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Knowledge, Identities and Dilemmas of the Self in Physical Education Teacher Education

by

Anthony James Rossi B.Ed(Hons), M.Sc

Submitted in fulfilment of the requirements for the degree of Doctor of Philosophy

Deakin University
August 1999
I certify that the thesis entitled

KNOWLEDGE, IDENTITIES AND DILEMMAS OF THE SELF IN PHYSICAL EDUCATION TEACHER EDUCATION

submitted for the degree of

DOCTOR OF PHILOSOPHY

is the result of my own research, except where otherwise acknowledged, and that this thesis in whole or in part has not been submitted for an award, including a higher degree, to any other university or institution.

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Date: 26th August 1999
Abstract

The purpose of this study was to understand how becoming a physical education teacher is shaped by personally and socially constructed knowledge and is affected by the rules and resources of the structural systems in which physical education teacher education (PETE) takes place. The study was influenced by the traditions of Personal Construct Theory (Kelly 1955), the theoretical tenets of social constructionism (Gergen 1991), and Giddens’s work on structuration (1984) and self-identity (1991).

Ten PETE students participated in the study over almost three years. They undertook repertory grid sessions periodically through their study, followed by ‘learning conversations’, in which the grid itself was discussed, reworked and collaboratively analysed. All conversations were audio taped and were fully transcribed. The data were analysed in three ways, all of which were used to construct a story of the study. First, the grids were analysed for patterns, consistencies across students and for consistencies within students. The grids provided the first level story that related to constructions of knowledge. These constructions were then content analysed using analysis categories developed from Gergen’s notion of the saturated self and Giddens’ ideas of identity in late modernity. These analyses represented what Giddens calls a double hermeneutic since to all intents and purposes, the story of the study was constructed from the participants’ constructions of what it is to be a physical education teacher.

The data suggest that during the process of constructing professional knowledge the students experienced a series of dilemmas of professional self-identity. It seems that to become a PE teacher, the dilemmas must be worked through until a position of what Giddens calls ontological security has been achieved. Some students in this study had not managed to reach such a point before they left university and entered the teaching profession. In spite of this, the methods of the study allowed the participants to begin to articulate their theories and visions of teaching physical education. The therapeutic qualities of Kelly’s theory encouraged a number of the students to ‘see it differently’ (Rossi, 1997) and to begin to develop a rationale for physical education based on educational practice that considers the needs of individuals and the promotion of a socially just community. I have argued however that this ‘critical’ approach to physical education pedagogy was considered risky and as such students who were prepared to engage in such risk strategies also had other strategic relational selves (Gergen, 1991) to minimise risk at key times during their teacher education.
Acknowledgments

Any work of this nature can only be brought about by the support, sacrifice and tolerance of others. In this regard I would like to acknowledge and thank the following persons.

First, I would like to thank Professor Richard Tinning for his guidance, sensible criticism and encouragement over what has been a protracted period. I consider myself privileged to have been able to work with one of the most accomplished experts in the field of physical education teacher education. Most of all however, I would like to thank Richard for his friendship and for giving me the kind of space and time I needed to follow my own ideas, on occasions, at times of personal difficulty. Such friendship was deeply valued and will continue to be so.

Secondly, I am deeply indebted to the ten young people who allowed me into their lives for nearly three years in order to share with me their journey through teacher education. I would like to thank them for the time they gave up and the commitment they made to the study. I wish them all well in their teaching careers ahead.

Finally, I have no greater debt of gratitude than to Gay, Hannah and Patrick, my wife and two children. I have no doubt that I neglected them all in varying degrees and at various stages over the years. Indeed an undertaking of this nature can easily blind one to things of true importance. Their love, support and tolerance were more than any one person could possibly ask for, and certainly more than I deserved.
For Tony and Ella
For always being there

And for Gay
Who never lost the faith
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CHAPTER ONE

INTRODUCTION

I have to confess that embarking on a study that had knowledge in physical education as one of its major thrusts was daunting. This was mainly because little in the way of a consistent corpus of knowledge has been identified as being unique to physical education. That which has acquired the label of ‘games’ or ‘play’ and sometimes ‘sport’ which as a term, commanded far greater respect in the wider community but little in the parochial confines of a school staffroom. As a consequence, physical education (PE) teachers appear to have little in the way of status around schools, their subject matter is often sneered at, and their identities are frequently characterised by a military police metaphor. Curiously, and as something of a paradox, physical education at the tertiary level has gone through an academic metamorphosis second to none. It has, over the last fifteen years, departed from its original home in Faculties or Departments of Education. It has emerged, phoenix like, as Sports Science or Human Movement Studies (and other such nomenclature) and may be found among other bed-fellows in Faculties of Science or Health Science or Biomedical Engineering or Kinesiology - a term favoured in America since the early 1990’s.

