abilities of the children. The PPS was developed to meet the need to measure the effect of children being assessed in the I-ChIPPA play session in a pair, and therefore where children are assessed in pairs using the I-ChIPPA, the PPS should be administered also.

In terms of clinical utility the I-ChIPPA can be scored by a trained assessor without video recording being required, however as the PPS is administered simultaneously, scoring both would not be possible without a video recording. The I-ChIPPA uses scoring which requires high levels of concentration and observational skill by the assessor (Bundy, 2005). The PPS requires the assessor to observe, categorise and note each social interaction the child makes in the pretend play assessment, and consequently simultaneous marking is not possible.

While the PPS was developed to be used with the I-ChIPPA, it has been shown to be measuring a different aspect of play to the I-ChIPPA. This concurrent validity study with the PPS and I-ChIPPA showed that while the two scales are measuring play, the results indicated they measure different aspects within the domain of play and provide a more comprehensive picture of children’s pretend and social pretend play. The low correlations between the PIPPS and I-ChIPPA are in contrast to previous research examining relationships between social competence and quality of play using the ChIPPA. It is concluded that the PIPPS may have had contextual inadequacies for the Indigenous children in this study and/or the relationship between quality of pretend play and social competence for Indigenous children is
different to non-Indigenous children. For example, the observation of shared comfortableness appears to be unique to Indigenous children’s social play. Further examination of the validity of the PPS and I-ChIPPA needs to be conducted to determine if the PPS and I-ChIPPA can discriminate between players who use complex symbolism in their play and those who are more functional and literal in play. This will be discussed in Chapter 8.
CHAPTER 8

Study 6: Discriminant Validity of the Play Partner Scale with the I-ChIPPA

“Play is the highest form of research.” (Albert Einstein, 1879-1955)

Introduction

In Chapter 7 the results of the correlation of the Play Partner Scale (PPS) and the Indigenous-Child-Initiated Pretend Play Assessment (I-ChIPPA) suggested that the more a child engaged to play with a peer or beside a peer (indicated by PPS items Symbolic Engage, Maintain, Enrich, Self-Contain, Encourage), the more likely their quality of play was elaborate and symbolic. There were also significant negative moderately strong relationships between the PPS Literal Engagement and I-ChIPPA elaborate scores (PEPA) and object substitution scores (NOS) indicating that the more children engaged in Literal Engagement the less they were likely to show elaborate and symbolic play. Further examination of the validity of the PPS and I-ChIPPA will be discussed in this chapter to determine if the PPS can discriminate between “literal” and “symbolic” players based on the I-ChIPPA scores.

The choice of the terms literal and symbolic players to describe the abilities of players reflects an attempt to refer to the type of players without using value laden terms such as “poor” and “good”, which are perceived as judgemental by Australian Indigenous people (refer to Study 3). From the previous chapter, it was found that a child who uses object substitutions and more complex, elaborate pretend play, is more likely to be symbolically engaged in the social pretend play setting. A child who uses few object substitutions and has
functional and few elaborations in their pretend play is more likely to be engaging literally with their peer in social pretend play. Therefore the terms symbolic and literal will be used to describe the two types of players.

**Study 6: The discriminative validity of the Play Partner Scale.**

Aim: To examine the discriminative validity of the PPS in discriminating symbolic players from literal players as identified by the children’s scores on the I-ChIPPA.

The study presented in this chapter had five hypotheses:

- **Hypothesis 1:** That the Supportive Factor of the PPS would discriminate the symbolic players from the literal players.
- **Hypothesis 2:** That the Non-Supportive Factor of the PPS would discriminate the literal players from the symbolic players.
- **Hypothesis 3:** That the Neutral Factor of the PPS would discriminate between literal and symbolic players at a level of chance.
- **Hypothesis 4:** That the Shared Comfortableness Factor of the PPS would discriminate between literal and symbolic players at a level of chance.
- **Hypothesis 5:** That the four PPS Factors combined would predict the group memberships above 70%.

Klecka (1980) stated that many researchers considered that a hit rate of 25% greater than the level of chance is considered acceptable where there are two groups in the analysis. This means that 75% would be considered the benchmark for the hit rate. Clinically this translates
to seven to eight children of 10 would be classified into the groups correctly, therefore a hit rate of 70% was considered acceptable for this study.

**Participants**

The sample of 43 children was the same as described in Chapters 6 and 7.

**Instruments**

The instruments used in this study were the I-ChIPPDA and the PPS which have been described in Chapter 7. The 10 items of the PPS were described in Chapter 6. Four factors were found through factor analysis of the 10 PPS items which were Supportive, Non-Supportive, Neutral and Shared Comfortableness.

**Procedure**

The procedure for this study was the same as that described in Chapter 7. All children were assessed at school with the I-ChIPPDA and PPS and the children were videotaped as they played.

**Data Analysis**

All analyses in this study were performed using SPSS® 21.0 (SPSS Inc, 2012). For this analysis, the sample of children was divided into symbolic players and literal players. Symbolic players are children who tend to have higher scores in elaborate play on the I-
ChIPPA, and, the correlations for the three PEPA scores on the I-ChIPPA and the PPS Total frequency of Symbolic engagement in play sessions were $r = .421$, $r = .513$ and $r = .533$ (see Table 7.3). As the I-ChIPPA is scored similarly to the ChIPPA and PEPA Combined reflects the elaborateness of the play across both sets of play materials, a decision was made to take the I-ChIPPA raw scores for PEPA combined of the participants and compare these scores to the standard scores on the ChIPPA. PEPA Combined has been found to be stable across time (Stagnitti, Unsworth & Roger, 2000) and discriminates between typical children and non-typical children in a clinical sample (Stagnitti et al., 2000). The standard scores of the ChIPPA PEPA Combined scores were used to divide the sample into the symbolic players and the literal players. Children whose scores were within one standard deviation (15) of the mean (100) were identified as being symbolic players. A child was placed in the group symbolic player if their PEPA combined raw score compared to the Standard Score of 85 or greater. A symbolic player is one who is able to develop and maintain pretend play themes, with increasingly complex actions, and scenarios, and who can problem solve and follow a logical progression of a story-line (Stagnitti, 2007). A Standard Score above 85 PEPA score reflected that ability. This resulted in the symbolic player group consisting of 19 players and the literal player group consisting of 24 players.

It is acknowledged that comparing the raw scores of the I-ChIPPA PEPA Combined with the standard scores of the ChIPPA may not be culturally appropriate however, age and gender had to be accounted for in the analysis which was achieved by using the standard scores which take into account age and gender. The sample could not be analysed in age groups using a discriminant function analysis due to the small size of the sample. The decision to use the ChIPPA standard scores of PEPA Combined was the most objective way to divide the sample.
Standard discriminant function analyses (DFA) were used to test the five hypotheses of this study. Discriminant function analysis is useful in classifying variables into groups, that is, the DFA predicts group membership (Field, 2009; Klecka, 1980; Portney & Watkins, 2009). In this study a series of DFAs were used to determine whether the four factors of the PPS (Supportive, Non-supportive, Neutral, Shared Comfortableness) could predict (or identify) which children belonged to the symbolic player group or to the literal player group. In the DFA the independent variables were the four factors of the PPS and the dependent variables were the two groups of children (symbolic players or literal players). The scores I-ChIPPA and the PPS meet the conditions for normative distribution and homogeneity of variance.

**Results**

**Hypothesis 1: That the Supportive Factor of the PPS Would Discriminate the Symbolic Players from the Literal Players**

The PPS variables for the Supportive Factor were PPS Symbolic Engagement, PPS Enrich Interaction, PPS Encourage Interaction, PPS Communicate Interaction and PPS Direction Interaction. These PPS variables relate to those actions and behaviours which build on another’s pretend play, developing and enriching the play, and show there is understanding of the pretence taking place (see Chapter 6 for definitions and descriptions of these items.)

**Group statistics.**

The group statistics depicted in Table 8.1 show the mean and standard deviation of PPS Supportive Factor items for each group of players.
Table 8.1

The Discriminative Function Analysis of Supportive Play Variables with symbolic and literal Player Groups

<table>
<thead>
<tr>
<th>Group</th>
<th>PPS items in the Supportive Factor</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Symbolic player</td>
<td>PPS Symbolic Engagement</td>
<td>22.20</td>
<td>13.23</td>
</tr>
<tr>
<td></td>
<td>PPS Enrich</td>
<td>1.95</td>
<td>2.23</td>
</tr>
<tr>
<td></td>
<td>PPS Encourage</td>
<td>1.65</td>
<td>2.23</td>
</tr>
<tr>
<td></td>
<td>PPS Communicate</td>
<td>14.60</td>
<td>10.53</td>
</tr>
<tr>
<td></td>
<td>PPS Direction</td>
<td>.95</td>
<td>1.90</td>
</tr>
<tr>
<td>Literal player</td>
<td>PPS Symbolic Engagement</td>
<td>25.56</td>
<td>16.43</td>
</tr>
<tr>
<td></td>
<td>PPS Enrich</td>
<td>2.39</td>
<td>2.37</td>
</tr>
<tr>
<td></td>
<td>PPS Encourage</td>
<td>1.34</td>
<td>1.75</td>
</tr>
<tr>
<td></td>
<td>PPS Communicate</td>
<td>24.47</td>
<td>15.2</td>
</tr>
<tr>
<td></td>
<td>PPS Direction</td>
<td>1.60</td>
<td>2.35</td>
</tr>
</tbody>
</table>

The mean differences of the PPS Communicate Interaction scores had potential as a discriminator of the symbolic player group membership, as the separation between means is larger than for any other variable.

The test of equality of group means indicated the variable PPS Communicate Interaction was the only variable with significance ($p = .019$) between the groups.
Overall significance of the discriminant function.

The eigenvalue indicates how well the discriminant function discriminates between the groups (Portney & Watkins, 2009). The higher the eigenvalue the stronger the discrimination, however there is difficulty in interpreting this value as it is an open ended value with no upper limit (Portney & Watkins). The eigenvalue for this analysis was .24. A more useful measure is the canonical correlation which when squared “reflects the extent to which the variance in scores in the discriminant function accounts for differences among the groups” (Portney & Watkins, p. 705). The canonical correlation of .438 accounted for 19.2% of variability in scores between symbolic and literal players (see Table 8.2).

Wilk’s lambda is a statistical measure which indicates the significance of the discriminant function, therefore is a key indicator of whether there is a statistical relationship between the independent and dependent variables (Field, 2009; Portney & Watkins, 2009). A small value is desirable as Wilk’s lambda indicates the proportion of the total variance in the discriminant scores which are not explained by the group differences. For this analysis Wilk’s lambda was high at .81.

The structure matrix indicates discriminant loadings as shown in Table 8.2, and the generally accepted cut-off between important and less important variables is 0.30 (Field, 2009). PPS Communicate Interactions had the strongest predictive ability for the symbolic player group membership, and PPS Direction Interactions had the second strongest predictive ability. In Table 8.2 the results indicated that PPS Encourage Interactions was not loaded on the discriminant function and was the weakest predictor of symbolic player group membership.
The classification analysis shows the percentage of the group members that have been correctly classified into the membership groups (Field, 2009). The classification allows for the predicted group membership to be compared to the actual group membership (Field). The classification analysis contains three important statistical measures of performance of the factors which are sensitivity, specificity, and the “hit rate”, that is the percentage of original grouped cases which are correctly classified (Field). In the perfect situation every literal player for example, would be correctly classified into the group identified as literal players.

The benchmark for a discriminant model being useful is 25% improvement over the rate of accuracy by chance alone, that is, it can be expected that 50% of the group members would be classified correctly (Field; Klecka, 1980). With two groups therefore the useful ‘hit rate’ is considered to be 75%. The results for this discriminant function analysis are shown in Table 8.3.

Table 8.2

*Structure Matrix of PPS Supportive Factors*

<table>
<thead>
<tr>
<th>PPS items in the Supportive Factors</th>
<th>Discriminant loadings</th>
</tr>
</thead>
<tbody>
<tr>
<td>PPS Communicate</td>
<td>.78</td>
</tr>
<tr>
<td>PPS Direction</td>
<td>.32</td>
</tr>
<tr>
<td>PPS Symbolic Engagement</td>
<td>.24</td>
</tr>
<tr>
<td>PPS Enrich</td>
<td>.20</td>
</tr>
<tr>
<td>PPS Encourage</td>
<td>-.16</td>
</tr>
</tbody>
</table>
Table 8.3

*The Classification Results of Predicted Group Membership*

<table>
<thead>
<tr>
<th>Original grouping</th>
<th>Predicted Group Membership based on PPS Supportive Factors (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Symbolic player</td>
</tr>
<tr>
<td>Symbolic player</td>
<td>75</td>
</tr>
<tr>
<td>Literal player</td>
<td>34.8</td>
</tr>
</tbody>
</table>

*Note. Hit rate = 69.8%*

The results indicated that 69.8% of the original group members were correctly classified. Sensitivity of 75%, that is, the ability of the Supportive Factor variables to predict symbolic players was acceptable. Specificity of 65.2% indicated that the Supportive Factor variables were less accurate at predicting literal player group membership. The hypothesis that the Supportive Factor of the PPS would discriminate symbolic players from literal players was only partially supported.

**Hypothesis 2: That the Non-Supportive Factor of the PPS Would Discriminate the Literal Players from the Symbolic Players**

The PPS variables in the Non-Supportive Factor were PPS Literal Engagement Interactions, PPS Diminish Interactions, PPS Self-contain Interactions, PPS Direction Interactions and PPS Non-Peer Interactions. These variables of the PPS are described as actions and behaviours which reduce or eliminate pretend play, destroy another’s play or show no
understanding of the pretence of the other child. These variables were defined and described in Chapter 6 in detail.

**Group statistics.**

The group statistics in Table 8.4 show the mean and standard deviation of the PPS Non-Supportive Factor items for each group of players. PPS Diminish Interaction showed a moderate separation between means which indicated this variable has potential to be a discriminator between symbolic and literal players.

<table>
<thead>
<tr>
<th>Group</th>
<th>PPS items in the Non-Supportive Factor</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Symbolic player</td>
<td>PPS Literal Engagement</td>
<td>20.4</td>
<td>8.08</td>
</tr>
<tr>
<td></td>
<td>PPS Diminish</td>
<td>2.65</td>
<td>3.09</td>
</tr>
<tr>
<td></td>
<td>PPS Self-contain</td>
<td>25.5</td>
<td>10.52</td>
</tr>
<tr>
<td></td>
<td>PPS Direction</td>
<td>.95</td>
<td>1.90</td>
</tr>
<tr>
<td></td>
<td>PPS Non-Peer Interaction</td>
<td>22.85</td>
<td>11.25</td>
</tr>
<tr>
<td>Literal player</td>
<td>PPS Literal Engagement</td>
<td>20.73</td>
<td>11.9</td>
</tr>
<tr>
<td></td>
<td>PPS Diminish</td>
<td>4.65</td>
<td>3.71</td>
</tr>
<tr>
<td></td>
<td>PPS Self-contain</td>
<td>26.73</td>
<td>12.68</td>
</tr>
<tr>
<td></td>
<td>PPS Direction</td>
<td>1.60</td>
<td>2.35</td>
</tr>
<tr>
<td></td>
<td>PPS Non-Peer Interaction</td>
<td>22.43</td>
<td>11.9</td>
</tr>
</tbody>
</table>
The test of equality of group means indicated that there were no significant differences between the means of the groups. The variables PPS Non-Peer Interaction and PPS Literal Engagement showed no separation of group means as Wilk’s lambda is 1.000. The variable PPS Diminish Interaction was approaching significance (p = 0.64).

**Overall significance of the discriminant function.**

The PPS Non-Supportive Factor has a low eigenvalue (.134) and a canonical correlation of .34 which accounts for 11% of variability in scores between symbolic and literal players. The Wilk’s lambda statistic for Non-Supportive Factor variables was high (.882).

The structure matrix indicated that the strongest variable of discriminant function was PPS Diminish Interaction as shown in Table 8.5.

Table 8.5.

*Structure Matrix of Non-Supportive Factor Variables*

<table>
<thead>
<tr>
<th>PPS items in the Non-Supportive Factors</th>
<th>Discriminant loadings</th>
</tr>
</thead>
<tbody>
<tr>
<td>PPS Diminish</td>
<td>.81</td>
</tr>
<tr>
<td>PPS Direction</td>
<td>.43</td>
</tr>
<tr>
<td>PPS Self-contain</td>
<td>.15</td>
</tr>
<tr>
<td>PPS Non-Peer Interaction</td>
<td>-.051</td>
</tr>
<tr>
<td>PPS Literal Engagement</td>
<td>.047</td>
</tr>
</tbody>
</table>

**Classification results analysis.**

The results for the classification analysis in Table 8.6 showed that 65.1% of the original group were correctly classified, which indicated that the Non-Supportive Factor variables
were not strong predictors of literal player group membership. Sensitivity for classifying literal players was 70% and specificity was 60.9%. This indicated that these variables are slightly more likely to correctly predict literal players who are truly literal players. Overall the results did not support the hypothesis that the Non-Supportive variables of the PPS would discriminate the literal players from the symbolic players.

Table 8.6
Classification Results of Predicted Group Membership

<table>
<thead>
<tr>
<th>Original grouping</th>
<th>Predicted Group Membership based on PPS Non-Supportive Factors (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Symbolic player</td>
</tr>
<tr>
<td>Symbolic player</td>
<td>70</td>
</tr>
<tr>
<td>Literal player</td>
<td>39.1</td>
</tr>
</tbody>
</table>

*Note. Hit rate = 60.9%*

Hypothesis 3: That the Neutral Factor of the PPS Would Discriminate between Literal and Symbolic Players at a Level of Chance

The variable for Neutral Factor was PPS Maintain Interaction. This variable is described in Chapter 6 as actions which do not change the other player’s play theme or content having neither a supportive nor non-supportive effect on the other child’s play.

Group statistics and test of equality of group means.

Analysis of these results showed that there was no significant difference in the means of this variable for symbolic and literal players. Table 8.7 shows the mean and standard deviation for PPS Maintain Interaction for each group.
Table 8.7.

*Discriminative Function Analysis of PPS Neutral Factor Variables with Symbolic and Literal Players*

<table>
<thead>
<tr>
<th>Group</th>
<th>PPS items in the Neutral factor</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Symbolic player</td>
<td>PPS Maintain</td>
<td>4.15</td>
<td>5.13</td>
</tr>
<tr>
<td>Literal player</td>
<td>PPS Maintain</td>
<td>2.78</td>
<td>2.76</td>
</tr>
</tbody>
</table>

Wilks’ lambda also indicated that the Neutral Factor variable PPS Maintain Interaction showed no statistical relationship between the independent and dependent variables.

**Overall significance of the discriminant function.**

The eigenvalue for the Neutral Factor PPS Maintain Interaction was very low (.028) and the canonical correlation (.166) accounted for 2% of variability in scores between the symbolic and literal players.

**Classification results analysis.**

The classification analysis showed that the percentage of group members that had been classified correctly was 55.8% which is considered to be at the level of chance. Specificity (73.9%) was higher than sensitivity (35.0%) which indicated that the variable was better able to predict membership of the symbolic player group than the literal player group. This result supported the hypothesis that the Neutral Factor of the PPS would discriminate between literal players and symbolic players at a level of chance.
Table 8.8

Classification Results of Predicted Group Membership

<table>
<thead>
<tr>
<th>Original grouping</th>
<th>Predicted Group Membership based on PPS Non-Supportive Factors (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Symbolic player</td>
</tr>
<tr>
<td>Symbolic player</td>
<td>35</td>
</tr>
<tr>
<td>Literal player</td>
<td>26.1</td>
</tr>
</tbody>
</table>

*Note. Hit rate = 55.8%*

Hypothesis 4: That the Shared Comfortableness Factor of the PPS Would Discriminate between Literal and Symbolic Players at a Level of Chance

The variables of Shared Comfortableness Factor are PPS Communicate Interaction and PPS Self-contain Interaction. These variables are described and defined in Chapter 6 as being the behaviours and actions in the pretend play context which are concerned with being able to understand the other’s symbolism and play without having to take part in it, or moving into and out of the other’s play by mutual agreement.

Group statistics.

The group statistics shown in Table 8.9 show the mean and standard deviation of each PPS item in the Shared Comfortableness Factor for each group. The differences in the means of PPS Communicate interaction had potential as a discriminator of player group membership. The test of equality of group means indicated that PPS Communicate Interaction was significant (p=.02).
Table 8.9.

Discriminative Function Analysis of PPS Shared Comfortableness Variables with Symbolic and Literal Player Groups

Overall significance of the discriminant function.

The eigenvalue of this variable was low (.149) and the canonical correlation (.36) accounted for 12.9% of variability of scores between symbolic and literal players. Wilks’ lambda was high (.87). The structure matrix indicated that PPS Communicate Interaction is a much stronger predictor of group membership than PPS Self-contain Interactions as shown in Table 8.10.

Table 8.10

Structure Matrix of PPS Shared Comfortableness

<table>
<thead>
<tr>
<th>PPS items in the Shared Comfortableness Factors</th>
<th>Discriminant loadings</th>
</tr>
</thead>
<tbody>
<tr>
<td>PPS Communicate</td>
<td>.988</td>
</tr>
<tr>
<td>PPS Self-contain</td>
<td>.140</td>
</tr>
</tbody>
</table>
Classification results analysis.

The classification analysis revealed that a hit rate of 62.8% of the original group members were correctly classified, which is slightly above chance. Sensitivity of 70% indicated that the variables were able to predict group membership into the symbolic player group to an acceptable level, however was less able to correctly predict membership of the literal player group (see Table 8.11 for the classification results) The hypothesis that the Shared Comfortableness Factor of the PPS would discriminate between literal and symbolic players at a level of chance was supported.

Table 8.11
Classification Results of Predicted Group Membership

<table>
<thead>
<tr>
<th>Original grouping</th>
<th>Predicted Group Membership based on PPS Shared Comfortableness (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Symbolic player</td>
</tr>
<tr>
<td>Symbolic player</td>
<td>70</td>
</tr>
<tr>
<td>Literal player</td>
<td>43.5</td>
</tr>
</tbody>
</table>

Hit rate = 62.8%

Hypothesis 5: That All factors of the PPS Combined Could Predict the Group Memberships above 70%

The PPS Factors for the whole PPS included the 10 items.

The group statistics in Table 8.12 show the mean and standard deviation of each PPS item for each group. PPS Communicate interaction was the only item which had potential to discriminate between Group 1 and Group 2 as this variable had a large separation between means.
The test of equality of group means indicated that only PPS Communicate interaction showed significance (p= .02).

Table 8.12

*Discriminative Function Analysis of All PPS Variables with Symbolic and Literal Player Groups*

<table>
<thead>
<tr>
<th>Group</th>
<th>PPS variables combined</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Symbolic player</td>
<td>PPS Communicate</td>
<td>14.6</td>
<td>10.53</td>
</tr>
<tr>
<td></td>
<td>PPS Self-contain</td>
<td>25.5</td>
<td>10.52</td>
</tr>
<tr>
<td></td>
<td>PPS Symbolic Engagement</td>
<td>22.2</td>
<td>13.23</td>
</tr>
<tr>
<td></td>
<td>PPS Enrich</td>
<td>1.95</td>
<td>2.24</td>
</tr>
<tr>
<td></td>
<td>PPS Encourage</td>
<td>1.65</td>
<td>2.23</td>
</tr>
<tr>
<td></td>
<td>PPS Direction</td>
<td>.95</td>
<td>1.90</td>
</tr>
<tr>
<td></td>
<td>PPS Literal Engagement</td>
<td>20.4</td>
<td>8.08</td>
</tr>
<tr>
<td></td>
<td>PPS Diminish</td>
<td>2.65</td>
<td>3.10</td>
</tr>
<tr>
<td></td>
<td>PPS Non-Peer interaction</td>
<td>22.9</td>
<td>11.25</td>
</tr>
<tr>
<td></td>
<td>PPS Maintain</td>
<td>4.15</td>
<td>5.31</td>
</tr>
<tr>
<td>Literal player</td>
<td>PPS Communicate</td>
<td>24.5</td>
<td>15.2</td>
</tr>
<tr>
<td></td>
<td>PPS Self-contain</td>
<td>26.73</td>
<td>12.68</td>
</tr>
<tr>
<td></td>
<td>PPS Symbolic Engagement</td>
<td>25.57</td>
<td>16.43</td>
</tr>
<tr>
<td></td>
<td>PPS Enrich</td>
<td>2.39</td>
<td>2.36</td>
</tr>
<tr>
<td></td>
<td>PPS Encourage</td>
<td>1.35</td>
<td>1.75</td>
</tr>
<tr>
<td></td>
<td>PPS Direction</td>
<td>1.61</td>
<td>2.35</td>
</tr>
<tr>
<td></td>
<td>PPS Literal Engagement</td>
<td>20.73</td>
<td>11.69</td>
</tr>
<tr>
<td></td>
<td>PPS Diminish</td>
<td>4.65</td>
<td>3.71</td>
</tr>
<tr>
<td></td>
<td>PPS Non-Peer interaction</td>
<td>22.43</td>
<td>11.39</td>
</tr>
<tr>
<td></td>
<td>PPS Maintain</td>
<td>2.78</td>
<td>2.76</td>
</tr>
</tbody>
</table>
Overall significance of discriminant factors.

The eigenvalue for all PPS variables indicated poor discriminant function (.381), with a squared canonical correlation (.525) accounting for 27% of the variability in scores between Group 1 and Group 2. The Wilks’ lambda analysis was high (.724) revealing poor discrimination between the dependent and independent variables.

The structure matrix indicated the discriminant loadings for each variable, and showed that the strongest indicators of group membership predictors were PPS Communicate Interaction (.617) and PPS Diminish Interaction (.481) (see Table 8.13, for the structure matrix).

Table 8.13
Structure Matrix of All PPS Variables

<table>
<thead>
<tr>
<th>All PPS items</th>
<th>Discriminant loadings</th>
</tr>
</thead>
<tbody>
<tr>
<td>PPS Communicate</td>
<td>.617</td>
</tr>
<tr>
<td>PPS Diminish</td>
<td>.481</td>
</tr>
<tr>
<td>PPS Maintain</td>
<td>-.273</td>
</tr>
<tr>
<td>PPS Direction</td>
<td>.253</td>
</tr>
<tr>
<td>PPS Symbolic Engagement</td>
<td>.185</td>
</tr>
<tr>
<td>PPS Enrich</td>
<td>.158</td>
</tr>
<tr>
<td>PPS Encourage</td>
<td>-.126</td>
</tr>
<tr>
<td>PPS Self-contain</td>
<td>.087</td>
</tr>
<tr>
<td>PPS Non-Peer Interaction</td>
<td>-.030</td>
</tr>
<tr>
<td>PPS Literal Engagement</td>
<td>.028</td>
</tr>
</tbody>
</table>
**Classification results analysis.**

The classification analysis revealed that 76.7% of the group members had been correctly classified into membership groups. Sensitivity of 80%, indicates the ability of all the variables together to predict symbolic players as truly symbolic players, is high, that is, the players who use complex and elaborate pretend play will be correctly identified as symbolic players 80% of the time. Specificity of 73.9% also supports the variables as being able to predict literal players as belonging to the literal player group who have less complex, less elaborate pretend play. The hypothesis that all variables of the PPS combined would predict the group memberships above 70% was supported (see Table 8.14).

Table 8.14

*Classification Results of All Variables of the PPS*

<table>
<thead>
<tr>
<th>Original grouping</th>
<th>Predicted Group Membership based on all PPS variables (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>symbolic player</td>
</tr>
<tr>
<td>symbolic player</td>
<td>80.0</td>
</tr>
<tr>
<td>literal player</td>
<td>26.1</td>
</tr>
</tbody>
</table>

Note. Hit rate = 76.7%

The variables PPS Communicate Interaction and PPS Diminish Interaction were the strongest predictors of group membership in this DFA. This was consistent with the results of the analyses of the individual variables. PPS Diminish Interaction was the strongest predictor of
group membership in the DFA of the PPS Non-Supportive Factors, and PPS Communicate Interactions was the strongest predictor of group membership in the DFA for the PPS Supportive Factor. Therefore further examination of these variables was required to determine if these variables’ had potential to discriminate between the groups.

Analysis of DFA for PPS Communicate Interactions and PPS Diminish Interactions

The group statistics as shown in Table 8.15 show the mean and standard deviation for each variable of the two groups. The mean differences of PPS Communicate Interaction and PPS Diminish Interaction had large enough separation to be considered as potential predictors of group membership.

Table 8.15

<table>
<thead>
<tr>
<th>Group</th>
<th>PPS items</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Symbolic player</td>
<td>PPS Communicate</td>
<td>14.6</td>
<td>10.53</td>
</tr>
<tr>
<td></td>
<td>PPS Diminish</td>
<td>2.65</td>
<td>3.1</td>
</tr>
<tr>
<td>Literal player</td>
<td>PPS Communicate</td>
<td>24.48</td>
<td>15.2</td>
</tr>
<tr>
<td></td>
<td>PPS Diminish</td>
<td>4.65</td>
<td>3.71</td>
</tr>
</tbody>
</table>
Overall significance of the discriminant function.

The eigenvalue for these variables was .244 and the canonical correlation .443 which accounted for 19.6% of the variability in scores between the two Groups. Wilks’ lambda for these variables was .804.

The structure matrix indicated that that PPS Communicate Interaction was the stronger of the two variables as predictors however both were strong with PPS Communicate interaction being .772 and PPS Diminish Interaction at .637.

Classification of results analysis.

Table 8.16 showed that these two variables approached the cut-off for acceptable ability to predict group membership as being accurately predicted. The hit rate was 69.8%, while sensitivity was 75% ability to predict symbolic players as being accurately placed into the symbolic player group, and 65.2% for correct placement into the literal player group.

Table 8.16
Classification Results for PPS Communicate Interactions and PPS Diminish Interactions

<table>
<thead>
<tr>
<th>Original Group</th>
<th>Communicate and Diminish Interactions (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>symbolic player</td>
</tr>
<tr>
<td>Symbolic player</td>
<td>75</td>
</tr>
<tr>
<td>Literal player</td>
<td>34.8</td>
</tr>
</tbody>
</table>

*Note. Hit rate = 69.8%*
Discussion

The purpose of Study 6 was to determine the discriminative validity of the Play Partner Scale. This was done by the examination of five hypotheses, and the results indicated that three of the five hypotheses were supported.

**PPS Supportive Factor**

The first hypothesis that the Supportive Factor of the PPS would discriminate the symbolic players from the literal players was not supported.

The Supportive Factor included the PPS variables which are socially encouraging and engaging with the other player. These variables by definition show the child has an understanding of the other’s symbolism, which should be occurring by the age of three years according to Howes, Unger and Seidner (1989). In particular, the PPS variable Symbolic Engage is used to describe when a child shows they understand the symbolism and either joins in, or at least acknowledges the symbolism the other player is using in their play. This shared understanding of symbolism is the ability to de-code the other child’s non-literal actions (Howes, et al.; Youngblade & Dunn, 1995). This is the basis of social pretend play (Welsh, et al., 2000). Therefore a child who has a high frequency of PPS Symbolic Engagement interactions during 30 minutes of an I-ChIPPA play session would be frequently exhibiting those actions which define Symbolic Engagement, such as adding to and elaborating the theme of the pretend play with the other child. The study by Howes and Matheson (1992) stated that the more complex a child’s pretend play the more likely that
child was to develop social abilities and competence. Therefore it was argued that a child who had high scores in the Percentage of Elaborate Play Actions (PEPA) on the I-ChIPPA would also have high frequency of Symbolic Engagement interactions during their play with another child as they understand and carry out symbolic play in a dyadic social situation. This hypothesis was supported in Study 5.

The results indicated that the PPS items in the Supportive Factor predict just over seven out of 10 players of the original group as being classified correctly as a symbolic player (75%). This was achieved when all the items in the PPS Supportive Factor were considered. This suggests the PPS variables on the PPS Supportive Factor are more likely to identify symbolic players. This could be explained in that a symbolic player will use all the Supportive variables to varying degrees, for example will use encouraging actions; will show understanding of symbolism of the play partner through Symbolic Engagement interactions; will communicate and use direction in constructive and acceptable ways and will enrich the other’s play by extending the play, elaborating the theme and encouraging the other.

It is of interest that the three PPS Supportive variables which involve improving the symbolic nature of another’s play, that is, encouraging participation, enriching the symbolism being played out, and understanding the symbolism employed by another in play, had less strong predictive abilities than PPS Communicate and PPS Direction Interactions. PPS Communicate Interactions could be seen as essential to support social pretend play as it is the means by which the children understand each other’s symbolism, through either verbal or non-verbal communication.
PPS Direction Interactions can be supportive of play or non-supportive of play. It appears to have greater significance in the ability to discriminate between symbolic players and literal players, perhaps in the very fact that it depends on how the child directs, that is, to direct in a way that either enhances pretend play, or to decrease and diminish another’s pretend play. In the I-ChIPPA play assessment setting, children directed each other to act or play in certain ways, and this direction can be seen as imposing one’s will on another, and therefore non-supportive, or as a “good idea” and “right” by the other child, therefore supportive of symbolic play. In most instances the direction was accepted by the other child. The original action was described as Impose, but was redefined in Chapter 6, as it was recognised that this variable had both supportive and non-supportive elements which were not clearly defined previously. Further definition of this variable would be required in a clinically viable Play Partner Scale, to ensure this aspect is understood from both an Indigenous and non-Indigenous perspective.

**PPS Non-supportive Factor**

The second hypothesis that the PPS variables of the Non-Supportive Factor would be able to discriminate the literal players from the symbolic players was not supported. The Non-supportive Factor includes the variables which had the effect of reducing another child’s play, being disengaged from the other’s play, by being engaged at a literal level only, or by being self-contained, that is, content to play away from the other child. A child who had high frequency of Non-supportive behaviours showed little understanding of the other child’s symbolism in their play and did not join in that social pretend play in which this age group is involved (Welsh, et al., 2000). Children who do not have strong pretend play skills do not tend to develop strong social skills (Farmer-Dougan & Kaszuba; 1999; Gagnon & Nagle;
It was hypothesised that such a finding would be reflected for these children with low PEPA scores on the I-ChIPPA tending to have higher frequency of Non-supportive actions in the PPS. The results of the discriminant function analysis showed only PPS Diminish Interactions had the potential to be a good discriminator of literal players, through both the group statistics and the structure matrix. This variable showed the highest discriminant loading, and in the individual discriminant function analysis showed the highest ability to predict group membership. In the play situation children with high frequency counts of PPS Diminish Interactions did not show understanding of the other’s symbolism, nor engaged in behaviours which enriched or extended the other child’s play.

A variable which loaded to the Non-supportive Factor was PPS Self-contain Interactions. This variable describes the actions of a child who plays in their own play scene, without adding to the other child, but who may show some understanding of the other child’s play. This variable also loaded in the Shared Comfortableness Factor. PPS Self-contain is another variable which could be seen as non-supportive of play, a form of parallel play as described by Parten (1932), however in the observation of children in the pretend play context, this action was also seen as supportive in that the child felt comfortable to play alongside, to comment on the other’s play, and to move into and out of the other’s play. It is postulated that this form of social play is about the child being perfectly comfortable to play their alongside their peer, understanding their peer’s symbolism, but not necessarily partaking in it, but sharing it in a way that was not always verbalised. There was a “give and take” in this form of play, which seemed to be indicative of a collectivist society which allows for comfortable acceptance of each other’s play, moving in and out of the play, without disturbing the other, not even necessarily changing or adding to the play, but momentarily being part of it before going back to his/her own play scene. With the factor analysis, it was placed in both the Non-
Supportive and the Shared Comfortableness Factors. From a Western viewpoint the actions described by Self-Contain could certainly be seen as non-supportive of peer social pretend play. An Indigenous point of view would see this variable as being Shared Comfortableness, and may be a uniquely Indigenous way and view of play.

Analysis of the Neutral and Shared Comfortableness factors of the PPS

The third and fourth hypotheses were that Neutral and Shared Comfortableness Factors would discriminate between the two groups at the level of chance and these hypotheses were supported. Both of these factors include variables which neither enrich nor decrease the symbolic play of the other child in the social pretend play situation. These variables have a sense of “status quo”, that is the play of the other remains “as is”, without change of theme, or without loss of pretence, or impact upon the other child’s play scenario and theme. PPS Self-contain forms the basis of the concept of Shared Comfortableness.

PPS Maintain includes those actions of one player that show no desire on that child’s behalf to change or extend the play of the other, performing actions which just keep the play as it is, and showing little or no sign that they want to increase the pretence complexity or quality. Players who have high frequencies of PPS Maintain behaviours could be either symbolic players or literal players as they are not exhibiting within the pretend play session actions which either diminish or extinguish the other’s play, nor do they extend, enhance or increase the complexity of the social pretend play of the other child. This is supported by the individual discriminant function analyses results however, PPS Maintain was able to accurately predict literal players as belonging to the literal player group at 73.9%. This supports the proposition that literal players are more likely to maintain play, rather than to
actively change the play of the other child whereas symbolic players act in some way to engage with the symbolism in the other child’s play.

PPS Communicate Interactions is included in the Shared Comfortableness Factor and was shown to be a stronger predictor of group membership than PPS Self-Contain. The Shared Comfortableness Factor has a stronger sensitivity to predicting symbolic player membership at 70%, rather than at the level of chance for literal players. As previously discussed PPS Communicate is a Supportive Factor in the PPS, and in pretend play situations PPS Communicate interactions can enhance social play, but this variable is also part of the aspect of Shared Comfortableness. It is postulated that the non-verbal, gestural and culturally ingrained communication, which could be described as an innate understanding between children of the same culture, is part of the Shared Comfortableness that is observed during the play session. Observations of these actions, such as a short glance with a raised eyebrow, a finger flick, or a smile between one child and the other which suggested understanding of the other’s actions, themes and play scenario, were recorded as frequencies of communication, as well as an action of PPS Self-Contain. Therefore these two variables easily sit together and statistically load as the factor Shared Comfortableness.

**Analysis of Combined Factors of the PPS as discriminators of Symbolic and Literal players**

The fifth hypothesis that all factors combined could predict the group memberships above 70% was supported. The results indicate that when the four factors are combined there is a 76.7% chance of the player being accurately placed in the correct group. Furthermore, there is an 80% chance that the factors together will predict 80% of symbolic players are truly
symbolic players, and 73.9% of literal players will be correctly identified as belonging to the literal player group. These results indicate that the PPS is a stronger predictor of group membership when all the factors are used in assessing a child’s social pretend play capabilities.

PPS Communicate and PPS Diminish are the two strongest predictors of group membership of all 10 variables. PPS Diminish Interactions has a strong influence of non-support, however PPS Communicate Interactions is much more difficult to understand in terms of its influence. Human Communication is a complex skill as “it is the process of exchanging information and ideas” (Anderson & Shames, 2011, p.19), and requires complex skills in encoding, and decoding, transmitting perceiving and solving distorted messages. The PPS definition of the actions regarded as communication included verbal, non-verbal and gestural communications and probably simplified what is a complex and multi-faceted process into a singular process. The outcome of the application of this definition in the social pretend play context is that this item requires further examination, as it is probably not well enough defined for clinical application. The verb is almost a “meta-variable” in that it has more than one clearly defined aspect to it, and should be redefined to separate the verbal communication from the non-verbal communication, such as gestures and nods or glances, and from physical communication for example, touching to get attention of the other. Each of these forms of communication could be scored separately for frequency as they convey different aspects of communication. Because they have all been included as one item the frequencies of these actions in a play session are high and therefore may have produced the appearance of being the strongest predictor of group membership. Further examination of the PPS items and their definitions is required to refine the PPS for clinical applicability.
Summation, Limitations and Recommendations

The PPS was found to have acceptable levels of discrimination between symbolic and literal players. However it was a better predictor of symbolic players belonging to the symbolic player group, than discriminating children who were literal players. Any discussion of the discriminative validity of the PPS must take into account that the children were grouped according to how their raw PEPA combined scores compared to the PEPA Combined standard scores of the ChIPPA. Therefore it could be argued that dividing the sample into groups based on a set of standard scores from the ChIPPA, caused the discriminant function analysis to be compromised. The standard scores were not developed with an Indigenous population and therefore may not be relevant or reliable for an Indigenous group of children.

Notwithstanding this limitation, it can be concluded that the PPS has acceptable discriminative validity. The PPS through correlational studies described in Chapter 7 and discriminant function analysis has been shown to have relationship to the I-ChIPPA in assessing different aspects of social play. The PPS reflects more subtle nuances of social pretend play than either the PIPPS or the I-ChIPPA. It does not reflect the quality of pretend play as does the I-ChIPPA, but it does give some insight into the flexibility of Indigenous children’s play, their ability to comfortably share play space and toys, and the acceptance of each other’s rights as part of a collectivist society. The PPS item Communicate has been discussed as being a stronger predictor of group membership and has been shown to support social pretend play, and has an important role in Shared Comfortableness. The ability to communicate verbally is important in educational settings as well as social settings. Social play is seen to be important in the development of language (Smilansky, 1990; Vygotsky, 1976) and studies by Lyytinen, Laakso, Poikkeus and Rita (1999), Lyytinen, Poikkeus,
Laakso, Ekland and Lyytinen, 2001) and Stagnitti and Jellie (2006) have shown that pretend play is also important in developing language skills. In Chapter 9 the relationship between the I-ChIPPA scores and PPS scores of Indigenous children, and their oral language abilities will be examined and discussed.
CHAPTER 9

The Relationship between Pretend Play, Social Pretend Play, Language and Literacy of Children in Rural and Remote Western Australian Indigenous Communities

“Reading to us is what we read in the land – read the tracks, we know where the tracks are going. This is something you take for granted, reading the language, footprints, what made the track.” (Fleer & Williams-Kennedy, 2002, p41)

Introduction

In Chapter 2 language development and its relationship to social play and pretend play was reviewed. This review provided insight into the disparity in the quantity of research supporting the links between these three factors in non-Indigenous communities compared to Indigenous communities. There is almost no literature on the link between Indigenous children’s play and their literacy and language development, and yet oral language is recognised as a significant part of Indigenous culture in Australia and a means by which Indigenous people have identified themselves (Miller, Webster, Knight, & Comino, 2013). Literacy is a social process whereby children interact with others in their culture and language groups, and through this process will develop their own understanding of the meaning of words, and the social contexts and meaning of reading and writing (Neuman & Dickinson, 2002; Snow, 1998). The children learn through imitation, observation of and listening to adults, and practicing the language and literacy skills within their context through interaction in social exchanges (Booth, Croll, Davis, Lewis & Stock, 2007). This process of literacy acquisition is also influenced by the child’s context of family language and culture,
and their ethnic group (Neuman & Dickinson; Snow). Barton and Hamilton (2000, p. 13) stated that Indigenous acquisition of literacy is something that “is realised in social relationships”. In this chapter the relationship of play, language and social skills are reviewed, and Study 7 which explored the relationship between language, social pretend play and pretend play with Indigenous children in the Pilbara is presented.

The Relationship Between Play, Language and Social Skills

Early language and literacy are learned primarily in socially specific situations which hold meaning for the child, that is, the daily home life and social settings of the child (Bochner & Jones, 2003; Reid & Comber, 2002). This view comes from a social constructivist paradigm, which postulates that a child learns by being an active participant in their world engaged in social exchanges, acquiring a shared system of symbols which allow for communication to take place with others (Bochner & Jones; Reid & Comber). While Booth et al. (2007, p. 3) stated that “parents, other familiar adults and teachers help children to learn to talk, read and write by spending time with them, providing them with opportunities to listen, watch, imitate and practice appropriate literacy skills”, for the Indigenous Australian child these learning opportunities also take place in the context of multi-age social play settings, as described in Chapter 2. Pellegrini and Galda (1993) reported that peer directed pretend play was effective in facilitating a child’s story comprehension and story production. Social literacy requires adequate communication skills, both verbal and non-verbal, and the ability to decode the other person’s symbols.

Language is enhanced by the many opportunities provided through pretend play and social play in particular (Lewis, 2003; McCune-Nicolich, 1981; Stagnitti & Jellie, 2004). Pretend
play and language require the ability to use symbolic representation (Christie & Roskos, 2009). In the social peer play situation the child uses symbolic representation to develop a play theme, and with either verbal or non-verbal language shares that theme of pretence with another child. Each child has to be able to understand the symbolism, and through participation in social peer pretend play the child is afforded the opportunity to develop these skills further. The role of social relationships where children play together supports the notion that these relationships are linked to literacy development, of which oral language, including narrative, is one part (Pellegrini, Galda, Bartini, & Charak, 1998).

Narrative language is one aspect of oral language assessment. Narrative ability is the ability of a child to use language to tell a story; to be able to logically sequence the story; to be aware of the listener and their need for information by using explicit, descriptive language; to use appropriate connectors, and to self-correct language to enhance the richness of the story (Williams & Sinclair, 1998). As narrative ability develops from the age of 2 years in a predictable though individual progression, it is able to be assessed (Anderson & Shames, 2011).

Chapters 6 to 8 investigated the relationship between the quality of pretend play of a sample of Indigenous children and their social interaction while playing. It was concluded that for Indigenous children there is evidence to support the hypothesis that children who are considered symbolic players are also more skilful in their social interactions with another child within a pretend play context. Their play was flexible and collectivist in nature.

Uren and Stagnitti (2008) reported that children with high scores in pretend play were more likely to be socially competent, and have higher levels of language development including
more cohesive language (Pellegrini & Galda, 1993), expressive language (Lewis, Boucher, Lupton & Watson, 2000) and increased quantities of language (Jellie, 2007). The sample groups of these studies did not include Australian Indigenous children and therefore generalisation to this population may be inaccurate.

This chapter will focus on the relationship between play quality of a sample of Indigenous children, as measured by the I-ChIPPA, the social interaction skills of these children, as measured by the PPS, and the spontaneous and non-spontaneous language skills of these children who live in a remote Western Australian setting. A conclusion will be drawn as to whether investigating the relationship of these three instruments can infer construct validity of the I-ChIPPA and PPS.

Study 7: Exploring the Links between Social Pretend Play and Language in a Sample of Australian Indigenous Children

The purpose of this study was to test the construct validity of inferring language development from a child’s pretend and social play ability by investigating the relationship between pretend play, social interactions and language abilities using the I-ChIPPA, the PPS and the Time for “talk” oral language assessment.

Aims of Study 7.

The aim of this study was to explore the links between social pretend play and language. There were four aims and four hypotheses which were:
Aim 1: To explore the relationship between quality of pretend play with language and narrative ability for Indigenous Australian children.

Hypothesis 1: There will be a significant and positive correlation between the I-ChIPPA raw scores and the Tft language profile and narrative scores.

Aim 2: To explore the relationship between spontaneous language during pretend play and language and narrative re-tell of Indigenous children.

Hypothesis 2: There will be a significant and positive correlation between the language scores of children’s talk during the I-ChIPPA and the Tft narrative production profile.

Aim 3. To explore the relationship between spontaneous language production and social interactions during pretend play.

Hypothesis 3: There will be a significant and positive correlation between the spontaneous narrative scores of children’s talk during the I-ChIPPA and the PPS scores.

Aim 4. To explore the relationship between social interactions and elicited language and narrative re-tell.

Hypothesis 4: There will be significant and positive correlation between the PPS ratings and the Tft narrative production scores.
Participants

The sample of children was the same as described in Chapters 5 to 8 (n=43). In this study (Study 7) there were 35 children in the sample (n=35). Seven children were absent from school at the time of testing for the Time for “talk” oral language assessment and one child was not included due to elective mutism. The sample consisted of 17 females and 18 males. The mean age was 6.5 years with a standard deviation of 0.98 years.

Instruments

The instruments used in this study were the I-ChIPPA with the PPS which were described in Chapter 6 and 7 and the Time for “talk” oral language assessment. Transcriptions were made from the videos of the children’s I-ChIPPA of the spontaneous narrative of children during the I-ChIPPA pretend play sessions. This data were also analysed in this study.

I-ChIPPA and PPS.

The administration and scoring of the I-ChIPPA including the PPS have been described in Chapter 6 and 7. The raw scores of the I-ChIPPA and PPS were used in statistical analysis.

Time for “talk” assessment of oral language.

There are very few oral language assessments developed for use specifically with Australian Indigenous children (Booth et al, 2013; Gould 2008). Gould (2008) claimed assessments have not been designed for children who speak Aboriginal English, Creole (Kriol), or for the speakers of Indigenous languages. The most appropriate assessment considered for this study.
was the Time for "talk" (Tft) oral language sampling and profile tool, developed in Western Australia (Williams & Sinclair, 1998).

The Time for "talk" oral language assessment was developed to identify key oral language competencies of children, including those from culturally and linguistically diverse backgrounds, and in the Kindergarten to Year 3 school system (that is, aged approximately 4 to 8 years). Time for "talk" was also developed to profile and monitor the language abilities of children who are developing Standard Australian English. Standard Australian English (SAE) is defined by The Australian Curriculum, Assessment and Reporting Authority (ACARA) (2009) as:

the variety of spoken and written English language in Australia used in more formal settings such as for official or public purposes, and recorded in dictionaries, style guides and grammars. While it is always dynamic and evolving, it is recognised as the 'common language' of Australians.

Of the oral language assessments available at the time of this study, Time for "talk" was the most culturally appropriate for Indigenous Australian children as some of the children in this study sample spoke Australian Indigenous languages in their homes (Williams & Sinclair, 1998). Administrators of the Tft assessment are instructed to "strongly encourage the use of Standard Australian English and acknowledge the value of the home language" (which includes Aboriginal English) (Williams & Sinclair). Aboriginal English is considered a Creole (Kriol) and is a non-standard dialect of Australian English (Gould, 2008). Aboriginal English is used by many Indigenous Australians, and it differs from Standard Australian
English in phonology, syntax, lexico-pragmatics (meaning of words) and pragmatics and may incorporate words from Indigenous languages (Eades, 1996).

The Tft assessment contains one set of Australian Indigenous-specific narrative stimulus pictures, which were developed for an urban Indigenous population. The “football story” stimulus cards were designed to be based on appropriate and familiar activities and events in an Indigenous family which would encourage narrative production and facilitate oral comprehension. These stimulus cards were selected for use with the sample of children in the Pilbara region as the children of the Pilbara were familiar with the events and situations in the football story stimulus cards.

A study investigating the importance of culturally sensitive assessments of comprehension and narrative production of urban Australian Indigenous children used the Time for “talk” assessment, and found that “Aboriginal children received higher measures of productivity (total number of words, different words, utterances and mean length of utterances) and higher comprehension scores when the culturally adjusted football stimulus was used” (Goerke, 2012, p. 2). Goerke’s study supported the use of the Time for “talk” assessment as the most appropriate language assessment with the Indigenous children of the Pilbara region.

The Time for “talk” (Tft) tool has no reported psychometric properties. The instrument is administered by teachers of the child through either direct assessment in a one to one session, and by observation and knowledge of the child during a school term. The assessment consists of two components, The Oral Language Sampling Tasks (narrative production and comprehension) and The Oral Language Profile. The former uses a set of stimulus pictures which allow for assessment of oral comprehension and narrative production. In the Tft,
“Narrative refers to the production of a fictional or factual account of a temporarily sequenced experience or event” (Goerke, 2012. p. 4). Assessment of narrative skills is reported to have high content validity because narratives are naturally a part of everyday life in home and school contexts and are reliable predictors of literacy and academic performance (Lofranco, Pena, & Bedore, 2006; Peña et al., 2006; Roth 2002). These factors supported the use of the Tft in assessing oral comprehension and narrative production.

The Tft Oral Language Profile.

The Oral Language Profile was developed to identify and track the key language competencies of Indigenous children in Kindergarten to Year 3 which the child uses during the assessment and during in-school time (Williams & Sinclair, 1998, p. vii). The Oral Language Profile consists of four sections:

1. Social Communication (SC) which evaluates the child’s ability to: use words for social purposes; join in social discourse; initiate and maintain conversations; negotiate and discuss topics, and outline procedures and appropriately use non-verbal social communication to identify and use appropriate speaking and listening conventions in different contexts;

2. Comprehension (C) which evaluates the child’s ability to: carry out instructions; use appropriate questions to gain information; use questioning to expand or add to a topic and make predictions and inferences based on material presented;

3. Content and Organisation (CO) which evaluates the child’s ability to: present information on a topic to others; include key information in story telling; show understanding of cause and effect relationships and how to orient the listener to the narrative and its
sequence; and plan recounts, reports and descriptions identifying the main ideas for the listener.

4. Linguistic Structures (LS) which evaluates the child’s ability to: use intelligible speech including using voice to emphasise meaning; use a range of vocabulary and connecting words; use a range of descriptors and experimentation with language to entertain and include the listener.

Each of these four sections (SC, C, CO, and LS) has a number of sub-sections, that is, key competencies and each of these key competencies has descriptor phrases which allows the child’s language sample to be rated as Phase 1: Emergent; Phase 2: Early Developing; and Phase 3: Developing. There is no numeric score attributed to the Oral Language Profile, the score is indicated by a tick on the profile bar below each sub-section of the four sections as shown in Table 9.1. (Refer to Appendix U for the full score sheet of the Time for ‘talk’ assessment).

The assessor compares the student’s language abilities to descriptors provided in the score sheet and rates them using a profiling bar indicating their level of performance for each of the subsections. This provides the assessor with a language profile on a “mini-continuum to track students’ performance across the K-3 years” (Williams & Sinclair, p. 12). Each child’s language sample was transcribed and was evaluated against the descriptors of language levels in the Oral Language Profile and their ability was noted on the profile bar corresponding to Phase 1: Emergent, Phase 2: Early Developing and Phase 3: Developing.
Table 9.2

*Sample of the Time for ‘talk’ Oral Language Profile Score Sheet*

<table>
<thead>
<tr>
<th>Comprehension (C)</th>
<th>Phase 1: Emergent</th>
<th>Phase 2: Early Developing</th>
<th>Phase 3: Developing</th>
</tr>
</thead>
<tbody>
<tr>
<td>C1 Requires direct modelling or explanation of classroom routines and procedures</td>
<td>C1 Listens attentively and uses inferencing skills to work out requirements of simple instructions</td>
<td>C1 Able to carry out instructions related to unfamiliar material or tasks utilising verbal information alone</td>
<td></td>
</tr>
<tr>
<td>C2 Ignores contextual clues or uses inappropriate strategies to attempt response. e.g., Makes incorrect guesses from context, makes random guess.</td>
<td>C2 Indicates non-specific ways when something is not understood e.g., requests repeat, asks general question</td>
<td>C2 Monitors the information provided by the speaker and uses specific questions to elicit new information or further explanation</td>
<td></td>
</tr>
</tbody>
</table>

Note: Table adapted from Williams & Sinclair (1998) Appendix 11.

*The Oral Language Sampling Tasks.*

The Oral Language Sampling Task is video recorded to enable accurate verbatim transcription for narrative analysis. Hierarchical prompt questions are used to elicit language in the assessment situation and the answers noted. The answers to the “prompt questions” from the first administration of the stimulus pictures allow the assessor to complete a comprehension profile for the child. The assessor records the number of responses at Phase 1 level, Phase 2 and Phase 3 levels by comparing the child’s responses to brief example responses in the instruction manual. The total number of each phase is summed and the assessor then notes the most frequent phase, which becomes the child’s Comprehension level (C4). The assessor determines, according to these examples, what phase the child is operating
at in oral comprehension. There are 10 questions; each question is assigned a phase and a total score for each phase is then calculated (see Table 9.2).

Table 9.3

*Example of Tft Oral Comprehension Task Profile Score Sheet*

<table>
<thead>
<tr>
<th>Level of response</th>
<th>Number of responses (tally)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phase 1 Emergent</td>
<td>1</td>
</tr>
<tr>
<td>Phase 2 Early Developing</td>
<td>6</td>
</tr>
<tr>
<td>Phase 3 Developing</td>
<td>3</td>
</tr>
</tbody>
</table>

**COMPREHENSION LEVEL**

Phase 2 Early Developing

*Note: Table adapted from Williams & Sinclair (1998).*

The level is determined to be the Phase with the highest number of responses, in this example Phase 2. The level is then placed on the Comprehension section of the Oral Language Profile, as in Table 9.3.

Table 9.4

*Record of Comprehension Level*

<table>
<thead>
<tr>
<th>Phase 1: Emergent</th>
<th>Phase 2: Early Developing</th>
<th>Phase 3: Developing</th>
</tr>
</thead>
<tbody>
<tr>
<td>C4 May respond appropriately to concrete, literal questions, but experiences difficulty making predictions and inferences</td>
<td>C4 Responses to questions are relevant and demonstrate the ability to make simple predictions and inferences directly based on information presented</td>
<td>C4 Draws on general world knowledge to interpret information, going beyond presented information to own predictions and inferences</td>
</tr>
</tbody>
</table>

*Note: Table adapted from Williams & Sinclair (1998).*
The child is then presented with the stimulus cards a second time and asked to tell the story in their own words. The narrative produced is scored against a set of examples provided in the Tft manual to allow the assessor to evaluate the Phase to which the child’s language should be assigned.

**Scoring of Time for ‘talk” oral language profile in Study 7.**

For this study an ordinal score was calculated for the Oral Language Profile using three of the four sections. The Social Communication section was excluded from the calculation as the Social Communication profile requires the child to be observed over a period of time and within the classroom and playground setting. This could not be completed from one observation where the child was alone with an assessor. Not including this section did not impact on the overall results of the Tft because each competency item can be scored separately. Each of the other sections was reviewed to ascertain if all competency items of each section could be used for the calculation of the Oral Language Profile. In the Comprehension section only item C4 was used. Item C4 evaluates the child’s ability to respond to questions and to relate to make predictions and inferences from the materials presented. The other items in this section were deemed inappropriate as they related to evaluating a child’s abilities in classroom and group situations which was not relevant to the one-on-one assessment situation. In the section Content and Organisation one competency item was removed as it was considered inappropriate for similar reasons and in the section Linguistic Structures all competency items were deemed appropriate and were used in the scoring. The number of competency items on which a child was scored was seven.
For this study, the child was assessed on the Oral Language Profile from the video recording, and a tick was placed on the profile bar of the selected competency items on each section. An ordinal score was attributed to the three phases, that is Emergent was given the score of 1, Early Developing was given the score of 2, and Developing was given the score of 3 (see Table 9.4). The maximum score attainable was 21. The lowest score attainable was 7 out of 21.

Table 9.5

*Example of Scoring of the Tfi Oral Language Profile Competencies Using Ordinal Scores*

<table>
<thead>
<tr>
<th>Linguistic Structures (LS)</th>
<th>Phase 1: Emergent</th>
<th>Phase 2: Early Developing</th>
<th>Phase 3: Developing</th>
</tr>
</thead>
<tbody>
<tr>
<td>LS 1 Is not fully intelligible with errors in sounds</td>
<td>LS 1 Uses audible, intelligible speech</td>
<td>LS 1 In presentation situations experiments with the use of voice to entertain audience or emphasise meaning</td>
<td></td>
</tr>
<tr>
<td>LS 2 Uses a limited range of simple sentence types; errors with articles (a, the), auxiliaries (is, have), pronouns (me/I), and word endings (ing, ed, s) are common</td>
<td>LS 2 Uses well-formed grammatically correct sentences, e.g. statements, commands, questions.</td>
<td>LS Uses a wider range of connectors e.g. if, while, although, unless, in case</td>
<td></td>
</tr>
</tbody>
</table>

Note: Table adapted from Williams & Sinclair (1998) Appendix 11.
Procedure

In Study 7 the language assessment was carried out within one month of the play assessment. As in Studies 4 to 6, the children were recruited through their school with the assistance of the Aboriginal and Islander Education Officers. The children were invited to the play assessment (that is, the I-ChIPPA and PPS) and language assessment. As children came to the play assessment in pairs, children either completed the language assessment immediately after the play assessment or on another day. To complete the Tft assessment, children attended the assessment sessions individually in either a quiet room or a room with other activities occurring at the same time, but in a space away from that activity. The child sat at a desk with the stimulus pictures placed on the desk. The child was informed he/she would be doing some story-telling. The child was informed he/she would be videoed and shown the camera. The child’s assent was sought before the assessment continued.

The assessor went through the oral comprehension task using the pictures as a guide. No notes were taken during the assessment by the assessor. The guideline for administration of the hierarchical prompts was followed by the assessor to ensure reliability. When the four pictures had been viewed by the child and all questions answered, the child was informed that they could now tell the story and use the pictures to help them to tell the story. The child controlled the pace, content and quantity of narrative production, finishing when they felt they had completed the story.
**Data Analysis**

The spontaneous language of the child during the I-ChIPPA session was transcribed from the 30 minute video recordings of the I-ChIPPA assessment. The duration of the Time for “talk” narrative production transcripts varied from 1 minute 2 seconds to 6 minutes 25 seconds, depending on the child. To enable comparison of the Tft and I-ChIPPA transcripts, each component of the analysis had to be described in terms of “per minute”, for example, utterances per minute, different word roots per minute. The transcripts of both the spontaneous language on the I-ChIPPA and the Tft were then coded for analysis through the Systematic Analysis of Language Transcripts (SALT) software program (Miller, Andriacchi & Nockerts, 2011).

The coded transcripts were analysed through SALT and the following components were selected as the most useful data:

- Total number of utterances.
- Number of complete words.
- Number of different word roots.
- Number of one-word utterances.
- Percentage of one word utterances.
- Number of spontaneous utterances.
- Percentage of spontaneous utterances.
- Brown’s stages of language development.

Brown’s stages of syntactic and morphological development indicate the developmental hierarchy of expressive language development (Brown, 1973). The structure and the rules of language can be measured and as such are then placed into hierarchical levels or stages from I
to V+ which are related to age ranges. For example, a child at Brown’s Stage 1 would be
developmentally 15 to 30 months of age and typically possess a 50-60 word vocabulary with
two-to-four-word sentences such as “push the truck”, or “Dolly is on bed”. A child in
Brown’s stage V is typically 42-52+ months old, and speaks with complex grammar and uses
rules of language such as “Are they swimming now?” and “We’re going on a holiday
tomorrow.” A child would be expected to display the same stage of development regardless
of context.

Statistical analysis.

Analysis of the data was performed using SPSS 21.0 (SPSS Inc, 2012). The data for each
hypothesis were analysed using Pearson’s product-moment correlation. Pearson’s correlation
is an established method of determining construct validity as the correlation reflects the
degree of communality between the constructs of the assessments (Messick, 1990). When
using Pearson’s product-moment correlation the relationship that is being explored is a linear
relationship between the two quantitative variables (Messick).

Results

Aim 1: To Explore the Relationship Between Quality of Pretend Play with Language
and Narrative Ability.

Hypothesis 1: There will be a significant and positive correlation between the I-
ChIPPA raw scores and the Tfl language profile score and narrative scores.
The Pearson’s product-moment correlation indicated that there was no significant correlation between the I-ChIPPA raw scores and the Tft Oral Language Profile total score (see Table 9.5). The strength of the relationship was also low.

Table 9.5

*Correlation Matrix of I-ChIPPA Scores and Tft Total Language Scores*

<table>
<thead>
<tr>
<th></th>
<th>I-ChIPPA NOS Combined raw score</th>
<th>I-ChIPPA NIA Combined raw score</th>
<th>I-ChIPPA PEPA Combined Raw score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tft total oral Language score</td>
<td>.174</td>
<td>-.110</td>
<td>-.025</td>
</tr>
</tbody>
</table>

A Pearson’s product-moment correlation was carried out with the I-ChIPPA raw scores and the Tft Narrative Production scores to determine if there was a positive and significant relationship. There were significant moderate correlations between the I-ChIPPA NOS combined raw score and three of the Tft narrative scores. All other correlations were not significant. The hypothesis was partially supported with the I-ChIPPA NOS combined score being significantly related to Tft narrative production scores (see Table 9.6).

Table 9.6

*Correlation Matrix of I-ChIPPA Raw Scores and Tft Narrative Production Scores*

<table>
<thead>
<tr>
<th></th>
<th>I-ChIPPA NOS Combined raw score</th>
<th>I-ChIPPA NIA Combined raw score</th>
<th>I-ChIPPA PEPA Combined Raw score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tft different word roots per minute</td>
<td>.346*</td>
<td>-.096</td>
<td>.147</td>
</tr>
<tr>
<td>Tft spontaneous utterances per minute</td>
<td>.336*</td>
<td>-.114</td>
<td>.241</td>
</tr>
<tr>
<td>Tft percentage of spontaneous utterances</td>
<td>.414*</td>
<td>.084</td>
<td>.291</td>
</tr>
</tbody>
</table>

*Note: *p < 0.05
Aim 2: To Explore the Relationship Between Spontaneous Language During Pretend Play and Elicited Language and Narrative Retell.

Hypothesis 2: There will be a significant positive correlation between the I-ChIPPA language scores and the Tft narrative production profile.

The Pearson’s product-moment correlation indicated that there were significant negative moderate correlations between two of the I-ChIPPA language scores and five of the Tft narrative production scores. There were significant positive moderate relationships between the five Tft narrative production scores and the I-ChIPPA Brown’s stage scores. All other correlations were not significant (see Table 9.7). The hypothesis was partially supported.

Table 9.7

<table>
<thead>
<tr>
<th>Tft Narrative Production Scores</th>
<th>I-ChIPPA one word utterances per minute</th>
<th>I-ChIPPA percentage one-word utterances</th>
<th>I-ChIPPA Brown’s stages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tft complete words per minute</td>
<td>-.351*</td>
<td>.435**</td>
<td></td>
</tr>
<tr>
<td>Tft different word roots per minute</td>
<td>-.397*</td>
<td>.433**</td>
<td></td>
</tr>
<tr>
<td>Tft percentage one-word utterances</td>
<td>-.449**</td>
<td>.350*</td>
<td></td>
</tr>
<tr>
<td>Tft Brown’s stages</td>
<td>-.391*</td>
<td>-.407*</td>
<td>.350*</td>
</tr>
<tr>
<td>Tft percentage spontaneous utterances</td>
<td>-.423*</td>
<td>.408*</td>
<td></td>
</tr>
</tbody>
</table>

Note. * p <0.05; ** p < 0.01
Aim 3: To Explore the Relationship Between Spontaneous Language Production and Social Interactions During Pretend Play.

Hypothesis 3. There will be a significant and positive correlation between the spontaneous narrative scores of children’s talk during the I-ChIPPA and the PPS scores.

The Pearson’s product moment correlation showed there were significant moderate positive correlations between six of the PPS items and all except one of the I-ChIPPA language scores. These results indicate that children who were interacting socially during play with their peer also used language. The results also indicate that children who are interacting with Non-Peers also used language. Children who use Maintain interactions in social pretend play, that is keep the play at status quo, also exhibited less spontaneous language production and had lower levels of development of language according to the I-ChIPPA Brown’s stages score. It was also found that children who were directing others in play used language (see Table 9.8, for the correlation matrix between the PPS and the I-ChIPPA). The hypothesis was supported.
Table 9.8

*The Correlation Matrix Between the PPS Items and the I-ChIPPA Spontaneous Language Scores*

<table>
<thead>
<tr>
<th></th>
<th>PPS Enrich</th>
<th>PPS Communicate</th>
<th>PPS Direction</th>
<th>PPS Diminish</th>
<th>PPS Non-Peer interaction</th>
<th>PPS Maintain</th>
</tr>
</thead>
<tbody>
<tr>
<td>I-ChIPPA total</td>
<td>.426*</td>
<td>.345**</td>
<td>.364*</td>
<td>.466**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>utterances per minute</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I-ChIPPA complete</td>
<td>.428*</td>
<td>.435**</td>
<td></td>
<td>.596***</td>
<td></td>
<td></td>
</tr>
<tr>
<td>words per minute</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I-ChIPPA different</td>
<td>.470**</td>
<td></td>
<td>.392**</td>
<td>.578***</td>
<td></td>
<td></td>
</tr>
<tr>
<td>word roots per minute</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I-ChIPPA one word</td>
<td>.421*</td>
<td></td>
<td>.368*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>utterances per minute</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I-ChIPPA Brown’s</td>
<td></td>
<td></td>
<td></td>
<td>.458**</td>
<td>-.412</td>
<td></td>
</tr>
<tr>
<td>stages</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I-ChIPPA spontaneous</td>
<td>.357</td>
<td>.433</td>
<td>.367</td>
<td>.351</td>
<td>.476**</td>
<td></td>
</tr>
<tr>
<td>utterances per minute</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I-ChIPPA percentage</td>
<td>.390</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>-.609***</td>
</tr>
<tr>
<td>spontaneous utterances</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Note. *p < 0.05; **p < 0.01; ***p < 0.001*
Aim 4: To Explore the Relationship Between Social Interactions and Tft Language and Narrative Re-tell.

*Hypothesis 4:* There will be significant and positive correlation between the PPS scores and the Tft narrative production scores.

The Pearson’s product-moment correlation showed there were significant moderate positive relationships between three of the PPS items and five of the Tft narrative production scores. This indicated that the more children were engaged in social interaction with their peer in play encouraging, enriching and symbolically enriching the play the more they used language. When children were not engaged socially with their peer but interacting with the non-peer (that is, the assessor), narrative production went down. The results indicated children who use social play actions which maintain the play “as it is” produce less narrative language (see Table 9.9 for the correlation matrix between the PPS and Tft). The hypothesis was supported.
Table 9.9

**Correlation Matrix of the PPS Social Interaction Items and the Tft Narrative Production Scores**

<table>
<thead>
<tr>
<th></th>
<th>PPS symbolic engage</th>
<th>PPS enrich</th>
<th>PPS encourage</th>
<th>PPS Non-Peer interaction</th>
<th>PPS Maintain</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tft total utterances per minute</td>
<td>.472 *</td>
<td></td>
<td></td>
<td>- .409 **</td>
<td></td>
</tr>
<tr>
<td>Tft different word roots per minute</td>
<td>.343 *</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tft one word utterances per minute</td>
<td>.396 *</td>
<td>.337 *</td>
<td></td>
<td>- .450 **</td>
<td></td>
</tr>
<tr>
<td>Tft percentage of one word utterances per minute</td>
<td>.434 **</td>
<td></td>
<td></td>
<td></td>
<td>- .376 *</td>
</tr>
<tr>
<td>Tft spontaneous utterances per minute</td>
<td>.401 *</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Note* *p* < 0.05; **p** < 0.01; ***p*** < 0.001
Observations

In the individual testing situation of the Time for “talk” assessment, many of the children sat silently and required prompting to commence their re-tell. Approximately 50% of the children asked if they should start and had to be asked if they had finished. Three of the 35 children commenced without requiring prompting to start and these were all female children. One female student did not want to have the questions asked before the narrative and was able to produce two lengthy narratives without prompting. Three students exhibited the use of humour in their narratives. All except four children in the test situation used quiet voices, and used little emotion when telling their stories.

Thirty four of the children used Standard Australian English or Aboriginal English throughout the Tft assessment. In the Tft only one child used any Indigenous language words. This student used Australian Indigenous language nouns to identify the animals in the story, for example, bungarra, which in English is a large goanna. In the I-ChIPPA sessions some students used some Australian Indigenous language words, such as showing an animal to the assessor and describing the animal with the Indigenous name. The children were aware that the assessor did not speak any Indigenous languages and appeared to enjoy “teaching” the assessor in this way. In four of the pairs of children in the I-ChIPPA children used Indigenous languages with each other, and in one pair there was extensive use of Indigenous language including singing.

Some children during the I-ChIPPA did not speak or used very little oral language during the play session. They appeared absorbed in their own play or appeared to be content to watch their partner's play but not to interject. Many of the children used subtle non-verbal
communication such as a nod of the head, or a gesture to ask for a particular toy. Two children appeared to choose not to talk when their partner dominated the play and became too directive. One child chose to converse only with the assessor during the I-ChIPPA. This child also had low scores on the I-ChIPPA.

In the I-ChIPPA sessions most children exhibited excitement and enthusiasm with the toys and identified the toys by name, asked a question of the assessor or their partner and began to play with toys within the first five minutes. A number of children stopped playing to re-count their own experiences for which the toys or the play situation had acted as a prompt, for example, one student re-counted to the assessor a story of going diving for fish with her father, three others told of experiences of camping, hunting and cooking kangaroo, two boys related stories to do with their uncles’ farms and a number related stories about their family pets. This linking to real-life experiences occurred only once in the Time for “talk” assessment.

Discussion

The Relationship Between the Quality of Pretend Play and Narrative Ability

Stagnitti and Jellie (2004) stated that children’s pretend play ability can be used as an indication of a child’s language potential. This postulate is based on many studies which support the concept that both play and language are reliant on the ability to use symbolic representation (for example, Lewis, 2003; McCune, 1995; McCune-Nicolich, 1981; Ungerer & Sigman, 1984). There was significant moderate relationship between a child’s ability to use symbols in play (as assessed by the NOS combined) and their narrative language ability.
This relationship between symbols in the play and narrative language is an important finding and supports previous research which has found that symbols in play is important for language (for example, Lewis et al, 2000; Lewis, Boucher & Astell, 1992; McCune 2008; Rescorla & Groosens, 1992). Examples of object substitutions in the I-ChIPPA session which the children performed were using the blue doll as a waterfall, or the wrench for a gate in the fence. Smith and Jones (2011, p. 1144) stated that object substitutions in pretend play are linked to early language development, and that the absence of object substitution in pretend play is a “diagnostic marker of significant language delay”. The I-ChIPPA NOS combined scores have a significant moderate relationship with the Tft different word roots per minute, spontaneous utterances per minute and the percentage of spontaneous utterances produced by a child during the Tft assessment. Smith and Jones (2011) cited studies which support the relationship between higher levels of object substitution and more words in their vocabulary (for example, Pereira & Smith, 2009) and this can be related to the number of different word roots that a child uses in their narrative. The results suggested that a child who has greater abilities to substitute objects and mentally represent objects will have a larger vocabulary and therefore will be more confident to use language without being prompted. The studies cited were conducted with non-Indigenous Australian children, and therefore it is an important finding that the results of this study of the pretend play and language of Indigenous Australian children are similar.

While quality of pretend play, as indicated by NOS scores and narrative ability had relationship, there was no similar association between the quality of pretend play and language as measured by the Tft language scores. This result indicated that language ability could not be inferred from a child’s pretend play scores. Clinical observations indicated the children spoke more, had longer and more involved conversations and related more stories
The Relationship Between Spontaneous Narrative and Elicited Narrative Abilities

The hypothesis that there would be a significant and positive correlation between the spontaneous narrative scores of children’s language during the I-ChIPPA and the PPS scores was partially supported by the results. The most interesting result was the relationship between the Brown’s stages of language development in both data sets.

The two narrative data sets (that is, the language during the I-ChIPPA and the Tft narrative components) showed significant moderate positive correlations between the I-ChIPPA Brown’s stages of language development and four of the Tft narrative components (see Table 9.7). This indicated that children’s level of development in spontaneous narrative (according to Brown) is related to their narrative production. In examining the Brown’s stages scores for each data set, 21 of the 35 children scored at a lower level of development of morphological and syntactical ability during the I-ChIPPA pretend play session than in the Tft session. The I-ChIPPA Brown’s stages showed that 21 of the children performed at one to three stages below that of the level they achieved in the Tft assessment. This outcome was consistent with studies by Ripich and Griffith (1988) and Schnieder and Dubé (2005) who found that “narrative re-tells have been shown to contain more information and incorporate a greater number of episodes than productions of spontaneous narratives” (Heilman, Miller & Nockerts, 2010, p. 606). This was in contrast to Masterson and Kahmi (1991) who stated that
picture support during story telling may yield shorter sentences and lower verbal fluency than in other contexts. A study by Peterson and Spencer (2012) stated that children produce substantially different language in naturalistic contexts than that produced in a setting using visual cues, and that children who are able to produce quality re-tell with pictures can also produce quality narrative without cues. The results of the correlation (see Table 9.7) indicate the hypothesis was partially supported and therefore it is not conclusive as to why 60% of the children assessed had lower Brown’s stages of development in the more naturalistic setting of the I-ChIPPA than the TtT context.

The Relationship Between Social Pretend Play and Narrative.

Stagnitti, O’Connor and Sheppard (2012, p. 302) described play as being a “powerful medium for developing skills” which includes language and understanding narrative. These authors showed that improving children’s ability to pretend play was associated with increased language and social skills. The current study found that the same relationships can be attributed to the pretend play abilities and social play skills and language development of Indigenous Western Australian children. A child with higher scores in play ability as assessed by the I-ChIPPA was more likely to achieve higher level language development on the TtT, and score more highly on the PPS was supported by the results.

The results of the study indicated that children when engaged in social interaction in pretend play use language, and also use language with non-peers such as the adult assessor. In relation to social pretend play and language used during pretend play, there was a significant negative correlation between PPS Maintain and the percentage of spontaneous utterances made during play (see Table 9.8). This suggested that children who tended to keep the status
quo of the social interaction, that is did not engage in enhancing and enriching play interactions, would have less spontaneous language. Children who take a directive role in the play session, instructing others on how to play or what to play with also use language including spontaneous language, that is language not prompted by the other person or in response to a question. The result also indicated that PPS Diminish Interactions, that is actions which decrease the play partner’s pretence, had a moderate positive correlation to one word utterances during pretend play. This indicated that as the social pretend play decreases the use of one-word responses increase, and therefore decreases the amount of complex and enriching social communication taking place in the pretend play session. A child who is diminishing another’s play is less likely to be engaged in engaging conversation about their play.

Children’s social peer play was positively related to their Tft scores when interacting with peers, whereas it was negatively correlated when interacting with non-peers. This result appears to contradict the results of Hypothesis 3 which was that there will be a significant and positive correlation between the spontaneous narrative scores of children’s talk during the I-ChIPPA and the PPS scores. The Tft scores used in the analysis relate to a one-on-one testing situation, therefore while the child may have enriching and communicative social skills, these were not exhibited in the test situation. In an adult-directed testing context the children would not have perceived this to be an appropriate context for social communication as context is a determinant of the mode and amount of communication for Indigenous children (Gould, 2005). During the I-ChIPPA session the adult assessor was non-directive, and did not question the children, unless invited into the conversation or play by the children. The context did not appear to be a test situation to the children, and was perceived as an adult providing a play opportunity.
Indigenous Cultural Influences on the Results of the Assessment of Language in Two Assessment Contexts

It has been stated in this chapter that 60% of the children assessed in this study appeared to achieve a lower level of language development in the pretend play context than in the Tft assessment as measured on Brown’s stages of development. Further analysis for this result suggests that there are cultural influences which have an influence on the results of the assessments. These influences pertain to the administration and context of the assessments with Indigenous Australian children.

The Tft is not a narrative re-tell per se rather it is a narrative production from a wordless stimulus preceded by questions which indicate the child has comprehended the story from the pictures. It could be considered a variation of the narrative re-tell. The child was asked to tell the story for themselves after they had been guided through the stimulus pictures by the assessor using questioning pertaining to the stimulus pictures. The narrative in the I-ChIPPA sessions was a spontaneous narrative as it was not prompted by the assessor, and was a child-generated narrative in the naturalistic setting of playing with another child. Gould (2005) stated that data from assessments are influenced by the contexts in which the assessment is performed. She also stated that context for Indigenous Australians is very influential to determine what they say, how they express it, and to whom they address their speech (Gould). Therefore the context of a formal test situation versus a naturalistic play situation as in the I-ChIPPA play session may have important influences on the results gathered.

During the I-ChIPPA, the assessor was often invited into the conversation or was asked questions by the children, whereas in the Tft the adult asked the questions and the child produced an answer about the picture stimulus. Questioning in Aboriginal cultures is often
seen as intimidatory (Dudgeon, Garvey & Pickett, 2000; Gould 2008). Studies by Eades (1991) and Moses and Yallop (2008) cited in Goerke (2010) indicated that Aboriginal children are familiar with direct questioning and know that an answer is expected when questioned, yet they are still reticent in the classroom and school settings to reply. Ungennmurr (cited in Fleer & Williams-Kennedy, 2002, p. 9) highlighted this as “A special quality, a unique gift of the Aboriginal people, is an inner deep listening and quiet still awareness. …..In our Aboriginal way we learnt to listen from our earliest times….We are not worried by silence”.

Observations made in the Tft sessions noted this reticent behaviour by most of the children. The non-Indigenous assessor however prompted the children in the Tft who appeared reticent to speak to enable assessment of their language and narrative capabilities, and they frequently replied with one or two word answers.

Brown’s levels of development were calculated through the SALT analysis of both the I-ChIPPA and the Tft. The levels of development were determined by the number of words, the length of utterances, the morphology and syntax produced in the language being used in both settings. It did not take into account non-verbal communication. Revision of the video recordings showed different behaviours by some of the 21 children who scored at a higher level on Brown’s levels of development in the Tft compared to the same measure on the I-ChIPPA. Some of the children appeared to have received higher scores on the Tft because the Tft requires the child to answer the questions as it is a test situation. The children understand from school experience that this is an adult-directed test requiring them to perform. The children may therefore have felt compelled to respond in some way.
In this study the children received some prompting to produce narratives and in part this may be due to the non-Indigenous assessor being uncomfortable with silence. Indigenous Australians are very comfortable with silence (Gould 2008). Therefore the assessor encouraged the children to make some statement about the pictures. Indigenous Australian children are reluctant to appear to be failing, and will answer to alleviate the feeling of failing (Gould 2008). This is linked to ‘shame’ which is the sense of not knowing what is the right thing to do in a situation (Harkins, 1990), and this may be heightened by a novel situation (Sharifian, 2005). Therefore the child may have answered with simple one or word answers, when they would have preferred to remain silent. The result in the study could have been inflated by the prompting and direction of the assessor.

Gould (2008) stated that Australian Indigenous children need motivating, meaningful tasks such as play in which they can participate naturally and within the context of their Indigenous culture to perform at their best. In this way the child can choose how and when to speak, with whom according to relationship and kinship, what language style to use, for example Standard Australian English, Australian English or their own language, and to also use silence and non-verbal communication (Gould 2008). The I-ChIPPA allows freedom for the children as it is child-initiated, in a familiar environment of play in a cubby-house with another child, and with familiar toys, and is meaningful and purposeful to the child. The I-ChIPPA allows the child to perform in the way they would with peers in play, not in what they perceive as a test. However it is this freedom to remain silent and use non-verbal communication, such as quick glances, silently putting out a hand for an object or toy, taking a toy without asking, or building a scene with another child without having to discuss the scene or theme, which leads to difficulties with analysing the narrative and oral language. The silent child might communicate very effectively with non-verbal communication
however this is not recorded in the data. A child may also just choose to be in a situation of shared comfortableness, that is playing silently alongside the other child, with little interaction but enjoying the other child’s story, and this is also not able to be recorded in the data of the oral language and narrative assessment. The I-ChIPPA SALT scores, including the Brown’s level of development, would be affected by this unique way for many Australian Indigenous children to interact with each other in play. The Brown’s stages would suggest the child who uses little or no language in the play setting as being at a lower level of language development however their non-verbal and social communication may be appropriate to the context. The discussion of the cultural influence on the assessment of Indigenous Australian children relates to the construct validity of assessments.

Construct Validity of the I-ChIPPA and PPS

“Construct validity refers to the ability of an instrument to measure an abstract concept, or construct” (Portney & Watkins, 2009, p 105) and allows degrees of inference to be made legitimately to claim a measure is actually measuring what is purports to measure. The construct is a theoretical abstraction, in the case of this study, one theoretical construct is play quality relates to language ability, in other words, that it can be inferred that children who score highly on the I-ChIPPA for play quality are more likely to score highly on the Tft language assessment.

The results in Hypothesis 1 supported that narrative proficiency on the Tft could be inferred from the object substitution scores of the I-ChIPPA. The correlations ranged from .35 to .41 which indicated a moderate positive relationship (Portney & Watkins, 2000). A moderate correlation is more desirable in validity studies as this indicates that the two assessments are
not measuring an identical ability (Streiner & Norman, 1998). In construct validity studies, a confounding problem is that the theory supporting the measure and the assessment are being examined at the same time (Streiner & Norman, 1998). In the literature there is evidence that object substitution is related to language (Smith & Jones, 2011; Westby, 2000) and a moderate positive relationship between object substitution ability and narrative proficiency was confirmed for a sample of Australian Indigenous children. This is important because while there is evidence of this relationship for non-Indigenous children (Smith & Jones), no evidence of similar studies had been found for Australian Indigenous children.

It could not be demonstrated that children with high scores for pretend play on the I-ChIPPA would be likely to have high levels of language development, other than narrative. Streiner and Norman (2008) suggested that this could be due to: (a) the instruments being used being appropriate however the theory of the study being wrong; (b) the theory being appropriate but the instruments not being appropriate or inadequate; or, (c) the theory and the instruments are being inappropriate. In this case, the results could be due to the language of the children in the study. However, it was the most culturally appropriate oral language assessment at the time of the study.

Pellegrini, Galda, Bartini, & Charak, (1998) stated that through social play children develop oral language, narrative and literacy skills. Their findings were supported by other researchers for example, Lewis (2003) and McCune-Nicolich (1981). This suggests that a child who engages in social peer play would have good language skills. This theoretical construct was examined in Hypothesis 3 and Hypothesis 4. Hypothesis 3 examined the relationship between the language used during pretend play and the social interactions exhibited in pretend play. Children’s scores in social peer interaction were positively
moderately correlated with their talking during pretend play. Children whose language was
more complete and with more different words were those children who were socially engaged
in enriching, communicative and directive social play. The results also indicated that children
who were engaging socially with non-peers, that is, primarily the assessor during pretend
play, were also using language. Hypothesis 4 was a moderately positive and significant
relationship would be found between peer social interaction and narrative production. This
was supported. This is an important finding as research has shown that this relationship is
evident for non-Indigenous children, and this study indicates that the relationship between
peer social interaction and narrative production exists for Australian Indigenous children also.

The I-ChIPPA is a newly developed instrument and this is the first study on its construct
validity. Construct validity should be ascertained through an accumulation of evidence from
numerous studies (Brown, 2000; Sechrest, 2005; Streiner & Norman, 2008). Further studies
are required to determine construct validity of the I-ChIPPA and the PPS.

**Limitations**

In four of the I-ChIPPA sessions one child was overpowered by the more dominant play
partner and this had the effect of reducing the language of one child in each pair and may not
have been representative of the less dominant child’s oral language abilities. This behaviour
could also relate to aspects not known to the assessor such as the child’s personality, or the
kinship relationship of the two Aboriginal children which may impact on their relating to one
another. The age of the child and who they partnered in play are aspects of the Indigenous
culture which was explained by members of the focus groups (see Chapter 5). This aspect of
Indigenous culture may have also been a factor which affected language production in the play setting.

The length of the transcripts in either the I-ChIPPA session or the Tft varied. Heilmann, Nockerts and Miller (2010) stated that in any analysis of a transcript of language there must be a minimum of 50 utterances made to achieve a valid and reliable measure of the child’s semantic and syntactic skills. Eight children in the I-ChIPPA session and 23 children in the Tft session did not achieve this minimum number of utterances therefore their scores may not be a reliable measure of their language skills and should be interpreted with caution. However there is no agreement in the literature of the most appropriate sample length to elicit reliable analysis of language in young children. Heilmann et al. concluded that length of transcript sample is of less consequence than the function of the sampling context, the child’s interests and the age of the child. Heilmann et al. found that the younger children aged 2.8 to 5.11 years were less able to maintain a topic and narrative discourse over longer periods than the older children in the study aged 6.0 to 13.1 years. Younger children’s language is rapidly changing and prone to more variations than that of older children and may make testing less reliable (Heilmann, et al.). The ages of the children in Study 7 ranged from 4.1 to 7.11 years and therefore the findings of Heilmann et al. may have some relevance to the testing described in Study 7.

The administration of the Tft requires that in the narrative production section of the assessment the assessor does not prompt the child unless the child is unable to start or continue. This procedure was not strictly adhered to and could have enhanced the children’s abilities in the Tft. The video recordings of the children showed that the assessor frequently prompted the child when they appeared reluctant to tell the story from the picture stimuli.
Peña et al. (2006) stated that increased amounts of support in narrative re-tell situations, including scaffolding and prompting, enhanced the children’s oral narrative production, and therefore, in this study, may have inflated the child’s narrative production in the Tft. The assessor coming from a Western context could have assumed the child did not know the answer or did not want to answer, or did not have the language and narrative skills required of the task (Gould, 2008).

**Conclusion**

The results of Study 7 provide support the relationship between pretend play, social pretend play and language. The research for non-Indigenous children indicates that a child with good social interaction skills and quality of pretend play will be more likely to use more language in pretend play and this study shows that the relationship is the same for Australian Indigenous children. The implications of these findings will be discussed in Chapter 10.
CHAPTER 10

DISCUSSION AND CONCLUSION

Ritual grew up in sacred play; poetry was born in play and nourished on play; music and
dancing were pure play.... We have to conclude, therefore, that civilization is, in its earliest
phases, played. It does not come from play...it arises in and as play, and never leaves it.
(Johan Huizinga, Dutch historian 1872–1945)

Overview

The research outlined in this thesis emanated from the concern of occupational therapists in
Western Australia that there were no culturally appropriate assessments for Indigenous
Australian children. The practice of using assessments which have been developed outside of
Australia, and for populations that do not include Indigenous people, is widespread.
However, therapists recognise that these assessments may be inaccurate or inappropriate for
the Indigenous population, and may even be considered offensive by Indigenous people
because Indigenous children are often placed into a deficit model and consequently they are
over-represented in children requiring intervention (Thorley & Lim, 2010).

Occupational therapists measure children’s performance in their major occupations such as
play (Bundy, 2005; Case-Smith, 2005; Parham & Primeau, 1997). The Child-Initiated
Pretend Play Assessment (ChIPPA) (Stagnitti, 2007) was developed in Australia but there
were no Indigenous children in the development samples. Even though it has reported
reliability and validity these results could not be related to a population which was not
represented in the sample. The need for a culturally appropriate play assessment has resulted
in the development of the I-CHIPPA and the Play Partner Scale. This chapter concludes this
thesis, discussing the key findings across the studies that addressed the research question. This is followed by a deeper interpretation of Shared Comfortableness and play in a collective society. Finally the limitations of the studies are identified, and recommendations are made for future research.

Summary of Key Findings

As there were seven studies involved in the research in this thesis, a summary of the key findings is provided before a more in-depth interpretation of findings is put forward. This research is the first to adapt an existing pretend play assessment to be culturally appropriate for Western Australian Indigenous children which included a social peer play scale congruent with the pretend play assessment. It is also the first study to examine the links between pretend play, social play and language in Indigenous Australian children. In the process of developing culturally appropriate assessments, insight was gained into the play behaviours of Indigenous Australian children aged 4 to 7 years 11 months. There are four main outcomes from the studies. Points 1 and 2 refer to the summary of key findings and points 3 and 4 refer to a deeper interpretation and implications of what was found.

The four outcomes are:

1. The development of a culturally appropriate pretend play assessment,

2. The development of a culturally appropriate peer social play scale congruent with the pretend play assessment (the I-ChIPPA),

3. An insight into the pretend play of contemporary Indigenous Australian children in Western Australia: Collectivism, Shared Symbolic Meaning and Shared Social Comfortableness.
4. The relationship between pretend play, social peer play and language in the Western Australian Indigenous context.

1. The development of a culturally appropriate pretend play assessment: The I-ChIPPA.

The toy sets of the I-ChIPPA were more appropriate to the Indigenous population of the Pilbara region of Western Australia than the original toy sets of the ChIPPA. The toy sets of the culturally appropriate pretend play assessment, the I-ChIPPA, are now referred to as the Pilbara toy set. Consultation through focus groups with members of the Indigenous communities was essential for the final selection of toy sets to be culturally appropriate.

The importance of the consultation with the community members was highlighted when the focus groups from a coastal Pilbara region advised that sea animals such as fish, sharks and turtles be included in the toy set that had previously been developed in consultation with inland Pilbara community members. They explained that the children spent time fishing and hunting for turtles and that the children’s play would be enhanced by the inclusion of these traditionally hunted animals. The members voiced the opinion that the children would “play better with what they know”. The clinical observations supported this opinion as the children interacted with greater enthusiasm with the Pilbara toy set than the original ChIPPA toy set.

Statistical evidence, clinical observations and the feedback from the community supported the Pilbara toy set as culturally appropriate for the Western Australian Indigenous children in rural and remote regions. The inclusion of natural materials, such as sand, wooden sticks and pebbles, was included following consultation with the community members in the focus
groups. EickelcAMP’S (2007) study into sand play indicated that sand is an important component of play in Australian Indigenous society. Members of the focus group agreed that Indigenous people feel they have strong links to the physical environment, and it is culturally important for them to use natural materials for everyday life, ceremonial and spiritual life, and for passing on knowledge and culture to the younger generation (Yeo, 2003). The use of natural materials from the local environment was considered appropriate and is familiar to the children as a play object.

The clinical observations made during the pretend play assessments showed high frequency of use of the sand, both in functional play actions and also in pretence. The children who had low I-ChIPPA PEPA and NOS raw scores used the sand only in functional play actions, for example digging or repetitively pouring it from hand to hand or through the cardboard cone. These children did not engage symbolically with the material, whereas the symbolic players who has higher scores on the I-ChIPPA PEPA and NOS used the sand to represent gold, water, the sea, food, pepper, and flooring for a house. Parten (1933) in her study of toy preferences in pre-school non-Indigenous American children aged 2 to 4 years 6 months, stated that preference for sand play decreased as the child approached 4 years and older. Clinical observations during the I-ChIPPA session were in contrast to her finding as children aged 7 years 11 months engaged with the sand as enthusiastically as the younger children. During the I-ChIPPA children used a greater amount of their Indigenous languages and used the non-conventional toys such as the dowel stick and tin to perform songs and “ceremony” type actions, which they had experienced within their community. Their pretence reflected their cultural heritage and knowledge and further strengthens the Pilbara toys as culturally appropriate.
The results of Study 1 established cultural appropriateness of the I-ChIPPA toy sets, however a second aspect to cultural appropriateness emerged in consultation with the members of the community and gave rise to Study 2. This aspect concerned the administration of the play assessment. Consultation with community members required the assessment be administered with two children participating in the play session together. This request reflects the literature on Indigenous play, in that Indigenous children tend to play in multi-age groups, (Dudgeon et al., 2000; Haagen, 1994; Hamilton, 1981) and therefore a play assessment should include two children. The effect of two children in the assessment session meant that the play of each child in the dyad could be impacted by each other and therefore the social interaction occurring had to be taken into account. The Play Partner Scale was developed from the requirement to meet this need.

2. The Play Partner Scale: An integral part of the I-ChIPPA.

The Play Partner Scale (PPS) was developed to be an integral part of the I-ChIPPA. The I-ChIPPA indicated the quality of pretend play, however did not address the character or the frequency of social interactions within the play assessment session. The development of a measure of peer social play focussed on recording social interactions from the video recordings of the toy selection study (Study 1). The social peer play assessment had to be culturally appropriate otherwise the assessment would fail the population for whom it was developed.

The development of the social peer assessment was called the Play Partner Scale (PPS) and was based on the description of the social interactions taking place within the pretend play context. These descriptions of the social interactions were based on social interaction verbs.
To ensure that the verbs were also culturally unbiased, and did not place a pejorative perception on the action being described, the focus group members were invited to comment on the meanings and perceptions conveyed by the verbs. The outcome of the focus group consultation reinforced the aspect of there being a strong desire not to use positive and negative as descriptors of behaviours. The community members felt that their children’s behaviours should be seen as “just a behaviour” rather than giving it some value judgement which could be misconstrued by non-Indigenous assessors. Another study was carried out with a larger sample of children and the statistical analyses reported in Chapters 6 and 7 reduced the number of social interaction verbs from 120 to 10, and the factor analysis loaded these 10 verbs into four factors: Supportive Factors, Non-Supportive Factors, Neutral Factors and Shared Comfortableness Factors.

The concurrent validity of the PPS was determined using the Penn Interactive Play Scale (PIPPS) (McWayne et al., 2002) and the results showed that the PPS does not measure the same aspects of peer social play that the PIPPS measures. The PPS measures nuances of peer social play that the PIPPS does not. The PPS is focussed on the interactions of one child with another rather than the bigger picture of the PIPPS and its focus on the child’s ability to join groups, or handle conflict in groups of players.

The discriminative validity of the PPS was examined and it was found that the PPS is a stronger indicator of group membership (76.7%) when all four factors of the PPS are used in assessing social pretend play capabilities. The examination of concurrent validity and discriminant validity have established that the PPS as an integral part of the I-ChIPPA and has the potential to give a more comprehensive view of an Indigenous child’s ability in pretend play in a social situation. The PPS has the potential to measure a child’s flexibility in
pretend play, their capacity to share and show give and take, the capacity to share toys and space, to work together, to problem solve with another, to positively instruct the other player, to communicate and to show the attributes expected culturally of a person living in a collectivist culture. These traits of collectivist cultures are explained in the next section.

3. Collectivism, shared symbolic meaning and Shared Social Comfortableness.

“Collectivism” and “individualism” are terms which have been attributed to value systems used in cultural groups. This dichotomy of collectivism and individualism come from a Western philosophy (Tamis-LeMonda et al., 2008; Triandis, 1995) to describe differing cultural values and how they play out in the lives of people in different cultural groups. Social scientists and anthropologists have used the term “collectivist” to describe cultures or communities which highly value relationship and community-mindedness, and the term “individualistic” to describe those cultural groups which emphasise individualism, independence and autonomy-orientation (Markus & Kitayama, 1991). It is acknowledged that the collectivist-individualist paradigm is simplistic in view of the increasing influences on traditional cultures, such as globalisation and technology. However the terms are still used to differentiate the values of cultural groups which influence the development and goals of people in a particular group (Tamis-LeMonda et al., 2008). The predominant characteristics of a collectivist culture are: (a) connectedness and relationship to family and others in the group; (b) being part of the larger group and assisting that group rather than self; and (c) respect and obedience to others in the group (Tamis-LeMonda, et al.). The characteristics of collectivist societies include feelings of closeness to family, loyalty, obligation to family, seeing oneself as an extension of the group, sharing, emphasising the good of the larger group.
over self, and preventing dissent and facilitating harmony in the group (Tamis-LeMonda, et al.).

The Indigenous Australian culture is a collectivist culture (Dudgeon, et al., 2000) where “they are more likely to think of themselves in terms of their affiliation with other people and their community” (Yeo, 2003, p. 297). Indigenous people emphasise interdependence, spiritual connectedness, sharing in the community, assisting each other, having relationship and kinship which have “associated obligations and mutually supportive responsibilities” (Yeo, p. 294). These characteristics are evident in the rural and remote communities such as those in the Pilbara. Individual attributes have less importance and meaning to Indigenous people than the “local descent group” which is the group to which they belong and from which they derive meaning, relationship and the order of their place in community, country and in spiritual matters (Yeo).

Parents and caregivers in Indigenous communities pass on these values to all children in the community, through the close relationship with all community members. For example, a child is taught not to express negative thoughts about an older person or someone considered more knowledgeable as this is disrespectful (Yeo, 2003). Indigenous children are taught to share belongings for the good of the community. The Indigenous Australian concept of being a socially symbolic person is to show the qualities of caring, sharing, giving-back to community, working for the community, respecting the Elders and others in their local group (Yeo, 2003). In this way the child knows they are part of the community, understands their roles, and knows their responsibilities, knows how to behave, and develops their identity as an Indigenous person.
When children play they act out the values and cultures in which they have grown up (Frost, Wortham & Reifel, 2012; Hughes, 1995; Roopnarine, Johnson & Hooper, 1994; Schwartzman, 1978). Gray (2009) contended that play is the factor which enabled collectivism to develop in traditional hunter-gatherer societies such as that of the Indigenous Australians over millennia. The need to survive in often harsh conditions was dependent upon the members of the group being able to subjugate the natural desire for dominance and aggression and to be able to share, cooperate, and “satisfy the needs and wishes of each member” (Gray, p. 485). Play and humour were not trivial or childish diversions from work and the responsibilities of life, play infused all aspects of life, to ensure survival of all members of the group (Gray, p. 479). Each member of the group was seen as having equal worth in the group regardless of their ability, and each person had autonomy but this carried the responsibility of caring for the whole group’s well-being (Gray). Trust, sharing, lack of ownership, lack of pride, lack of a sense of superiority, lack of praising and rewarding were all valuable characteristics which ensured the survival of the society (Gray). Gray argued that in hunter-gatherer societies this developed through play behaviours, as social play involves rules, sharing, resisting natural urges of domination and self-indulgence which would have led to destruction of the societal group. Social play however created bonds, closeness and the sharing of identity (Gray). Important social and practical skills were gained in the process of playing, such as sensitivity to others and an understanding of relationship (Gray). In this way, the hunter-gatherer groups became a collectivist culture exhibiting the characteristics of collectivism previously described. While the majority of Indigenous population of Australia is no longer hunter-gatherers, collectivist characteristics are part of the cultural heritage (Gray).
The collectivist cultural context of Indigenous Australian children is reflected in their play. This was evident from analysis of the social play behaviours of the children in the sample group, and the concepts of Shared Social Comfortableness and Shared Symbolic Meaning. Both of these concepts grew out of the analysis of the children’s social interaction during the development of the PPS. Shared Symbolic Meaning between two players was observed and noted from the clinical observations made during the pretend play sessions. Shared Social Comfortableness evolved from the factor analysis of the Play Partner Scale. Shared Social Comfortableness and Shared Symbolic Meaning are linked to the collectivist culture of the Indigenous Australian children.

The PPS Shared Comfortableness factor is arguably the most interesting factor as it describes social interaction behaviours in play that appear to be unique to Indigenous Australian children’s play. Shared Comfortableness included the two social verbs Self-contain and Communicate. Self-contain is a verb that is used to describe the behaviours of children who in a dyad choose to set up a play scene away from the other child but within a proximal zone of communication and interaction. That is, they are close enough to the other child that they can interact if they wish, or hear and watch the other child but not actively engage with the other child until they choose. They may decide to set up a similar scene or set up something very different. While this appears in a Western perspective to be an example of Parten’s (1932) parallel play, it has some characteristics which set it apart.

Parten (1932, p. 250) described parallel play as being independent play “which brings him [the child] among other children.” This type of play is where the child uses similar toys to the other children without having any influence on their play, being next to the others but not having any contact with the other, paying no attention to “the comings or goings of the
others” (Parten, p. 250) and being absorbed in their own activities. In contrast, for the Indigenous children taking part in the studies described in this thesis, PPS Self-contain was play where one child sat alongside another player’s play, and may not have become part of the other’s play, and where the child’s play may have been left and come back to with ease. It recognised the play as being developed by one child, acknowledged by the other player but separate from the other. At that point it was non-interactive play but had the sense of Shared Social Comfortableness where the other player was content with the situation not feeling compelled to join in a common play scene.

What is notable in this type of play is that there is a shared understanding of this type of play that allows each player to be separate, and yet together in understanding the play situation. Also there is no adverse reaction to one child wanting to play this way, there is no adverse reaction to one child coming and taking a toy for their play scene, there is often only very subtle non-verbal communication to indicate that each child understands the other’s purpose and symbolism. This type of play includes PPS Communicate where one child will use gesture and non-verbal communication to show acceptance of the other’s play and may occasionally use verbal communication or infrequently move to the other’s play scene to watch, or to take a toy, generally without asking, and return to their own play. There is a sense of harmony in the play as each child has the same collectivist cultural frame of reference from which they are operating. That is, each player has no need to question, or assert influence on or to compete with the other. There is the sense that the play scenes do not belong to a particular child. There appears to be a shared symbolic meaning which both players comprehend, accept and of which they do not feel compelled to be physically a part of until they choose to do so.
An example of this shared symbolic meaning is where two children set up a common pretend play scene, such as a farm scene, then each moves away into their own space and sets up a play scene of their own. This is the Self-contain aspect of social interaction. They are then engaged in Non-Peer play however at any time they can come back to playing together in the scene, and again move away either one at a time or together to separately go back to their own play scenes. These children are demonstrating a collectivist view of play and toys, neither owns the toys, each can use the toys, take the toys, replace the toys, and share each other’s play concepts. There is no ownership of the theme, the scene or the toys within the scene. Figure 10.1 illustrates the dynamic nature of this social peer play and its links to shared symbolic meaning.
Figure 10.1. Shared Symbolic Meaning in Social Peer Play.
The concept of shared symbolic meaning in relation to symbolic and literal players.

A symbolic player according to the I-ChIPPA is one who has a high score for PEPA, uses object substitutions (symbols) in play, and who does not require imitation to initiate and maintain play. A symbolic player is flexible and adaptable and uses object substitutions within their pretend play which indicates problem solving and representational abilities. A symbolic social player according to the PPS would be a child who exhibits the Supportive Factor and Shared Social Comfortableness Factor interaction abilities. Such a child would show frequent Symbolic Engagement, Communicate, Enrich, Encourage, and Direction Interactions, all of which enrich and enhance social play. They would also show Self-contain behaviours. It is the combination of these attributes which indicate a child is a symbolic social pretend player and is at ease with the dynamic nature of moving between a shared play scene and a solitary play scene within close proximity of another child. Figure 10.2 illustrates the shared symbolic meaning with two symbolic players.
**CHILD A Attributes:**
- high PEPA scores
- high NOS scores
- Frequent PPS Self-contain and Communicate interactions
- Frequent actions of PPS
  - Symbolic Engagement
  - Enrich
  - Encourage
  - Communicate
  - Direction

**CHILD B Attributes:**
- high PEPA scores
- high NOS scores
- Frequent PPS Self-contain and Communicate interactions
- Frequent actions of PPS
  - Symbolic Engagement
  - Enrich
  - Encourage
  - Communicate
  - Direction

**Figure 10.2.** Shared Symbolic Meaning with Two Symbolic Players
As well as a symbolic social player, a literal player was also observed during the development of the I-ChIPPA and PPS. A literal player will not score so highly on PEPA, exhibit more imitative play actions and less object substitutions, will show more functional play and may even be destructive. A literal player may exhibit frequent non-play behaviours such as wandering aimlessly in the play scene, or examining/exploring a toy for lengthy periods (Stagnitti, 2007). Their play does not develop into a narrative, or have an elaborate theme. When there are dyads of players which consist of one symbolic and one literal player, or two literal players, it was observed there was little or no shared symbolic meaning in the social play situation. In these instances there was a “shared literal meaning”. For example, the a symbolic player and a literal players may set up a common play scene, however the literal player will not grasp and share the symbolic meaning of the play scene and will therefore show more Self-contain play, and will no longer enter the common play scene and interact with the symbolic player. There may be Literal Engagement interaction taking place, not shared Symbolic Engagement.

When there are two literal players there could be a shared literal meaning, for example, “we are setting up these toys in a row, or in a square” or “let’s put all the cows together”, but there is no longer a shared symbolic meaning, which is that coming together with understanding of each other’s pretence and intentions for the scene, working on it together then removing themselves to play in their own scene again. In this situation the shared meaning is purely literal if the meaning exists at all. The literal players will have lower PEPA scores, lower NOS scores and higher frequencies of PPS Non-Supportive Factor interactions such as Literal Engagement, Diminish, Self-contain Direction and Non-Peer Interactions. They may also have higher frequencies of Maintain actions and lower frequencies of Communicate interactions. The Non-Supportive interactions do not encourage and enrich pretend play with
another and the play remains functional, and more likely to be Parten’s parallel type play with no interest in the other child and their play.

Figure 10.3 illustrates the effect on Shared Symbolic Meaning of having one or two literal players in the dyad.
Figure 10.3. The Effect of Two Literal Players on Shared Symbolic Meaning
Through the development of the I-ChIPPA and PPS, it was shown that the social pretend play of Indigenous children is complex, imaginative, flexible and joyful which is a far cry from many early anthropological opinions of Indigenous children’s play being joyless, amusements for the development of adult skills (Haagen, 1994). Indigenous children in rural and remote regions play collectively compared to their non-Indigenous counterparts, with symbolic players playing in pairs showing high levels of complexity and flexibility with the sharing/joining in play, and then separately playing while showing shared symbolic meaning, and then sharing/joining again. Indigenous children’s social peer play inherently reflects the complexity of Indigenous social relationships in their culture.

4. The relationship between pretend play, social peer play and language in the Western Australian Indigenous context.

The final study, Study 7, is the first study to examine the relationship between pretend play, social peer play and language in Indigenous Australian children. A positive and significant relationship between pretend play ability, social interaction skills and narrative language ability was found. The results also indicated that children who used more object substitutions in their pretend play showed greater use of different words (vocabulary) and more spontaneous language during pretend play. The most outstanding feature was that the children used more fluent, complex, and expressive language when in the naturalistic setting of the I-ChIPPA compared to the test-like situation of the formal language assessment. The test situation was adult directed, probing, and facilitated by a non-Indigenous person, and the children appeared to feel they were compelled to think of an answer such as they have to when in school. The findings in this study have implications for the language assessment of Indigenous children and will be discussed later in this chapter.
Limitations of the Study

As with all studies, this research is not without its limitations. Firstly, the small sample size needs to be considered. While the focus of the study was on rural and remote Indigenous children and their pretend and social peer play, the very nature of conducting research in rural and remote regions of Western Australia was problematic. The Indigenous culture is not time-bound as is the non-Indigenous culture of Australia, and consequently recruiting the children was difficult and this affected sample size. Cultural sensitivity, such as observance of grief periods within communities, or acceptance of prolonged absences from school, limited access to the participants. Limitations placed on access to children by child protection services also affected recruitment. The sample size is considered to be a good representative sample within the Indigenous context in relation to the overall population of 4- to 7.11 year old Indigenous children in the Pilbara. However, due to the size of the sample population, and taking into account the diversity of the Indigenous cultures within Australia the results of the study cannot be generalised to all Australian Indigenous children and only applied to those living in the Pilbara.

The second limitation concerns the age of some participants. The exact age of some of the children was not able to be determined, as the leaders of the Pilbara communities were the primary care-givers, not the biological parents who were absent from the community. Frequently in remote communities documents such as birth certificates are unavailable. Where exact age was not able to be ascertained, school records were accessed to ascertain approximate age.
The third limitation of this study is the Inter-rater Reliability in Study 1 was established with only four children. The lack of adequate variance in subject scores affected the Inter-rater Correlation Coefficient, and in future studies more children’s results would have to be scored by the two raters for inter-rater reliability. Validity was the focus of the development of the I-ChIPPA and PPS and reliability needs to be examined in the future.

Clinical Implications and Recommendations for Future Studies

Clinical Implications

The focus of this section will be the implications of the findings of this study on two main areas, education and therapy. These areas of practice have strong connections as they deal with enhancing the development of children.

Implications for education.

Pretend play enhances a child’s development socially (Berk, Mann & Ogan, 2006; Uren & Stagnitti, 2009), emotionally (Hoffman & Russ, 2012), and cognitively (Russ & Dillon, 2011). Pretend play is encouraged in early childhood education settings and teachers are exhorted to use play and pretend play creatively in their classrooms (Anning, Cullen & Fleer, 2009; Edwards, Cutter-Mackenzie & Hunt; 2010; Fleer, 2010). Samuelsson and Johansson (2006, p. 62) asserted that “play and learning are dimensions that stimulate each other and could be seen as an indivisible entirety.” The use of play is considered an essential component of early childhood education by the Australian government (Department of Education, Employment and Workplace Relations (DEEWR), 2009). Therefore it is
appropriate that early childhood educators are armed with the most current evidence to support the use of play, including pretend play, in educational settings. However, the large gap in knowledge for the early childhood teachers of Australian Indigenous children is how Indigenous children engage in pretend play, particularly those in rural and remote regions who may live a more traditional cultural lifestyle, and who may not have been as impacted by urbanisation. This is supported by Fasoli et al. (2010, p. 222) who stated that non-Indigenous educators are “equipped with dominant discourses on play” which were learned at university, and “may have had little exposure to Indigenous play practices”. Therefore educators will generally impose a culturally inappropriate Western dominant paradigm in education, such as “the proper way to play” and learn (Fasoli, et al.).

While there is educational material such as story books of the Dreaming, stories which include Indigenous pictures, traditional paintings, art, and animals, non-Indigenous educators may be using pretend play in ways which do not enhance literacy and social development for rural and remote Indigenous children. The findings of the research reported in this thesis have shown that pretend play for Indigenous children takes a different form than that of non-Indigenous children. For example, the children were more engaged with toys and play materials that reflected the local Australian animals, dark skinned dolls, and natural materials such as sand. Thus, traditional non-Indigenous practices such as having a “kitchen corner,” and the use of dolls of non-Indigenous appearance may have less meaning and little engagement to the Indigenous child living in a remote Indigenous community. The children in the research in this thesis came in pairs to play and the complexity of the social interaction for two symbolic players showed increased talking and flexibility. Hence, using peer pretend play may have greater impact upon the development of literacy as learning through social and cultural interaction is inherent in Indigenous society.
Assessment and evaluation of children’s scholastic performance is part of the Australian education system, so that parents know how well their child is achieving in school. The assessment of Indigenous children needs to be culturally appropriate. Language assessment is an important part of the teacher’s role, and yet, there is only one language assessment in Western Australia, the Time for “talk” (Williams & Sinclair, 1998), that has been developed for Indigenous children. This assessment has primarily been developed for urban Indigenous children. Language assessment for Indigenous children needs to be contextual and embedded in activity which allows the child to have more fluent, complex and socially oriented language. The implication is that formal testing in a single-child situation is less likely to produce the child’s best ability in language and narrative, whereas placing the child in a culturally appropriate peer social play setting can elicit a more accurate picture of the child’s language skills. In this way the children who are exhibiting emergent literacy at approximately 5 years old, can exhibit emergent literate and literate behaviours which are a product of his/her own culture. For example, Indigenous children arrive at school with a high level of social literacy, and for those in the more remote areas, an extensive knowledge of how to read the signs of their country are more likely to be the forms of literacy exhibited. Assessing language while the child is engaged in a pretend play situation is supported by the finding that spontaneous language during the I-ChIPPA was related to narrative language ability.

Educational assessment is an on-going process. In Study 6 the teachers completed the PIPPS for the participants who had parental consent to be in the study. Teachers (who were non-Indigenous) had difficulty in separating and reporting on what was “play behaviour” and what was “behaviour” (refer to Chapter 7). Misinterpretation also could have occurred. For
example, an Indigenous child’s play was interpreted as aggressive, if for example they, “always [took] toys without asking”. This was interpreted as disrupting play or as having inappropriate play skills. Within Indigenous children’s play, this research has been able to articulate collective play within Australian Indigenous children by showing how Indigenous children play within their culture and that taking toys from another child’s play scene is not disruptive or aggressive because both children have equal access to all the toys. The Shared Symbolic Meaning illustrated in Figure 10.2 shows the symbolic player’s ability to move between their own play scene and that of a play partner where the toys are shared and the meaning of the play can change with the shift of one toy from one child to another. The Western lens through which the behaviour is viewed interprets the behaviour differently, and often to the detriment of the Indigenous child. By using culturally appropriate assessment and through understanding Indigenous children’s play this situation becomes less prevalent.

**Play-based curriculum.**

In Australia and internationally there has been substantial controversy over the use of play-based curriculum as the drive for academic skills, such as literacy and numeracy, has been strongly supported in the education system (Hirsh-Pasek, Golinkoff, Berk and Singer, 2009; Langford, 2010; Nicolopoulos, 2010). However there are also proponents who show, through research, that play-based curricula will support the acquisition of knowledge, language skills, and social competence of the child (Edwards & Cutter-Mackenzie; 2011; Martlew, Stephen & Ellis, 2011; Nicolopoulos, 2010; Reynolds, Stagnitti & Kidd, 2012, Samuelsson & Johansson, 2006). Edwards and Cutter-Mackenzie (2011, p. 52) stated that among other factors, “play-based learning needs to draw on and recognise children’s existing cultural competencies” and the knowledge that they already possess. In relation to Indigenous
children attending schools where there is a play-based curriculum, it is important that teachers not only acknowledge the Indigenous child’s cultural heritage, but recognise their cultural competencies, and engage them in play which is culturally appropriate. The research in this thesis contributes to an understanding of the play materials that Indigenous children engage with enthusiastically and how Indigenous Australian children play and therefore is of value in the planning of appropriate play-based curricula. When the Indigenous child is enabled to play and to engage in pretend play in a culturally sensitive environment, the child’s development of literacy and oral language skills should be enhanced. Where learning is not presented in a culturally sensitive way children do not engage in learning (Fleer, 2010; Ryan & Goffin, 2008) as can be demonstrated by the gap in literacy levels between Indigenous and non-Indigenous children in Australia (ABS, 2010; ALF, 2011).

**Implications for therapy.**

In understanding the occupation of play in an Indigenous context, therapists will be more able to provide culturally appropriate interventions. Appropriate intervention is founded on appropriate, reliable and valid assessment of the child and without culturally appropriate assessment tools occupational therapists are not able to provide the most effective interventions for children referred to them. They may be providing interventions to children who are seen as having developmental concerns, when a culturally appropriate assessment would have indicated the child was performing typically for their age. Occupational therapists need to be cognisant of the differences in play between Indigenous and non-Indigenous cultures. There is strong evidence from this research to support community consultation regarding the administration of assessments and the context within which the
assessment takes place to enhance the performance of the child. Each region and community may have different beliefs which affect the administration of an assessment, as Indigenous society is not homogenous (Dudgeon, Garvey & Pickett, 2000).

Occupational therapists in Western Australia provide pre-school play programmes in Indigenous communities to enhance child development and learning. These programmes are generally based on a Western perspective of play and frequently use Western toys, and play activities. Toys and play spaces in the Pilbara for example are often donated by large mining companies to facilitate play and learning in remote communities. However when this research was being carried out in the Pilbara, the researcher observed that the play materials did not include culturally appropriate materials and toys. The children did not interact with the toys, and did not engage with the play space, preferring outdoors and natural materials with which to play. These observations were made by the researcher in numerous communities in the Pilbara. The findings of this research support the inclusion of culturally appropriate play materials and toys to facilitate engagement in play, to enhance language use and to utilise the children’s social peer play.

In conclusion, therapists and educators work closely in school systems to promote children’s development so it is important that both disciplines understand the need for culturally appropriate assessment and intervention. Understanding the nature of Indigenous children’s play will assist that process.
Recommendations for future studies

This research has raised as many questions as it has potentially answered. While it is encouraging that the study has resulted in an assessment, the I-ChIPPA and PPS which can demonstrate validity for Indigenous children in the Pilbara, further refinement and development of the PPS is warranted for clinical viability.

Validity and Reliability of the I-ChIPPA and PPS

The validity of the I-ChIPPA and PPS has been examined however further studies need to be conducted for construct validity. Construct validity is established from the accumulation of results of numerous studies (Brown, 2000; Sechrest, 2005; Streiner & Norman, 2008). To further improve the clinical viability of the I-ChIPPA and PPS reliability studies need to be undertaken. Inter-rater and test-re-test reliability studies would provide evidence on the ability of the I-ChIPPA as a reliable tool for the Indigenous population.

The validity studies have supported the items within the PPS as measuring social interaction during pretend play, however further studies are required to establish a scoring system which is suited to the clinical context. The current iteration of the PPS uses frequencies of each social interaction verb counted. A scoring sheet suitable for clinical practice and a manual is required for the PPS to be used clinically. Further studies should include a larger sample population.
Establishing Normative Data for the I-ChIPPA and PPS

The I-ChIPPA has not been normed for the Indigenous population and therefore there are no standard scores available to allow therapists to more objectively interpret the play quality of Indigenous children. Establishing norms for this population poses problems in that the Indigenous Australian population is not homogenous and assessments which compare child to child are considered inappropriate by many Indigenous people. The question then remains whether attempts to establish norms for the I-ChIPPA is in direct contrast to the spirit of this study.

Different Play Dyads

During the I-ChIPPA and PPS play sessions children attended in pairs. Some of the pairs were mixed age, mixed gender or both. Due to absent participants, some children who had been assessed were brought back into a play session with another play partner who had not been assessed to allow assessment to take place in pairs. Clinical observations showed that some children played differently with each partner, for example, one player who was more familiar with the toys dominated the play of his new partner. Vygotsky (1976, 1978) stated that a more symbolic player will scaffold the play for a less symbolic player and therefore improve the less symbolic player’s play. This was not seen in at least two dyads in the play session and therefore further exploration of the difference in play partners would be useful to determine if this aspect of Vygotsky’s theory is applicable to Indigenous Australian children’s play. Further research into the changes in play based on play partners in the I-ChIPPA and PPS would add to the reliability and validity of these assessments.
Effects of Urbanisation: The Suitability of the I-ChIPPA for Urban Indigenous Children

The effect of Westernisation and urbanisation on the Indigenous population of Australia has been extensively researched (J.Taylor, 2011) including the areas of health (Scott & Binns, 2011; Turner, Richards & Sanders, 2007) and education (Jackson, 2008; J.Taylor). The implication for occupational therapy is that an assessment developed for rural and remote Indigenous Australian children such as the I-ChIPPA and PPS may not be suitable for children who live in urban settings. The Pilbara toys of the I-ChIPPA are specifically for the Pilbara region of Western Australia and further research is needed to examine the customisation of toys and play materials for other regions of Australia in consultation with the urban Indigenous community Elders and members.

Further research is also needed with urban Indigenous children and their play. The results of a small pilot study (Stephenson, 2011) indicated that urban Indigenous Western Australian parents and caregivers did not see any advantage of the Pilbara toy sets over the original toy sets of the ChIPPA. The parents were concerned however that cultural morés such as avoidance of eye contact, and the assessment taking place in a non-clinical, familiar environment were observed by the researcher. Stephenson’s study consisted of a very small sample group of four Indigenous 4 to 5 year old children attending a school for Aboriginal children in a metropolitan suburb. The urban Indigenous children did not show the same level of heightened excitement or engagement with the Pilbara toy set as did the children in the Pilbara region (Stephenson, 2011). These findings from this small study suggest that urbanisation and Westernisation may affect Indigenous Australian children’s perceptions of their Indigenous culture and identity (Cramer & Anderson; Pederson, Dudgeon, Watts &
Further examination of the effects of urbanisation on Indigenous children’s play and whether there is a need for a culturally appropriate play assessment for this urban population group is recommended.

**Conclusion**

This research has accomplished three goals: (a) it has increased knowledge and understanding of the play, especially pretend play, of rural and remote Indigenous Australian children, (b) it has achieved the development of the I-ChIPPA which includes the PPS, and has examined the validity of the assessment, and (c) it has provided the first study on the links between pretend play, social peer play and language of Indigenous Australian children. As a consequence of achieving these goals the need for therapists and educators to be aware of the cultural differences which affect assessment and therefore therapeutic intervention or educational practice has been highlighted.

The aim of the research was to develop an assessment that would bridge the gap between Western expectations of children’s occupational performance and the Aboriginal communities’ wishes for the best possible outcomes for their children. The outcomes of this research have the potential to provide much needed evidence on which to base culturally appropriate occupational therapy and education practices with Indigenous Australian children. Through increased understanding of Australian Indigenous culture by therapists, researchers and educators, relevant, realistic and meaningful play-based assessments and interventions will assist Indigenous Australian children realising their potential.
“You can know the name of a bird in all the languages of the world, but when you're finished, you'll know absolutely nothing whatever about the bird... So let's look at the bird and see what it's doing -- that's what counts. I learned very early the difference between knowing the name of something and knowing something.
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APPENDICES

A1 - U
Ms Joyce Drummond  
Chairperson Wakathuni Community  
PO Box 601  
TOM PRICE 6751

Dear Joyce,

I greatly appreciated the opportunity to visit you and your community in May this year, and apologise for the delay in getting the enclosed materials to you. I have succeeded in passing the first stage in my Masters degree study and now must proceed to gain ethics approval to allow me to gather information from your community.

Outlined in this letter is the following:

- An outline of the project and its significance.
- The proposed benefits to your community, from my perspective, from involvement in the project. Your perspective may be different.
- The evidence that I require from your community to show the ethics committee that your community is willing to be part of the project.

Included with this letter are:
- Photos of the toys used in the Child Initiated Pretend Play Assessment.
- A video of the administration of the Child Initiated Pretend Play Assessment.

It is important that all community members are involved in the decision-making process as to your expectations of the project. While this may take some time, I would appreciate a response on or before September 10th, 2006. The ethics committee of Deakin University in Victoria, through whom I am doing my Masters degree, meet soon after. I have enclosed a stamped, addressed envelope to assist you.

I believe the project is an important and significant study which will allow a greater understanding of Aboriginal children’s play, oral language and literacy development. This will inform parents, teachers, play group leaders and therapists of the needs of children in your community and many other Aboriginal communities.

Thank you for your interest in the project. If you have any questions or would like to discuss any issues with me, please feel free to call me on 9266 3612 on weekdays. Alternatively I can be contacted on mobile phone number 0413 267 446, or email A.Dender@curtin.edu.au.

With thanks,

Alma Dender BApp Sc(OT), Dip Ed.
Lecturer

Cc Don Gordon, Gumala Aboriginal Corporation
APPENDIX A2

INFORMATION LETTER TO COMMUNITY 2
Ms Thelma Parker
Chairperson Youngaleena Community
c/o Wittenoom Post Office
WITTENOOM 6751

Dear Thelma,

I greatly appreciated the opportunity to visit you and your community in May this year, and apologise for the delay in getting the enclosed materials to you. I have succeeded in passing the first stage in my Masters degree study and now must proceed to gain ethics approval to allow me to gather information from your community.

Outlined in this letter is the following:

- An outline of the project and its significance.
- The proposed benefits to your community, from my perspective, from involvement in the project. Your perspective may be different.
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It is important that all community members are involved in the decision-making process as to your expectations of the project. While this may take some time, I would appreciate a response on or before September 10th, 2006. The ethics committee of Deakin University in Victoria, through whom I am doing my Masters degree, meet soon after. I have enclosed a stamped, addressed envelope to assist you.

I believe the project is an important and significant study which will allow a greater understanding of Aboriginal children’s play, oral language and literacy development. This will inform parents, teachers, play group leaders and therapists of the needs of children in your community and many other Aboriginal communities.

Thank you for your interest in the project. If you have any questions or would like to discuss any issues with me, please feel free to call me on 9266 3612 on weekdays. Alternatively I can be contacted on mobile phone number 0413 267 446, or email A.Dender@curtin.edu.au.

With thanks,

Alma Dender BApp Sc(OT), Dip Ed.
Lecturer
APPENDIX A3

INFORMATION LETTER TO SCHOOL 1
Ms Fiona Wheeler  
Principal Primary School  
Roebourne primary School  
PO Box 186  
ROEBOURNE 6718

Dear Ms Wheeler,

I have been given your name as a contact for the Roebourne Primary School through Sarah Thomas, Occupational Therapist. During a recent workshop we both attended I was able to discuss my Masters Degree study with Sarah, and also with Bec Smith, also an Occupational Therapist in Karriatha. Both Bec and Sarah have talked a little with the pre-primary teacher regarding the study which focuses on pretend play and the links to narrative and oral language ability of Indigenous children. The pre-primary teacher suggested I contact you to sound out the possibility of Roebourne Primary School being included in the study.

I have taken the liberty therefore of sending some material for you to peruse, and would greatly appreciate the opportunity to discuss the possibility of Roebourne students being involved. Unfortunately I will be out of Australia until September 3rd. I realise with the short time frame before application of ethics approval this may present a problem and apologise for this short timeframe.

Outlined in this letter is the following:

- An outline of the project and its significance.
- The proposed benefits to your community, from my perspective, from involvement in the project. Your perspective may be different.
- The evidence that I require from your community to show the ethics committee that your community is willing to be part of the project.

Included with this letter are:

- Photos of the toys used in the Child Initiated Pretend Play Assessment.
- A video of the administration of the Child Initiated Pretend Play Assessment.

It is important that all community members are involved in the decision-making process as to your expectations of the project. While this may take some time, I would appreciate a response on or before September 15th, 2006. The ethics committee of Deakin University in Victoria, through whom I am doing my Masters degree, meet soon after. I have enclosed a reply-paid envelope to assist you.
I believe the project is an important and significant study which will allow a greater understanding of Aboriginal children’s play, oral language and literacy development. This will inform parents, teachers, play group leaders and therapists of the needs of children in your community and many other Aboriginal communities.

Thank you for your interest in the project. If you have any questions or would like to discuss any issues with me, please feel free to call me on 9266 3612 on weekdays. Alternatively I can be contacted on mobile phone number 0413 267 446, or email A.Dender@curtin.edu.au.

With thanks,

Alma Dender BApp Sc(OT), Dip Ed.
Lecturer
APPENDIX A4

INFORMATION PROVIDED ON THE PROPOSED RESEARCH PROJECT AND REQUEST FOR COMMUNITY FEEDBACK
1. What is the study about and why is it important?

The attached Research Proposal Outline briefly states what the project is about. Play is such a significant occupation for children and as such, is a major contributor to their development. Very little research has been undertaken, or written about how Aboriginal children play, so it is assumed by many that Aboriginal children play in the same way as non-Aboriginal children. Consequently most therapists and teachers look at development, play and oral language development from an Anglo-Australian perspective which may not be appropriate.

The research questions for this project are:

**Question 1: Is the Child Initiated Pretend Play Assessment (ChIPPA) a culturally appropriate play assessment for rural and remote Aboriginal children in Western Australia?**

Through collaboration with your community in two studies, this question can be addressed. It is important for your community members to inform me as to what you consider to be culturally appropriate in regard to toys, and the administration of the assessment with children in the community.

**Question 2: Do the ChIPPA scores of rural and remote Aboriginal children in Western Australia have any relationship to their oral language skills?**

Pretend play has a very strong link to the development of language and narrative skills in preparation for school. This study would help us to understand if this occurs for your children, and could lead to helping teachers and play group leaders to more fully understand and assist oral language development which is important for literacy in school.

2. What are the potential benefits for the community?

2.1 Assistance in educating parents, teachers, play group leaders and therapists about play experiences and strategies which enhance cognitive, language, problem-solving and literacy development for children aged 3-6 years.

2.2 Promotion of school readiness.

2.3 Inform teachers and play group leaders what toys, games, creative play, and play objects are culturally appropriate and will best enhance the children’s development.

2.4 Where children are identified as having learning difficulties, developmental delay, autism, and other conditions, therapists and teachers will be better able to assess children in a culturally appropriate way, with a reliable assessment tool, so that treatment is more appropriate.
3. How will the studies take place?

**Step 1:** Community consultation with the outcome being a letter of support for the project to take place in the community.

**Step 2:** Study 1: Consultation with parents and elders as to what toys are considered culturally appropriate. The photos of the toys used in the ChIPPA are enclosed. These may not be culturally appropriate. The study includes ascertaining the views and opinions of the community members, followed by observation by me of the children playing with the toys to determine which toys they relate to most.

**Step 3:** Study 2: Assessment and videoing of the children using the ChIPPA. Each child would be assessed by me. The enclosed video shows how the ChIPPA is used. All videos of children made during the assessment would remain the property of the community.

Issues for discussion by community members include:
- The use of video recording
- Appropriateness of individual assessment ie, one child at a time. Do parents approve of this and consider it appropriate?
- Consent for each child would be required from the parent’s or guardian.

The community would receive all videos, a full report of the findings, and acknowledgement in all reports, publications and presentations.

**Step 4:** Study 3: Oral language assessment would be carried out by me or where appropriate the pre-primary teacher.

4. How long will the project take?

**Time frame:**
- Submission for ethics approval: November 2006
- Data collection of Study 1: Commences February 2007 for children aged 4-5 years in February 2007.
- Data collection Study 2: To be completed by end of September 2007.
5. What does the community need to do to allow the project to go ahead? Suggestions:

- 5.1 Have a community meeting to discuss the project and view materials.
- 5.2 Comment on the appropriateness of the toys of the CHPPA. Do the children play with similar toys? Are any toys inappropriate for Aboriginal children? What do you think is most appropriate eg Australian animals instead of farm animals? (A page is included for comments, please return it with the support letter.)

- 5.3 Describe the benefits the community would like to see coming from the project. (A page is included for comments, please return it with the support letter.)
- 5.4 Send a letter of support from the community to me by September 10th 2006 if the community decides to go ahead with the project.

Thank you.
BENEFITS TO THE COMMUNITY

Please comment on the benefits you would like to see for your community from this study.
APPROPRIATE TOYS
Some thoughts – please add your own.

- Are any of the toys in the ChIPPA inappropriate or offensive in Aboriginal culture?
- Do you think that some toys should be replaced by different toys, for example, dolls of brown or black skin colour rather than white dolls, or a choice of dolls, or Australian animals rather than farm animals?
APPENDIX B1

LETTER OF APPROVAL: COMMUNITY 1
Dear Alma,

This letter is to let you know that we agree for you to come to Wakathuni to do the research you explained on your visit and in the information you have sent to us.

We have received the package with the video, letter and other information which shows what you have in mind. We think the toys are OK.

We think our community will benefit from your visit if you leave any videos you take or other materials the can leave with us.

We look forward to hearing when you will be coming here.

Yours sincerely

Signature Redacted by Library

Joyce Drummond
Chairperson
APPENDIX B2

LETTER OF APPROVAL: COMMUNITY 2
Youngeleena Aboriginal Corp
PO Box 4, Wittenoom (via Tom Price) 6752

Alma Dender
School of Occupational Therapy
Curtin University of Technology
GPO Box U1987
Perth WA 6845

Dear Alma,

This letter is to let you know that we are happy for you to come to Youngeleena to do the research you explained on your visit and in the information you have sent to us.

We have received the package with the video, letter and other information which shows what you have in mind. We think the toys would be better if the dolls were dark skinned and if the cows and horse where more like the ones we see around here. Also lizards and other local creatures would be good.

We would like you to spend time with our children and help them in their learning. Our community will benefit through the materials and new ideas you will bring.

We look forward to hearing when you will be coming here.

Yours sincerely,

Signature Redacted by Library

Thelma Parker
Chairperson
Dear Alma,

Roebourne School will allow you to conduct your research in 2007 for your Masters of Health: The link between play and literacy in Indigenous Australian Children in Rural and Remote Western Australia.

We are aware that this will involve video taping students in a play situation. Parent consent must be sought for each child involved, outlining where and how the video footage will be used.

Please contact us in 2007 with further dates and times for the research to be conducted.

Yours sincerely

[Signature Redacted by Library]

Martin Shepherd
Principal

Ref: RC 368-2006
APPENDIX B4

DESCRIPTION OF THE ChIPPA
ChIPPA: The Child-Initiated Pretend Play Assessment (manual and assessment kit)

by Karen Stagnitti

Assesses the spontaneous ability of children to organise their play and to pretend in play. Ages 3-7. Takes 30 mins for 4-7 year olds, 18 mins for 3 year olds. Kit contains Manual, Scoring CD ROM, Instructional DVD, all test toys and materials. Suitable for children who are developmentally delayed, are at risk of learning problems, have a specific diagnosis such as Downs Syndrome, Autism Spectrum Disorder, or Attention Deficit Hyperactive Disorder. Also suitable for children who have a physical disability and children who have been traumatized/neglected. Can be used in clinical settings, preschools, schools, early childhood settings and home.

The Child-Initiated Pretend Play Assessment (ChIPPA) is a norm-referenced standardized assessment of a child’s imaginative or pretend play skills. It is suitable for children from 3 to 7 years of age. It measures behavioural attributes that are essential to play ability in this age group. The ChIPPA assesses the spontaneous self initiation of both symbolic and conventional-imaginative play in a standard format. It is clinically viable but can also be administered in the home or school setting. It gives an accurate snapshot of how a child plays.

The ChIPPA is an individualized assessment that takes 30 minutes to administer and score. With practice, scoring can be carried out as the child plays. The ChIPPA measures the elaborateness of a child’s play, the child’s ability to use symbols in play and the ability to self-initiate. This assessment is invaluable to professionals working in paediatrics such as: occupational therapists, speech pathologists, psychologists, preschool fieldwork officers, and teachers with special education training.


Reproduced with permission of the author Professor Karen Stagnitti.
Child-Initiated Pretend Play Assessment (Karen Stagnitti, 2007)

The Child-Initiated Pretend Play Assessment (ChIPPA) is a norm referenced standardised assessment of the quality of a child’s ability to self-initiate pretend play. It can be used by health professionals or early childhood educators who have successfully completed tertiary education to at least the level of a Bachelor Degree.

The age range is 3 years to 7 years 11 months. There are boy and girl norms for some of the age ranges. The ChIPPA takes 18 minutes to administer to 3 year olds and 30 minutes to administer to children from 4 years to 7 years 11 months.

The ChIPPA measures the elaborateness of a child’s play (that is, how complex and organised the play is), the ability of a child to use symbols in play, and if a child relies on someone else for play ideas. These items are called: Percentage of Elaborate Pretend Play Actions (elaborate play), Number of Object Substitutions (use of symbols in play), and Number of Imitated Actions (reflection of reliance on a model to play).

The ChIPPA comprises 2 sets of play materials which reflect two aspects of pretend play: conventional-imaginative play using a set of toys and symbolic play using a set of unstructured play materials. The play materials were chosen based on gender neutrality and developmental appropriateness (see play publication list for reference to Stagnitti, Rodger, & Clarke, 1997).

In the ChIPPA you are supplied with: all the play materials and toys, stopwatch, sheet, manual on CD, scoring booklet on CD, and an Instructional DVD (74 minutes). Also supplied are scoring sheets for 3 year olds and scoring sheets for 4 – 7.11 year olds. The ChIPPA comes in a box and is available from www.therapybookshop.com

ChIPPA workshops are carried out over 2 to 3 days.

Play materials of the ChIPPA for 4 years to 7 years 11 months

The play materials of the ChIPPA were based on a study to determine gender neutrality and developmentally appropriateness. I have used the ChIPPA in 7 countries and to date, no changes have been made to the play materials except for the Australian Aboriginal children who live remotely. (See play publication list for Pfeifer et al., 2011 for use in Brazil and Dender & Stagnitti, 2011 for the play material changes for the Indigenous ChIPPA.) In my experience in using the ChIPPA with hundreds
of children, no child has had difficulty recognising the toys as toys. It was important in the
development of the ChIPPA to have play materials: that were easily recognisable by children; that
were not ‘fad’ toys eg, character toys from a current TV series or movie; that were gender neutral; that
were developmentally appropriate; and were culturally appropriate. Many people ask me about urban
children playing with what looks like a farm set. In my experience, urban children have not had
difficulty in recognising the toys for the conventional-imaginative play set and many have similar toys
at home (for example, animals, dolls and vehicles). I have encountered one child, who lived on a dairy
farm, who asked for other toys and when I said that was all I had, he continued to play with the toys
without difficulty.

The children aged 4 years and over prefer toys that look like they belong together. The 3 year olds
were not so fussy in their choice of toys. The wooden toys are especially made for the ChIPPA.

Administration of the ChIPPA
To administer the ChIPPA, a play space is created by making a ‘cubby house’ (Australian term). A
‘cubby house’ is made of 2 adult chairs with a sheet thrown over them (see picture below). In the
United Kingdom, a ‘cubby house’ is called a ‘wendy house’ or a ‘house’, in Canada it is either a ‘fort’
or a ‘tent’ or a ‘house’. The sheet is supplied in the ChIPPA kit. The examiner and child sit on the
floor in front of the cubby.

In Australia, a ‘cubby house’ is a space to play in; it is a safe place and usually means ‘serious play’.
The ChIPPA has two sets of play materials because two aspects of pretend play are assessed –
conventional-imaginative play and symbolic play. For 3 year olds, the ChIPPA is divided into play 2
sessions with 9 minutes assessing conventional-imaginative play and 9 minutes examining symbolic
play. Most 3 year olds are ready to stop playing at 18 minutes. For 4 year olds to 7 year 11 month old
children, the 30 minute session is divided into 2 x 15 minute sessions, with one 15 minute session
being assessment of conventional-imaginative play using the toys, and one 15 minute session being
assessment of symbolic play using the unstructured play materials. Children who are competent
players can play for longer than 30 minutes but most children are ready to finish at 30 minutes.

For 4 - 7.11 year old children, each 15 minute session is divided into 3 x 5 minute segments.

In the first 5 minutes the child is invited to play with the toys or play materials with no other
directions given. In the second 5 minutes, the examiner models 5 play actions (these are set
actions), as often as the examiner can without disrupting the child’s play. In the last 5 minutes, the examiner stops modelling any play actions and the child is encouraged to continue playing. At no point are any ideas on what or how to play given. The ChIPPA is aimed to gather information on a child’s ability to self-initiate their own play. The examiner is passive during a ChIPPA assessment with interactions being responding to the child or encouraging the child to continue engaging with the toys or play materials.

Scoring of the ChIPPA
The ChIPPA can be scored as the child plays, but this takes practice. It is recommended that the first 10 ChIPPA assessments you do be recorded. Three items are scored: the child’s percentage of elaborate play to total actions; the child’s object substitutions and if the child imitated the examiner in the middle segment of each play session. These items are scored for each play session as well as a total score calculated. This means that 9 scores can be calculated from the ChIPPA assessment and each of these scores can be compared to a norm score, or a percentile rank or the expected range. There is also a clinical observations sheet for the ChIPPA. On the Clinical Observations sheet the examiner indicates whether the items were performed as typical indicators of play or deficit indicators of play.

The score sheet is geared towards use in clinical practice with symbols used on the score sheet to indicate the level of play ability for each action, play actions that were imitated, play actions that were deferred imitation and play actions that referred to absent objects or property attributions.


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APPENDIX C1

ETHICS APPROVAL: DEAKIN UNIVERSITY
HUMAN RESEARCH ETHICS COMMITTEE
MEMORANDUM

TO: Alma Dender  
Health and Social Development

FROM: Executive Officer, Deakin University Human Research Ethics Committee (DU-HREC)

DATE: 12 March 2007

SUBJECT: PROJECT: EC 368-2006  (Please quote this project number in future communication.)
AN INVESTIGATION OF PLAY AND LITERACY FOR WESTERN AUSTRALIAN INDIGENOUS CHILDREN

This application was considered by DU-HREC meeting held on 13 December 2006.

APPROVAL HAS BEEN GIVEN FOR ALMA DENDER, UNDER THE SUPERVISION OF DR KAREN STAGNITTI, SCHOOL OF HEALTH AND SOCIAL DEVELOPMENT, TO UNDERTAKE THIS PROJECT FOR A PERIOD OF THREE YEARS FROM 8 MARCH 2007.

The approval given by the Deakin University Human Research Ethics Committee is given only for the project and for the period as stated in the approval. It is your responsibility to contact the Secretary immediately should any of the following occur:
- Serious or unexpected adverse effects on the participants
- Any proposed changes in the protocol, including extensions of time.
- Any events which might affect the continuing ethical acceptability of the project.
- The project is discontinued before the expected date of completion.
- Modifications are requested by other HREC’s.

In addition you will be required to report on the progress of your project at least once every year and at the conclusion of the project. Failure to report as required will result in suspension of your approval to proceed with the project.

Signature Redacted by Library

Silvia Ranetta  
On behalf of DU-HREC  
(03) 9251 7123
APPENDIX C2

ETHICS APPROVAL: CURTIN UNIVERSITY HUMAN RESEARCH ETHICS COMMITTEE
memorandum

To  Alma Dender, Occupational Therapy

From  A/Professor Stephan Millett, Executive Officer, Human Research Ethics Committee

Subject  Protocol Approval HR 53/2007

Date  7 May 2007

Copy

Thank you for your application submitted to the Human Research Ethics Committee (HREC) for the project titled "An investigation of play and literacy for Western Australian Indigenous children". Your application has been reviewed by the HREC and is approved.

- You are authorised to commence your research as stated in your proposal.
- The approval number for your project is HR 53/2007. Please quote this number in any future correspondence.
- Approval of this project is for a period of twelve months 01-05-2007 to 01-05-2008. To renew this approval a completed Form B (attached) must be submitted before the expiry date 01-05-2008.
- If you are a Higher Degree by Research student, data collection must not begin before your Application for Candidacy is approved by your Divisional Graduate Studies Committee.
- The following standard statement must be included in the information sheet to participants:

  This study has been approved by the Curtin University Human Research Ethics Committee (Approval Number HR 53/2007). The Committee is comprised of members of the public, academics, lawyers, doctors and pastoral carers. Its main role is to protect participants. If needed, verification of approval can be obtained either by writing to the Curtin University Human Research Ethics Committee, c/- Office of Research and Development, Curtin University of Technology, GPO Box U1987, Perth, 6845 or by telephoning 9266 2784 or by emailing hrec@curtin.edu.au.

Applicants should note the following:

It is the policy of the HREC to conduct random audits on a percentage of approved projects. These audits may be conducted at any time after the project starts. In cases where the HREC considers that there may be a risk of adverse events, or where participants may be especially vulnerable, the HREC may request the chief investigator to provide an outcomes report, including information on follow-up of participants.

The attached Form B should be completed and returned to the Secretary, HREC, c/- Office of Research & Development:

When the project has finished, or
  - If at any time during the twelve months changes/amendments occur, or
  - If a serious or unexpected adverse event occurs, or
  - 14 days prior to the expiry date if renewal is required.

An application for renewal may be made with a Form B three years running, after which a new application form (Form A), providing comprehensive details, must be submitted.

Regards,

A/Professor Stephan Millett
Executive Officer
Human Research Ethics Committee

Signature Redacted by Library
APPENDIX D

MODIFICATION OF ETHICS APPROVAL: DEAKIN UNIVERSITY HUMAN RESEARCH ETHICS COMMITTEE
Alma Dender

From: Jeremy Chin [jchin@deakin.edu.au] on behalf of Human Research Ethics [research-ethics@deakin.edu.au]
Sent: Monday, 12 March 2007 11:30 AM
To: Alma Dender; karen.stagnitti@deakin.edu.au
Cc: Silvia Rametta
Subject: Human Ethics Application EC 368-2006 - An investigation of play and literacy for Western Australian Indigenous children

Dear Karen and Alma,

EC 368-2006 – An investigation of play and literacy for Western Australian Indigenous children

Thank you for submitting your request for approval of modifications to the above project, received on 12 March 2007.

The modifications relate to:

1. The use of video recording of children’s play sessions.

The above modifications have been considered and found to comply with the National Statement on Ethical Conduct in Research Involving Humans (1999). They are therefore given interim approval and the project may proceed in accordance with the original approval granted. The interim approval will be ratified at meeting 2/07 to be held on 2 April 2007. You will be notified immediately if the Committee raises any concerns about the modifications.

Please be reminded that the project number must always be quoted in any communication with the Committee to avoid delays. All communication should be directed to research-ethics@deakin.edu.au.

It is your responsibility to advise the Committee of changes to the research team or changes to contact details.

If you have any queries in the future, please do not hesitate to contact me.

Thank you for keeping the Committee informed.

Kind regards,

Jeremy Chin
On behalf of Deakin University HREC
Human Ethics Assistant
Human Ethics Office
Research Services Division
Deakin University
Burwood Victoria 3125 Australia

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Fax: +61 3 9244 6581
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Deakin University Website http://www.deakin.edu.au
Deakin University CRICOS Provider Code 00113B

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21/05/2008
APPENDIX E

ETHICS APPROVAL: DEPARTMENT OF EDUCATION AND TRAINING IN WESTERN AUSTRALIA
Ms Alma Dender  
Lecturer  
School of Occupational Therapy  
Curtin University of Technology  
GPO Box U1987  
PERTH WA 6845

Dear Ms Dender

Thank you for your letter dated 27 October 2006 seeking permission to recruit students to participate in research.

The focus and outcomes of your research are of interest to the Department and I therefore give in-principle support to your proposal. However, consistent with Department policy, participation in your research project will be the decision of the particular school/s approached and individual staff members in those schools.

Responsibility for quality control of ethics and methodology of the proposed research resides with the institution supervising the research. The Department notes that you have contacted Deakin University for Ethics Approval. Please forward a copy of the approval as soon as it is available to the Research and Planning Unit, Strategic Policy and Planning, Department of Education and Training, 151 Royal Street, East Perth, WA, 6004.

A copy of the Department of Education and Training policy for research in government schools is enclosed. It provides procedures and guidelines that will assist you in your dealings with Department personnel. We would ask that you complete and return the enclosed Application to Conduct Research on Department of Education and Training Sites form.

It is also a condition of approval that the results of this study are forwarded to the Department upon conclusion.

Please contact Mr Justin Overman-Edmiston, Principal Policy Officer on (08) 9264 4563 or justin.overman-edmiston@det.wa.edu.au if you have further enquiries.

Very best wishes for the successful completion of your project.

Yours sincerely

[Signature Redacted by Library]

SHARYN O'NEILL  
ADIRECTOR GENERAL  
13 NOV 2006

Enc.
APPENDIX F

CONSENT FORM
DEAKIN UNIVERSITY HUMAN RESEARCH ETHICS COMMITTEE
CONSENT ON BEHALF OF A MINOR OR DEPENDENT PERSON

An investigation of play and literacy for Western Australian Indigenous children

I, of

Hereby give consent for my son/daughter/dependent

to be a subject of a human research study to be undertaken by Karen Stagnitti and Alma Dender

I understand that the purpose of the research is

1. to investigate what changes are required to the Child-Initiated Pretend Play Assessment
   so that it is culturally appropriate for children in my community
2. to investigate if a child’s play ability is related to their oral language ability

I acknowledge

1. That the aims, methods, and anticipated benefits, and possible hazards/risks of the research study, have been explained to me.
2. That I voluntarily and freely give my consent to my child’s/dependent’s participation in such research study.
3. I understand that aggregated results will be used for research purposes and may be reported in scientific and academic journals.
4. That my child’s play will be video-taped and no-one will see the videos except for the researchers.
5. Individual results will not be released to any person including medical practitioners
6. That I am free to withdraw my consent at any time, during the study in which event my child’s/dependent’s participation in the research study will immediately cease and any information obtained will not be used.

Signature: Date:

NOTE: The parent or parents, or person(s) who has guardianship of the child must sign the consent form.
APPENDIX G

PLAIN LANGUAGE STATEMENT AND
INFORMATION SHEET
Dear Parent

My name is Alma Dender and I am a research masters student at Deakin University working with Karen Stagnitti. We are aware that as occupational therapists, there are no culturally appropriate play assessments for children who are Indigenous Australians. Presently, assessments used by occupational therapists in rural and remote Aboriginal communities are developed for Europeans from a Western background. We would like to carry out research which examines what changes need to be made to a play assessment developed in Australia, so that it is appropriate for use for children in your community.

This letter is to invite you to give permission for your child to be involved in the research. The research will involve discussion and advice from the community on the changes needed to the play assessment, for example, do the toys need changing and is administering the assessment on a one-to-one basis appropriate for your community? After consultation we would trial the revised play assessment with your child. This would mean presenting your child with toys and unstructured objects (such as a box, sticks, cloth etc) for about 30 minutes to see if your child liked the assessment and if any changes needed to be made. The experience of playing should be a pleasant one for your child. We will be video-taping the play sessions so we can ensure that we are accurate in our analysis and if a group assessment of play is preferred by the community, then video-tape analysis will help us to capture all the uses of the play materials by the children.

After the play assessment has been changed for use in your community, we would then like to assess your child with the revised play assessment on another occasion as well as an oral language assessment that is already used in your region. This would take up to one hour in time. The reason for looking at play and oral language is that there are connections between how children play and how they use language. If a connection was found between the two abilities, then it might allow for the development of other ways to enhance a child’s oral language ability through play.

Involvement in this research is voluntary. You are free to decide whether your child can participate. You are also free to withdraw your child at any time. If you decide to do this, we will give you any information that we have on your child’s play or oral language. Your child’s name will not be used on any forms we use, instead we will use a code so that no-one can identify your child. After we have collected and analysed the data, we will give you your child’s assessment forms. Any other information, such as consent forms and data sheets with aggregate data will kept for a minimum period of 6 years and be kept in a locked filing cabinet in my office or sealed box in archives (depending on space). Only Alma and Karen will have access to the data.
It is not expected that there will be any distress caused by the play assessment or oral language assessment. If however, your child becomes distressed, the assessment/s will cease immediately so the child can be comforted by you. If you become distressed, we will have the name of someone in your community who you can talk to.

If you have any questions about the research, please call Karen Stagnitti on 0-3 522 78363 or email on karen.stagnitti@deakin.edu.au, or Alma Dender on (08) 92663612 email A.Dender@curtin.edu.au

Should you have any concerns about the conduct of this research project, please contact the Secretary, Deakin University Human Research Ethics Committee, Research Services, Deakin University, 221 Burwood Highway, Burwood VIC 3125. Tel: (03) 9251 7123 (International +61 3 9251 7123) E-mail: research-ethics@deakin.edu.au
Please quote project no. EC368-2006

This study has been approved by the Curtin University Human Research Ethics Committee (Approval Number HR 53/2007). The Committee is comprised of members of the public, academics, lawyers, doctors and pastoral carers. Its main role is to protect participants. If needed, verification of approval can be obtained either by writing to the Curtin University, Human Research Ethics Committee, c/-Office of Research and Development, Curtin University of Technology, GPO Box U1987, Perth 6845, or by telephoning 9266 2784 or by emailing hrec@curtin.edu.au
LATIN SQUARE: TOY SET PRESENTATION ORDER

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APPENDIX I

ChIPPA VERB LIST
FUNCTIONAL; (PLAY) VERB LIST

Based on Jeffree & McCuskey's functional verb list (1976), and expanded by Karen Stagnitti, 1994.

In these definitions, 'animals' can be substituted for 'doll'.

**Places**
The child places the object and treats as if "real" or as part of a play scenario. An object is placed either in, on, under, down or an object is placed on another object (e.g. covered), or an object is given (e.g. placed in the examiner's hand) with the intention to extend the play action.

**Feeds**
The act of giving the doll "food" also included is the act of the animals or doll eating.

**Holds**
Child has an object within his/her possession and holds it as if it were a 'real' object. 'Close' is included in this definition. 'Holds' is also used if the object is being held as part of a play scenario.

**Drinks**
The act of giving the doll a 'drink'.

**Folds**
Refers to folding of the cloth when done in relation to another object, e.g. folding the tea-towel into the box. Unfolds is included in this definition.

**Comb**
The act of combing the doll's hair.

**Narrates**
When a child is talking about their play, either explaining what is happening, or demonstrating the scene or how the doll does an act. The narration is directly related to the play.

**Instruct**
When the child specifically instructs the examiner to carry out a play action in keeping with the theme of play, or allowing the theme of play to continue.

**Names**
When the child specifically names or designates an object to be a particular item for the purposes of the pretend play.

**Waves**
Making the doll move its arm in a waving motion.

**Wakes**
Making the doll wake up from a 'sleep'.

**Sits**
Making the doll sit in an appropriate manner.

**Rocks**
Making the "bed" (i.e. usually the box) rock so the doll can go to sleep.

**Takes**
Any action where the child retrieves, takes out, takes off or removes an object for the purpose of continuing the play act.

**Dresses**
The placing on or removal of an item of clothing from the doll.

**Cuddles**
A show of affection for the doll: kisses, pats, hugs or cuddles.

**Adjusts**
When the child makes adjustments to re-arrange, re-position, tidy, prepare, check or tilt an object relative to other objects, but still maintaining the pretend situation.

**Peek-a-boo**
When the child plays peek-a-boo with an object or doll.

**Falls**
When the child makes the doll fall or trip.

**Cleans**
When the child cleans or washes an object for the purpose of the play act.

**Flies**
When the child makes the doll or an object fly up in the air.

**Constructs**
When the child builds, creates, makes, or balances an object, where the objects are placed in relation to each other for the express purpose of making a new object from the whole for the purposes of the pretend play situation.

**Drives**
When the doll is made to 'drive' an object.
Runs  The doll runs or moves very quickly.
Claps  The doll is made to clap.
Trips  The child attempts to relate one, two or more objects together for an act of play but physically cannot make it work.
Re-charges  The child makes an object or doll become full of energy so it can carry on the pretend play act.
Shakes  An object is vigorously moved for the purpose of the pretend play act.
Hammers  The child or doll hammer one object against another.
Greets  When two dolls meet or greet each other.
Fights  A show of aggressive prepossession actions by the child or doll (e.g. punch, stab, strangle) for the purpose of the pretend play.
Demonstrate  Used when a child shows the examiner without words how an object works or moves.
Haunts  The scene of the pretend play is haunted by ghosts or such like, where the doll or child can be the cause of the haunting.
Bats  When the doll is playing a ball and bat game.
Screws  When the play action requires a screwing action of one object with another.
Chases  When the doll is playing “catchy” or is chasing another object.
Plays Music  When the doll or child’s play music, which can include hitting the tin with a stick and pretending the tin is a drum.
Offers  When the child or doll offers an object to another in a play context.
Splashes  When the child or doll splash “water” or spill “water” or any liquid.
Peeking  When the doll or child is peeking to spy on another doll.
Tying down  When the doll or child tie up an object or doll.
Impersonate  When the child uses his/her own body to pretend to be something else.
Raining  The child pretends it is raining.
Flips  The doll does somersaults or flips.
Handcuffs  When the child or doll “handcuffs” another.
Piggy Back  When one doll or object piggy backs another.
Scares  When the doll or child scares another.
Trims  When the doll has a hair cut.
Squashing  When the child or doll is squashing another.
Cries  The doll is sad, cries, or is upset.
Headstand  The doll performs a headstand.
Relates Together  The child relates two objects together in a functional way.
See-Saw  The doll is on a see-saw.
Trampolines  The doll is jumping on a trampoline.
<table>
<thead>
<tr>
<th>Action</th>
<th>Description</th>
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<tbody>
<tr>
<td>Jumps</td>
<td>When the child makes the doll move up and down off the ground in quick bursts.</td>
</tr>
<tr>
<td>Smack</td>
<td>When the child punishes the doll by hitting or smacking.</td>
</tr>
<tr>
<td>Throws</td>
<td>When the child tosses, thrusts, or rockets an object as part of the play situation. This action is any propulsive movement.</td>
</tr>
<tr>
<td>Hides</td>
<td>When an object is hidden by the child or doll for the purpose of the pretend play situation.</td>
</tr>
<tr>
<td>Tucks in</td>
<td>Used when the child tucks the doll into ‘bed’.</td>
</tr>
<tr>
<td>Carries</td>
<td>Used instead of hold if the child moves around the play situation while holding an object which is important to the play scenario.</td>
</tr>
<tr>
<td>Empties</td>
<td>When the child tips, empties or pours out a ‘liquid’.</td>
</tr>
<tr>
<td>Fills</td>
<td>When the child ‘fills’ a container with ‘food’ or ‘liquid’.</td>
</tr>
<tr>
<td>Wraps</td>
<td>When the child wraps an object or the doll for the purpose of the play situation.</td>
</tr>
<tr>
<td>Swinging</td>
<td>When the doll has a ‘swing’.</td>
</tr>
<tr>
<td>Baths</td>
<td>When the child cleans the doll.</td>
</tr>
<tr>
<td>Stands</td>
<td>The doll is made to stay in an upright position.</td>
</tr>
<tr>
<td>Climbs</td>
<td>The doll is made to climb up an object or the ‘cubby’ (wendy) house.</td>
</tr>
<tr>
<td>Smoke</td>
<td>The child or doll pretends to smoke.</td>
</tr>
<tr>
<td>Lights</td>
<td>The child ‘lights’ a ‘cigarette’ or ‘cigar’.</td>
</tr>
<tr>
<td>Polishes</td>
<td>The doll is made to ‘polish’ an object.</td>
</tr>
<tr>
<td>Fixes</td>
<td>When the child or doll ‘mends’ or ‘fixes’ another object such as using the wrench to fix a wheel.</td>
</tr>
<tr>
<td>Paints</td>
<td>When the doll ‘paints’ an object or the air.</td>
</tr>
<tr>
<td>Saws</td>
<td>When the child makes a cutting or sawing action with one object against another object.</td>
</tr>
<tr>
<td>Waits</td>
<td>When the child or doll sit and wait for the passing of time and this action is integral to the pretend play situation, for example, the child waits for the doll to ‘wake up’.</td>
</tr>
<tr>
<td>Fetches</td>
<td>If the doll moves to retrieve an object that is essential to the pretend play context.</td>
</tr>
<tr>
<td>Parks</td>
<td>When the doll ‘parks’ the object with great care.</td>
</tr>
<tr>
<td>Crushes</td>
<td>Used when the doll or object is in a diving motion and it crashes, and the crash is part of the play sequence.</td>
</tr>
<tr>
<td>Hangs up</td>
<td>When the child hangs up clothes to ‘dry’.</td>
</tr>
<tr>
<td>Scraps</td>
<td>When the child or doll removes ‘food’ or ‘dirt’ from an object.</td>
</tr>
<tr>
<td>Looks</td>
<td>When the doll is looking or watching an ‘event’ or object.</td>
</tr>
<tr>
<td>Assists</td>
<td>When one doll helps another doll or the child helps the doll to complete an action of the pretend play.</td>
</tr>
<tr>
<td>Slides</td>
<td>When the doll is made to go down a slippery slide.</td>
</tr>
<tr>
<td>Catches</td>
<td>When one doll catches another doll or the child catches the doll or object as part of the play theme.</td>
</tr>
<tr>
<td>Dance</td>
<td>The doll dances.</td>
</tr>
<tr>
<td>Sleeps</td>
<td>The child places the doll in a lying down position to ‘sleep’.</td>
</tr>
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<td></td>
<td>Description</td>
</tr>
<tr>
<td>-------</td>
<td>-------------</td>
</tr>
<tr>
<td>Touts</td>
<td>Used when the child or doll 'toot' an object that is used as a vehicle in play.</td>
</tr>
<tr>
<td>Searchers</td>
<td>The child searches and finds an object that is needed for the play situation.</td>
</tr>
<tr>
<td>Swimming</td>
<td>The doll swims.</td>
</tr>
<tr>
<td>Telephones</td>
<td>The child or doll telephone the examiner or another doll.</td>
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</tbody>
</table>
APPENDIX J

EXAMPLE OF SOCIAL INTERACTION VERB SHEETS
SOCIAL INTERACTION VERBS

Tape 4: R11MQE4

Words in BLACK are the possible categories—dependent on the effect noted when viewed as play unfolds.

- Accepting offered toy without looking at other maintain
- Responding to question and pointing without looking at other child maintain, enhance, elaborate
- Showing toy to other enhance, maintain, elaborate,
- Describing toy to other narrate,
- Quietly instructing other child where to put toy impose, enhance, extend,
- Assisting in setting up other’s play scene enhance, achieve, extend
- Moving closer physically to other child engage
- Putting toy into other’s play without asking maintain, extend, enhance, extinguish, impose, achieve, diminish - this one is very effect dependent
- Taking toy from other’s play without asking maintain, extinguish,
- Naming toy to other communicate
- Relating story to other narrate
- Offering toy to other with speech enhance, maintain, engage
- Changing position in relation to other engage, diminish,
- Asking question with eye contact wait,
- Waiting for answer wait
- Repeating question for confirmation with eye contact wait
- Repeating what the other says imitate, wait
- Showing toy to other diminish,
- Putting toy closer to other enhance, maintain,
- Gesturing for toy without speech wait, communicate
- Asks question within the other’s story communicate, engage, extend, enhance
- Agreeing to other’s speech communicate
- Moving towards other player to increase play involvement engage, diminish,
- Snatching toy out of other’s hands without asking diminish, extinguish,
- Asking but not waiting for answer communicate
- Setting up toy for other impose, enhance, maintain, engage, achieve
- Watching other’s play story silently engage
- Telling other to stop an action impose, diminish extinguish communicate
- Watching with no speech engage,
- Telling other a story narrate
Tape 4: R10MSE4

Words in **GREEN** are the possible categories—dependent on the effect noted when viewed as play unfolds.

- Looking at other **engage**
- Leans into other child to look at toy **engage**
- Speaks to other child without waiting for response **communicate**
- Offers toy to other **engage, enhance**
- Smiles at other **communicate**
- Takes offered toy form other **enhance maintain**
- Explains action of taking to other **communicate**
- Listens to other **wait communicate**
- Watches silently other set —up play **engage**
- Tells and does not wait for response **communicate, impose**
- Imitates other’s play actions **imitates**
- Watches other child’s play actions silently **engage**
- Adds to other’s scene without asking
- Takes offered toy **engage, maintain**
- Thanks other child **Applies Rules**
- Takes offered toy **engage, maintain**
- Listens to other child **communicate, engage**
- Watches other child’s play actions without speaking **engage**
- Moves physically closer to other child **engage**
- Listens to other child speaking **engage**
- Takes toy indicated by other child **engage, maintain**
- Syas “I like yours” **Encourage, communicate**
- Answers question **communicate**
- Points object out to other child **engage, communicate**
- Takes offered toy **engage, maintain**
- Watches other child's play silently **engage**
- Asks question **communicate**
- Waits for answer **wait**
- Gives toy to other child without being asked **maintain, engage, enhance**
- Imitating other’s play actions **imitate**
- Allows other to join in play **engage**
- Takes toy for other without asking
- Stops own play to watch other’s play **diminish, engage**
- Listening to other **communicate, engage**
- Allows other to take toy without asking **maintain, engage,**
- Ignores other child’s order to stop action **maintain**
- Joins in other’s play action **engage**
- Does not respond to other’s question **diminish, wait**
- Removes toys from other’s play without asking. **engage, maintain diminish**
APPENDIX K1

ETHICS MODIFICATION APPROVAL: FOCUS GROUPS: DEAKIN UNIVERSITY HUMAN RESEARCH ETHICS COMMITTEE
Dear Karen and Alma,

Re: 2006-368: An investigation of play and literacy for Western Australian Indigenous children

Thank you for your amendments received on 28 April 2010, addressing the Committee's concerns regarding your proposed modifications to the above project.

The modifications relate to:

1. Running of focus groups of interested people in the Indigenous communities and schools in the Pilbara region to discuss the findings of the first study in relation to social behaviour of Indigenous children aged 4 to 7 years when playing with a peer.
2. Extension of time to 8 March 2011 has been granted as the project expiry date was 8 March 2010 (not 31 December 2010 as stated on the modification form).

The above modifications have been considered and found to comply with the National Statement on Ethical Conduct in Research Involving Humans (2007). They are therefore given approval and the project may proceed in accordance with the original approval granted. However, prior to distribution of the PLS to potential participants please ensure that you change the word 'tapes' to 'notes' in para 1 of section 7; please also ensure that you delete 'HEAG-H' in the last sentence of section 11, as this is a DULHREC project not a HEAG project. Formal notification of approval is attached.

Please be reminded that the Deakin project ID must always be quoted in any communication with the Committee to avoid delays. All communication should be directed to research-ethics@deakin.edu.au.

It is your responsibility to advise the Committee of changes to the research team or changes to contact details.

If you have any queries in the future, please do not hesitate to contact the Human Research Ethics Unit. Thank you for keeping the Committee informed.

Regards,

Vicky

Human Research Ethics Unit
Office of Research Integrity
Research Services Division
Deakin University 221 Burwood Hwy, 3125
Phone: 03 9251 7123 International: +61 3 9251 7123
Fax: 03 9244 6581 International: +61 3 9244 6581
Email: research-ethics@deakin.edu.au
Website: http://www.deakin.edu.au
Deakin University CRICOS Provider Code 00113B

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APPENDIX K2

ETHICS APPROVAL FOR MODIFICATION: DEAKIN UNIVERSITY
Memorandum

To: AvProf Karen Stagnitili
   School of Health & Social Development

From: Deakin University Human Research Ethics Committee (DU-HREC)

Date: 10 May, 2010

Subject: 2006-368
   An investigation of play and literacy for Western Australian Indigenous children

Please quote this project number in all future communications.

The modification to this project, submitted on 22/03/2010 has been approved by the committee executive on 13/05/2010.

Approval has been given for Alma Dender, under the supervision of AvProf Karen Stagnitili, School of Health & Social Development, to continue this project as modified to 8/03/2011.

The approval given by the Deakin University Human Research Ethics Committee is given only for the project and for the period as stated in the approval. It is your responsibility to contact the Human Research Ethics Unit immediately should any of the following occur:

- Serious or unexpected adverse effects on the participants
- Any proposed changes in the protocol, including extensions of time.
- Any events which might affect the continuing ethical acceptability of the project.
- The project is discontinued before the expected date of completion.
- Modifications are requested by other HREC's.

In addition you will be required to report on the progress of your project at least once every year and at the conclusion of the project. Failure to report as required will result in suspension of your approval to proceed with the project.

DU-HREC may need to audit this project as part of the requirements for monitoring set out in the National Statement on Ethical Conduct in Human Research (2007).

Human Research Ethics Unit
research-ethics@deakin.edu.au
Telephone: 03 9251 7123
APPENDIX L1

PLAIN LANGUAGE STATEMENT: FOCUS GROUP PARTICIPANTS
Dear Group Participant

An investigation of play and literacy for Western Australian Indigenous children.

My name is Alma Dender and I am writing to you on behalf of Deakin University, Victoria. I am conducting a research project that aims to develop and refine a culturally appropriate assessment tool for Indigenous children which will provide therapists a more appropriate assessment for Indigenous children referred for difficulties in play, social interaction, and school skills. The project is being conducted as part of a Doctor of Philosophy degree through Deakin University, Victoria.

I would like to invite you to take part in the project. This is because the process of refinement of the assessment requires opinions and advice from Indigenous parents, carers, educators and community leaders. I propose to conduct three focus groups where participants will be asked to give advice regarding the toys and the language used in the assessment as to their cultural appropriateness for Indigenous children.

What does participating in the research involve?
You are invited to participate in one focus group which will take place at the Wickham Primary School, at a time and date to be determined by the school. The group will last approximately one and a half hours. The discussion will be recorded on audio tape.

Do I have to take part?
No. Participating in this research project is entirely voluntary. This decision should always be made completely freely. All decisions made will be respected by members of the research team without question.

What if I wanted to change my initial decision?
If you wish to participate, the decision will need to be made by March 24th for you to be included in the project.
Once a decision is made to participate, you can change your mind at any time.
Data from the focus group cannot be withdrawn as there will be no way to identify the comments and who made them.

There will be no consequences relating to any decision you make regarding participation, other than those already described in this letter. These decisions will not affect your relationship with Deakin University, the researcher or Wickham Primary School.

What will happen to the information I give, and is privacy and confidentiality assured?
Information that identifies anyone will be removed from the data collected. The data is then stored securely in a locked cupboard in Curtin University’s School of Occupational Therapy and Social Work and can only be accessed by myself. The data will be stored for a minimum period of 5 years, after which it will be destroyed. This will be achieved by erasure of the tapes.

Participant privacy, and the confidentiality of information disclosed by participants, is assured at all times, except in circumstances where the research team is legally required to disclose that information.
The data will be used only for this project, and will not be used in any extended or future research without first obtaining explicit written consent from you.

It is intended that the findings of this study will be published in reputable journals and presented at conferences. A summary of the research findings will also be made available upon completion of the project. You can access this by contacting the Principal researcher, Alma Dender at the numbers below, and expect it to become available in December 2011.

Is this research approved?
The research has been approved by Deakin University Human Research Ethics Committee, Approval number EC 368-2006, and Curtin university of Technology Human Research Ethics Committee, Approval number HR53/2007 and has met the policy requirements of the Department of Education as indicated in the attached letter.

Who do I contact if I wish to discuss the project further?
Should you have any concern about the conduct of this research project, please contact the Secretary HEAG-H, Dean’s Office, Faculty of Health, Medicine, Nursing and Behavioural Sciences, 221 Bunwood Hwy, Bunwood, VIC, 3125. Telephone: (03) 9251 7174, Email: hmnbs-research@deakin.edu.au

Please quote project number HEAG-H EC368-2006

If you wish to be involved in the project please sign the Consent Form and return to the Principal researcher or Wickham Primary School.

This information letter is for you to keep.

Thank you.

Mrs Alma Dender
PhD candidate Deakin University
Senior Lecturer
School of Occupational Therapy and Social Work
Curtin University of Technology
GPO Box U1997
Perth WA 6845
Ph (08) 9268 3612
Fax (08) 9268 3636
Email a.dender@curtin.edu.au
APPENDIX L2

CONSENT FORM
Consent Form Mature Participants

Consent Form

- I have read and understood the information letter about the project, or have had it explained to me in language I understand.

- I have taken up the invitation to ask any questions I may have had, and am satisfied with the answers I received.

- I understand that participation in the project is entirely voluntary.

- I am willing to become involved in the project, as described, including the recording by audio tape.

- I understand I am free to withdraw that participation at any time without affecting my relationship with Deakin University or Wickham Primary School.

- Data from the Focus Group cannot be withdrawn as it will not be identifiable.

- I give permission for my contribution to this research to be published in journals and presented as conferences, provided that I or the school is not identified in any way.

- I understand that I can request a summary of findings once the research has been completed.

Name of Participant (printed):

Signature of Participant: ____________________________ Date: / /
APPENDIX M

LETTER OF INVITATION: SCHOOL 2
Dear Parents/Caregivers

Ms Alma Dender is carrying out research into the play of Aboriginal children aged 4-7 years.

Alma has done some work with 4 year old children in the Roebourna/Wickham area already and would like to speak with interested adults about the toys and games that have been used.

You are invited to come to Wickham Primary School and talk to Alma about her research and to give her some feedback on the toys and games.

Date: Thursday 3 June
Where: Wickham PS staffroom
Time: 11:00 – 11:45am

The morning will be spent looking at some video of children playing, and giving advice about toys and language that is used when working with the children. Morning tea will be provided.

Come along, have a cup of tea, some biscuits and a chat about what you think about the research.

It is important that feedback is given from people who have an interest in the education of our aboriginal children. Teachers and education assistants will also be given the opportunity to give feedback to the researcher at a different time.

Included with this letter is paperwork that Ms Dender would appreciate you signing if you are interested in helping or having your child take part in further research.

Regards,

Lisa McMillan
Principal
19 May 2010

Oleander Place Wickham WA 6720
Wickham PS@det.wa.edu.au
Phone 08 9187 1089 Fax 08 9187 1728
APPENDIX N

CATEGORIES OF SOCIAL INTERACTION VERBS:

PLAY PARTNER SCALE
CATEGORIES OF VERBS FOR PLAY PARTNER SCALE

CATEGORIES:

Literal engage:
- to be involved physically or visually with the other person’s pretend play;
- includes joint shared attention;
- re-positioning self to be more engaged with the play.
- Accepting a toy offered by the play partner, or toy placed into the play scene

Symbolic Engage:
- show signs of comprehending the play partner’s symbolic representations;
- having the effect of being an active or passive support of the pretend play;
- Accepting a toy offered by the play partner, or toy placed into the play scene to use symbolically

There is a sense of progression of complexity and involvement in Maintain, Enhance, Extend and Elaborate

Maintain: (sameness)
- supporting actions and words that do not change the theme or the action but assist in the pretend actions of the play partner continuing without taking or adding other toys/objects into the scene eg moving the same toys into other positions, making a toy lie down, moving the doll from sitting to standing
- re-setting the fence up when it falls so that the farm is intact and the animals don’t get out.

Enhance: (adding to, improving)
- to add to another’s play so that the theme is continued with the play remaining on the same theme eg “Then the man jumps over the fence and saves the dog from drowning” ie a logical continuation of the theme that was playing out;
- adding more characters/ symbolic objects but remaining with the same theme;
- showing the play partner a toy, and/or describing it to them

Extend: (increasing time, adding more to the theme, bringing in more depth of theme)
- actions and/or words show the child adding their own theme into the play partner’s play and developing that theme;
- has a “time” component so that the play may be continued for longer, but with same theme – “let’s keep going with this play”

Elaborate: (more complex, more themes, different themes)
- actions and/or words which change the theme significantly;
- building on the theme so that it is more complex, characters take on more roles with greater complexity;
- moving the theme to a higher level eg from familiar themes like mothers and fathers to the unfamiliar and not-experienced theme of astronauts flying to Saturn
- joining themes with the play partner, to combine themes and increase complexity eg demolishing own and partner’s play scenes and joining the two together into a similar or different themed scene.

Diminish: (decreasing but not ceasing)
- actions and/or words which cause pretend actions, or themes and roles of the play partner to be decreased in intensity, duration, complexity but not ceased;
- mutually exclusive to Withdraw
**Extinguish:** (ceasing, no shared understanding)
- actions and/or words which cause the pretense of the play partner to stop eg “Stop doing that”, or adding in toys which have no relevance to the pretense of the other child and causing the theme to disintegrate and the child to abandon their pretend play;
- showing no understanding of the theme, roles, symbolism or deliberate refusal to make-believe;
- includes aggressive and destructive behaviours which cause pretend play to cease, eg the alligator attacks the child, or the doll chops up the other player with a toy axe

**Exclude:** (stop play, stop initiation, stop imagination)
- to stop the other person from being part of the pretend through actions or words such as “no, dogs can NEVER fly”
- to physically constrain/restrict the other child from coming into the play scene

**Withdraw:** (physical)
- leaving the play partner’s scene during the play causing the play partner to cease playing or change themes;
- refusing to interact to questions or invitations to join in the pretend play so that play does not commence or continue;

**Self-contain:** (non-interactive play, shared comfortableness)
- actions and/or words which indicate the child is engaged in own theme-related play and no interaction with the other occurs during pretend play;
- occasional glance or answer but no attempt to be part of the pretence;
- sets up and continues own play theme and scene;
- appears to play alongside in own unrelated pretend play

**Encourage:**
- actively asks the other to play;
- asks for assistance in setting up a scene;
- shows encouraging facial expression to increase interaction during pretend play;
- uses encouraging language eg “I like your farm” or “that’s a cool rocket”

**Apply social rules:**
- during pretend play exhibits social rules eg turn-taking, thanking; using name of other; excusing self; shows social rules in the pretend play eg has doll say thank you to the other player

**Wait:**
- actions or words which interrupt the other’s pretend play while waiting for a response from play partner;
- asking for a toy with no response from play partner so that child’s pretend actions are on-hold;
- repeating a question involving the pretend play scene and actions eg “does he jump over it?”

**Achieve:**
- actions/behaviours which specifically work towards spoken or non-spoken common goals between the play partners in pretend play

**Negotiate:**
- verbal interactions to share toys, solve problems, swap or compromise before or during the play scene set-up and within a play sequence eg “I’ll have these three horses and you can have the two ladies, ’cos I need the animals for the farm, OK?”
Impose:
- to dominate and dictate the theme, roles and progression of the play;
- to continually control the pretend play of the play partner through words and actions such as controlling the type of toy, or the number of toys so that the other has little/no choice in the pretend situation

Imitate:
- modelling on the pretend play of the other child, not assessor, using little or no or limited initiative or own theme;

Communicate
- Verbal, gestural or inferred communication eg gesturing for a toy to be given, nodding in agreement at an action, looking at the other to communicate eg indicating with inclination of head as to wanting the toy to be passed over
- Actively joining into a conversation where the other child is communicating with the assessor

Non-Peer Interaction (NPI):
- The child ceases or pauses in their play to look at others in the room
- Interaction with the assessor
- Listening into or observing the other child and assessor interact, without contributing to that interaction
APPENDIX O

PLAY PARTNER SCALE SCORE SHEET
SCORING SHEET

Name of child: ____________________________________________

<table>
<thead>
<tr>
<th>CATEGORY OF ACTION</th>
<th>FREQUENCY</th>
<th>DURATION</th>
<th>Effect/No Effect</th>
</tr>
</thead>
<tbody>
<tr>
<td>Literal Engage</td>
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<tr>
<td>Symbolic engage</td>
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<td>Maintain</td>
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<td>Enhance</td>
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<tr>
<td><strong>Elaborate</strong></td>
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<td><strong>Diminish</strong></td>
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<tr>
<td><strong>Extinguish</strong></td>
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<td><strong>Exclude</strong></td>
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<td><strong>Withdraw</strong></td>
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<td><strong>Self-contain</strong></td>
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<td><strong>Encourage</strong></td>
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<td>Activity</td>
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<td>Apply rules</td>
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<td>Wait</td>
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<tr>
<td>Achieve</td>
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<td>Negotiate</td>
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<td>Impose</td>
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<tr>
<td>Imitate</td>
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<td></td>
</tr>
<tr>
<td>Communicate</td>
<td></td>
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<td></td>
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</tbody>
</table>
APPENDIX P

ETHICS APPROVAL: DEPARTMENT OF EDUCATION AND TRAINING
Mrs Alma Dender
School of Occupational Therapy
Curtin University of Technology
GPO Box U1987
PERTH WA 6845

Dear Mrs Dender

Thank you for your completed application received 9 March 2010 to conduct research on Department of Education sites.

The focus and outcomes of your research project, *An Investigation of Play and Literacy of Western Australian Indigenous Children*, are of interest to the Department. I give permission for you to approach site managers to invite their participation in the project as outlined in your application. It is a condition of approval, however, that upon conclusion the results of this study are forwarded to the Department at the email address below.

Consistent with Department policy, participation in your research project will be the decision of the schools invited to participate, the children in those schools and their parents. Researchers are responsible for providing site managers with a copy of this letter as well as a current Working with Children Check.

Responsibility for quality control of ethics and methodology of the proposed research resides with the institution supervising the research. The Department requires a copy of a letter confirming that you have received final ethical approval of your research protocol from the Deakin University and Curtin University of Technology Human Research Ethics Committees as soon as they are available.

Any proposed changes to the research project will need to be submitted for Department approval prior to implementation.

Please contact Ms Liz Harrison, Policy and Planning Officer, on 08 9264 5168 or researchandpolicy@det.wa.edu.au if you have further enquiries.

Very best wishes for the successful completion of your project.

Yours sincerely

ALAN DODSON
DIRECTOR
EVALUATION AND ACCOUNTABILITY

17 March 2010

151 Royal Street, East Perth Western Australia 6004

Signature Redacted by Library
APPENDIX Q1

DOCUMENTATION PROVIDED TO PARENTS AND CHILDREN: PLAIN LANGUAGE STATEMENT
Dear Parent/Carer

An Investigation of Play and Literacy for Western Australian Indigenous Children

My name is Alma Dender and I am writing to you on behalf of Deakin University, Victoria. I am conducting a research project that aims to develop and refine a culturally appropriate assessment tool for Indigenous children which will provide therapists a more appropriate assessment for Indigenous children referred for difficulties in play, social interaction, and school skills. The project is being conducted as part of a Doctor of Philosophy degree through Deakin University, Victoria.

I would like to invite your child to take part in the project. This is because Wickham Primary School has a relatively large number of Indigenous children of an appropriate age. Wickham Primary School is one of two schools in Western Australia approached for their participation. Your child has also been provided with a letter from us that we encourage you to discuss with him/her.

Participation in the project will involve your child attending a 20 minute assessment session playing with another child and various toys. The play assessment session will be video-taped. Your child will also be involved in an oral language assessment which will take about 15 minutes to complete. Both of these activities will take place in another area of the school so your child will be escorted to and from the assessment area by the researcher.

Participation is voluntary and your decision will be respected. Your decision will not affect your family's relationship with your child's teacher or the school. If a decision is made to participate, it will need to be made by June 2010 for your child to be included in the project. Once a decision is made to participate, either you or your child can change your mind at any time.

Data for the study can be withdrawn at any time in the project.

The privacy and confidentiality of participants is assured. Information that identifies anyone will be removed from the data collected. The data is then stored securely in a locked cabinet at the School of Occupational Therapy and Social Work, Curtin University, and can only be accessed by Alma Dender. The data will be stored for a minimum period of 6 years, after which it will be destroyed by erasure of the video tape.

Participant privacy and the confidentiality of information disclosed by participants, is assured except in circumstances that require reporting under the Department of Education Child Protection policy, or where the research team is legally required to disclose that information.

The data will be used only for this project, and will not be used in any extended or future research without first obtaining explicit written consent from both you and your child.

It is intended that the findings of this study will be reported to the school. A summary of the research findings may be requested on completion of the project. You can access this by contacting Alma Dender and expect it to become available in December 2011.
The research has been approved by Deakin University Human Research Ethics Committee, Approval number EC 368-2006, and Curtin University of Technology Human Research Ethics Committee, Approval number HR53/2007 and has met the policy requirements of the Department of Education as indicated in the attached letter.

All persons undertaking research activities on Department sites must complete a Confidential Declaration. Also, under the Working with Children (Criminal Record Checking) Act 2004, people undertaking research that involves contact with children must undergo a Working with Children Check. Evidence that these checks are current for each member of the research team has been provided to the Principal of your school.

Should you have any concern about the conduct of this research project, please contact the Secretary HEAG-H, Dean's Office, Faculty of Health, Medicine, Nursing and Behavioural Sciences, 221 Bunwood Hwy, Bunwood, VIC, 3125. Telephone: (03) 9251 7174, Email: hmnbs-research@deakin.edu.au

Please quote project number HEAG-H EC368-2006

If you and your child are both willing for him/her to be involved, please complete the Consent Form on the following page. Your child is also asked to complete the Consent Form attached to his/her letter.

This project information letter is for you to keep.

Mrs Alma Dender
PhD candidate Deakin University
Senior Lecturer
School of Occupational Therapy and Social Work
Curtin University of Technology
GPO Box U1987
Perth WA 6845

Ph (08) 9266 3612
Fax (08) 9266 3636
Email a.dender@curtin.edu.au
APPENDIX Q2

CONSENT FORM: PARENT/CAREGIVER
DEAKIN UNIVERSITY HUMAN RESEARCH ETHICS COMMITTEE
CONSENT ON BEHALF OF A MINOR OR DEPENDENT PERSON

An investigation of play and literacy for Western Australian indigenous children

I hereby give consent for my son / daughter / dependent

to be a subject of a human research study to be undertaken by Karen Stagnitti and Alma Dender

I understand that the purpose of the research is

1. to investigate what changes are required to the Child-Initiated Pretend Play Assessment so that it is culturally appropriate for children in my community
2. to investigate if a child’s play ability is related to their oral language ability

I acknowledge

1. That the aims, methods, and anticipated benefits, and possible hazards/risks of the research study, have been explained to me.
2. That I voluntarily and freely give my consent to my child’s/dependant’s participation in such research study.
3. I understand that aggregated results will be used for research purposes and may be reported in scientific and academic journals.
4. That my child’s play will be video-taped and no-one will see the videos except for the researchers.
5. Individual results will not be released to any person including medical practitioners
6. That I am free to withdraw my consent at any time, during the study in which event my child’s/dependant’s participation in the research study will immediately cease and any information obtained will not be used.

Signature:                                      Date:

NOTE: The parent or parents, or person(s) who has guardianship of the child must sign the consent form.
APPENDIX Q3

PLAIN LANGUAGE STATEMENT: CHILD
Hello

My name is Alma Dender. I have a project that you might like to help me with.

The project is about getting to know what toys you like to play with and what stories you can tell.

Would you like to help me for about 30 minutes?

If you want to stop at anytime, that's OK, you can.

I won't tell anyone what you say while helping me with the project, unless I need to tell someone like your teacher.

Your parents, or the person who looks after you, has talked with you about helping with the project.

If you would like to help with the project, please draw a circle around the word YES, on the next page.

If you don't want to help with the project – that's OK too. Draw a circle around the word NO, on the next page.

Thank you.

Mrs Alma Dender
Fax (08) 9266 3636
Email a.dender@curtin.edu.au
PhD candidate Deakin University
Senior Lecturer
School of Occupational Therapy and Social Work
Curtin University of Technology
GPO Box U1987
Perth WA 6845

Ph (08) 9266 3612
Consent Form for Young Children

- I know I have a choice whether or not I want to do this project.

- I know that I can stop whenever I want.

- I know that I will be playing with toys and telling stories as part of the project.

- I know that I need to draw a circle around the word YES, on this page before I can help with the project.

YES

I would like to help with the project

NO

I do not want to help with the project

Name of child: ___________________________  Today's Date: / /
APPENDIX R

SOCIAL INTERACTIONS VARIABLES REMOVED

FOLLOWING CORRELATION
### Variables Removed Through Examination of Correlation

#### PPS Duration Variables Removed

- Total duration of Literal Engagement
- Duration of Literal Engagement with effect
- Duration of Literal Engagement with no effect
- Total duration of Symbolic Engagement
- Duration of Symbolic Engagement with effect
- Duration of Symbolic Engagement with no effect
- Total duration of Maintain
- Duration of Maintain with effect
- Duration of Maintain with no effect
- Total duration of Enhance
- Duration of Enhance with effect
- Duration of Enhance with no effect
- Total duration of Extend
- Duration of Extend with effect
- Duration of Extend with no effect
- Total duration of Elaborate
- Duration of Elaborate with effect
- Duration of Elaborate with no effect
- Total duration of Diminish
- Duration of Diminish with effect
- Duration of Diminish with no effect
- Total duration of Extinguish
- Duration of Extinguish with effect
- Duration of Extinguish with no effect
- Total duration of Exclude
- Duration of Exclude with effect
- Total duration of Withdraw
- Duration of Withdraw with effect
- Total duration of Self-contain

#### PPS Frequency Variables removed

- Frequency of Literal Engagement with effect
- Frequency of Literal engagement with no effect
- Frequency of Maintain with effect
- Frequency of Maintain with no effect
- Frequency of Enhance with effect
- Frequency of Extend with effect
- Frequency of Elaborate with effect
- Frequency of Extinguish with effect
- Frequency of Exclude with effect
- Frequency of Withdraw with effect
- Frequency of Self-contain with no effect
- Frequency of Encourage with effect
- Frequency of Apply Rules with effect
- Frequency of Wait with no effect
- Frequency of Achieve with effect
- Frequency of Negotiate with effect
- Frequency of Impose with effect
- Frequency of Imitate with effect
- Frequency of Communicate with effect
- Frequency of Non-Peer Interactions with effect
- Frequency of Non-Peer Interactions with no effect
Duration of Self-contain with effect
Duration of Self-contain with no effect
Total duration of Encourage
Duration of Encourage with effect
Duration of Encourage with no effect
Total duration of Apply Rules
Duration of Apply Rules with effect
Duration of Apply Rules with no effect
Total duration of Wait
Duration of Wait with effect
Duration of Wait with no effect
Total duration of Achieve
Duration of Achieve with effect
Total duration of Negotiate
Duration of Negotiate with effect
Total duration of Impose
Duration of Impose with effect
Duration of Impose with no effect
Total duration of Imitate
Duration of Imitate with effect
Duration of Imitate with no effect
Total duration of Communicate
Duration of Communicate with effect
Duration of Communicate with no effect
Total duration of Non-Peer Interactions
Duration of Non-Peer Interactions with effect
Duration of Non-Peer Interactions with no effect
APPENDIX S

VARIABLES REMOVED FOLLOWING SECOND CORRELATION
Removed variables

1. Frequency of Symbolic Engagement with effect
2. Frequency of Symbolic Engagement with no effect
3. Total frequency of Enhance
4. Frequency of Enhance with no effect
5. Total frequency of Extend
6. Frequency of Extend with no effect
7. Frequency of Elaborate with no effect
8. Frequency of Diminish with effect
9. Total frequency of Extinguish
10. Total frequency of Exclude
11. Total frequency of Withdraw
12. Frequency of Self-contain with effect
13. Frequency of Encourage with no effect
14. Total frequency of Apply Rules
15. Frequency of Apply Rules with no effect
16. Total frequency of Wait
17. Frequency of Wait with effect
18. Total frequency of Achieve
19. Total frequency of Negotiate
20. Frequency of Impose with no effect
21. Total frequency of Imitate
22. Frequency of Imitate with no effect
23. Frequency of Communicate with no effect
APPENDIX T

PENN INTERACTIVE PEER PLAY SCALE SCORE SHEET
### Penn Interactive Peer Play Scale

Teacher Report

**Child name:**

In the past few months, indicate how much you have observed the following behaviours in this child during free play.

<table>
<thead>
<tr>
<th>Item</th>
<th>Never</th>
<th>Seldom</th>
<th>Often</th>
<th>Always</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Helps other children</td>
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<tr>
<td>2. Starts fights &amp; arguments</td>
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<tr>
<td>3. Is rejected by others</td>
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<tr>
<td>4. Does not take turns</td>
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<tr>
<td>5. Hovers outside play group</td>
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<tr>
<td>6. Shares toys with other children</td>
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<tr>
<td>7. Withdraws</td>
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<tr>
<td>8. Demands to be in charge</td>
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<tr>
<td>9. Wanders aimlessly</td>
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<tr>
<td>10. Rejects play ideas of others</td>
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<tr>
<td>11. Is ignored by others</td>
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<tr>
<td>12. Tattles</td>
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<tr>
<td>13. Helps settle peer conflicts</td>
<td></td>
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<tr>
<td>14. Destroys others' things</td>
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<tr>
<td>15. Disagrees without fighting</td>
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<tr>
<td>16. Refuses to play when invited</td>
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<tr>
<td>17. Needs help to start playing</td>
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<tr>
<td>18. Verbally offends others (name calling)</td>
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<tr>
<td>19. Directs others' actions politely</td>
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<tr>
<td>20. Cries, whines, shows temper</td>
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<tr>
<td>21. Encourages others to join play</td>
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<tr>
<td>22. Grabs others things</td>
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<tr>
<td>23. Comforts others when hurt or sad</td>
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<tr>
<td>24. Confused in play</td>
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<tr>
<td>25. Verbalizes stories during play</td>
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<tr>
<td>26. Needs teacher's/adults direction</td>
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<tr>
<td>27. Disrupts play of others</td>
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<tr>
<td>28. Seems unhappy</td>
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<tr>
<td>29. Shows positive emotion during play (eg, smiles, laughs)</td>
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<tr>
<td>30. Is physically aggressive</td>
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<tr>
<td>31. Shows creativity in making up play stories and activities</td>
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<tr>
<td>32. Disrupts class during transitions from one activity to another</td>
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</tbody>
</table>
APPENDIX U

TIME FOR “TALK” ORAL LANGUAGE PROFILE
### Oral Language Profile

**For each indicator place a tick along the profiling bar from Phase 1-3 level of performance.**

#### Social Communication

<table>
<thead>
<tr>
<th>Phase 1 Emergent</th>
<th>Phase 2 Early Developing</th>
<th>Phase 3 Developing</th>
</tr>
</thead>
<tbody>
<tr>
<td>SCI</td>
<td>Expresses basic communicative needs but needs assistance to formulate social messages in socially appropriate ways.</td>
<td></td>
</tr>
<tr>
<td>SCI</td>
<td>Uses language for a variety of social purposes, eg. greet, request, apologies, invite.</td>
<td></td>
</tr>
<tr>
<td>SCI</td>
<td>Is able to identify and discuss the different functions of language eg. to greet, request, persuade, inform, argue, etc.</td>
<td></td>
</tr>
<tr>
<td>SCI</td>
<td>Jots in unique social situations, eg. action, own ideas, others.</td>
<td></td>
</tr>
<tr>
<td>SCI</td>
<td>Shares information in whole group discussions or conversations when requested.</td>
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<tr>
<td>SCI</td>
<td>Actively takes turns in whole group discussions.</td>
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</tr>
<tr>
<td>SCI</td>
<td>Talks to selected peers and adults, revises relative conversation spontaneously.</td>
<td></td>
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<tr>
<td>SCI</td>
<td>Discusses collaborative tasks with peers, eg. assess feedback, comments, asks questions, offers help.</td>
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<tr>
<td>SCI</td>
<td>Is able to explain procedures to others, showing an awareness of the steps involved, eg. explaining how to order lunch to watery student.</td>
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<tr>
<td>SCI</td>
<td>Looks awareness of the need to maintain peer focus and displays inappropriate non-verbal behaviors.</td>
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<tr>
<td>SCI</td>
<td>Uses appropriate non-verbal behaviors, eg. signals, looks at speech, signs, contact.</td>
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</tr>
<tr>
<td>SCI</td>
<td>Uses non-verbal means to convey social empathy and interest in others.</td>
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<tr>
<td>SCI</td>
<td>Demonstrates inappropriate interpretation behaviors, eg. inappropriate lack of acknowledgement of speaker.</td>
<td></td>
</tr>
<tr>
<td>SCI</td>
<td>Follows appropriate listening conventions, distinguishes between appropriate playground or classroom language, eg. turns-taking, position terms.</td>
<td></td>
</tr>
<tr>
<td>SCI</td>
<td>Is able to identify and explain the affect of communicating behavior on others, eg. non-verbal cues, using others' words, positive or negative statements.</td>
<td></td>
</tr>
</tbody>
</table>

#### Comprehension

<table>
<thead>
<tr>
<th>Phase 1 Emergent</th>
<th>Phase 2 Early Developing</th>
<th>Phase 3 Developing</th>
</tr>
</thead>
<tbody>
<tr>
<td>C1</td>
<td>Requires direct modelling or explanation of classroom routines and procedures.</td>
<td></td>
</tr>
<tr>
<td>C1</td>
<td>Listens attentively and uses referencing skills to work out requirements of simple instructions.</td>
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</tr>
<tr>
<td>C1</td>
<td>Able to copy out instructions related to中午 instead ‐in English using verbal information alone.</td>
<td></td>
</tr>
<tr>
<td>C1</td>
<td>Speaks context‐apt or uses inappropriate strategies to attempt response.</td>
<td></td>
</tr>
<tr>
<td>C1</td>
<td>Indicates or non‐specific ways when something is not understood, eg. requests repeat, asks general question.</td>
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</tr>
<tr>
<td>C1</td>
<td>Shows limited information to be made instead of using specific information or further exploration.</td>
<td></td>
</tr>
<tr>
<td>C1</td>
<td>Is unable to make contributions in group discussions or when teacher has simplified and structured for response.</td>
<td></td>
</tr>
<tr>
<td>C1</td>
<td>In group discussion the child follows the topic and makes relevant contributions, eg. reflection, comments, asks questions.</td>
<td></td>
</tr>
<tr>
<td>C1</td>
<td>Helps questions and makes comments that extend or add to topic in small group and class discussions.</td>
<td></td>
</tr>
<tr>
<td>C1</td>
<td>Ready respond appropriately to complete, relevant questions, but is able to extend and modify predictions and inferences.</td>
<td></td>
</tr>
</tbody>
</table>

#### Content and Organization

<table>
<thead>
<tr>
<th>Phase 1 Emergent</th>
<th>Phase 2 Early Developing</th>
<th>Phase 3 Developing</th>
</tr>
</thead>
<tbody>
<tr>
<td>C2D</td>
<td>Does not initiate topics independently.</td>
<td></td>
</tr>
<tr>
<td>C2D</td>
<td>Is readily associated with the &quot;open and free&quot; or &quot;free style&quot; topics related to personal experience.</td>
<td></td>
</tr>
<tr>
<td>C2D</td>
<td>Retains information in formal or written topics to the class tag report, descriptive writing or personal experiences.</td>
<td></td>
</tr>
<tr>
<td>C2D</td>
<td>In conversation, reiterating or stating constant concepts are repeated in all information components.</td>
<td></td>
</tr>
<tr>
<td>C2D</td>
<td>In conversation, reiterating or stating some sequence is repeated in all information components.</td>
<td></td>
</tr>
<tr>
<td>C2D</td>
<td>Any events or information components are included with minimal need for support.</td>
<td></td>
</tr>
<tr>
<td>C2D</td>
<td>Initials indicate they have not understood, the child speaks the information, but they are not able to restate or summarise the information.</td>
<td></td>
</tr>
<tr>
<td>C2D</td>
<td>Affords two communication and self‐expression to clarify their meaning or meaning, eg. &quot;This also raised... no, I mean...&quot;.</td>
<td></td>
</tr>
<tr>
<td>C2D</td>
<td>Shows appropriate communication and self‐expression to clarify their meaning or meaning.</td>
<td></td>
</tr>
<tr>
<td>C2D</td>
<td>Early parasite or unsolicited attention to add inferences, feedback, inferences or information to be presented to the group.</td>
<td></td>
</tr>
</tbody>
</table>

#### Linguistic Structures

<table>
<thead>
<tr>
<th>Phase 1 Emergent</th>
<th>Phase 2 Early Developing</th>
<th>Phase 3 Developing</th>
</tr>
</thead>
<tbody>
<tr>
<td>L4M</td>
<td>Not fully acceptable with errors in production of sounds.</td>
<td></td>
</tr>
<tr>
<td>L4M</td>
<td>Uses audible, intelligible speech.</td>
<td></td>
</tr>
<tr>
<td>L4M</td>
<td>In presentation situation performs use of role to entertain audience of observers.</td>
<td></td>
</tr>
<tr>
<td>L4M</td>
<td>Uses a limited range of simple sentence types, error with articles, etc.</td>
<td></td>
</tr>
<tr>
<td>L4M</td>
<td>Uses well‐formulated grammatically correct sentence, eg. statements, comments, questions.</td>
<td></td>
</tr>
<tr>
<td>L4M</td>
<td>Uses a wider range of sentence types, eg. 5, 6, 7, or number, or number.</td>
<td></td>
</tr>
<tr>
<td>L4M</td>
<td>Limited or short‐held use of descriptive vocabulary, eg. colour, big, little, etc.</td>
<td></td>
</tr>
<tr>
<td>L4M</td>
<td>Uses a small range of descriptive vocabulary, eg. scary, beautiful, fast.</td>
<td></td>
</tr>
<tr>
<td>L4M</td>
<td>Vocabulary use reflects a variety of influences, eg. peer, rush, rush, rush.</td>
<td></td>
</tr>
</tbody>
</table>

#### The skills rated in this profile reflect the child's ability to use Standard Australian English. It is important to remember that children from culturally and linguistically diverse backgrounds will also have valuable skills in their "home language" variety and these should not be discounted. Some children may exhibit a level of shyness or reluctance to answer. Exercise caution in interpreting reluctance to respond, and seek appropriate advice if necessary.