Indeed, so far have ‘we’ come since Franklin Henry’s watershed article in 1964, that many of the departments that pioneered the early work in establishing PE as a discipline no longer exist. Henry (1964) was among the first to really attempt to identify what might constitute the discipline knowledge for the study of PE. This is discussed in more detail later. Suffice it to say his ideas were imbued with a heavy sense of scientific endeavour and he made a genuine attempt to free the study of physical education from its professional preparation (of physical education teachers) tag. Hence, Henry argued that the study of physical education could be organised around a range of sub-disciplines, which drew from science and the liberal arts.
However as a scientist, the systematic scientific study of physical activity was at the core of Henry's thesis. It is little wonder then, that what stands for knowledge for teaching physical education in schools continues to be deeply problematic. Such knowledge appears to be informed by other parent discipline knowledge, predominantly of a bio-medical nature, which seems to be part of the rite of passage for becoming a physical education teacher.

Physical education in schools seldom attracts much in the way of critical attention until the connections with sport are brought to the fore. This tends to be done for political gain rather than sensitive debate. In England and Wales for example, the Government intervention in the construction of the National Curriculum for Physical Education (NCPE) was such that it had to be couched in terms of performance in sporting activities. This was a move by a rightist government to show its interest in sport and how it should be part of the school curriculum. Indeed, Kay (1998) has suggested that 'The New Right's aim was both to legitimate and entrench its definition of 'social reality' by transmitting its ideology as 'common sense'” (p.202). Kay argues that physical education was seen as a mechanism used to transmit political objectives. This was founded on how the 'games ethic', with its sense of middle class values and nationalism could be contrived as 'traditional' (Mangan, 1981) in schools in England and Wales.

The PE teacher is implicated here, since it is she who will have certain expectations placed upon her to produce teams and organise competitions, house matches, sports days and carnivals (as they are known in Australia). This is set to increase as schools become increasingly responsible for their own financial management as happened in the local management of schools (LMS) in England and Wales and as is happening in Australia with for example, the 'Leading Schools' movement in Queensland, and 'Schools of the Future' in Victoria. Within the context of devolved school management, sport becomes part of a school's 'shop window' and an important tool, as schools increasingly have to compete in an open 'marketplace' for pupils. Only
then does the PE teacher command attention because the PE teacher is seen as an
organiser, a manager, and a disciplinarian. The military legacy (see Tinning Kirk and
Evans, 1993 for the Australian version of the legacy) runs deep in the psyche of PE
teachers... or rather that the PE teacher is socially constructed in such a way. The
terms sport and physical education are seldom used synonymously in the academic
literature and yet beyond the sanctuary of the university gate there is a certain taken
for granted assumption that these are one and the same.

All of this has affected me. As a head of physical education, I had people assigned to
my department because they ‘played a bit of football’ or was a ‘cricket enthusiast’ or
was a ‘weekend rambler’. Do not misunderstand my commentary here. These were
well meaning and committed teachers and their contribution to the program was
valued. However, their expertise in teaching physical education could be described
as limited. It is tantamount to asking me to teach French because I went to France for
a holiday each year. The implication was that knowledge for teaching physical
education resides only in the expertise of sports participants which can then simply
be turned on, tap like, to flow into the PE lesson environment unhindered and
unproblematically.

These are just short tales from someone perhaps reflecting through the lens of ‘bitter
disengagement’ (see Templin, Sparkes and Schempp, 1991). They are experiences
however that helped me construct a meaning, a reality if you will, about teaching
physical education. These were what Giddens (1991) calls fateful moments and they
encouraged me to re-order my own physical education narrative. I make no apology
for the biographically grounded nature of this study. We are all deeply informed by
our biographies (Britzman, 1991; Goodson, 1991, 1992; Goodson and Hargreaves,
1996; Lortie, 1975), and I am no exception.

This study then has importance for me and therefore by implication will become
important to every PETE student with whom I work. Britzman (1991) has argued
that research becomes important to the researcher when it starts to tell them more about the world they inhabit. As she says ‘...Indeed, as someone who has spent a significant time in school and university settings, my investment in understanding the messiness of learning to teach is an investment in self-understanding and in the desire to help refashion the contexts where I live’ (Britzman, 1991, p.16).

As this was the motivation for Britzman’s study, so it serves as my motivation also. The reason people like me want to know more about the world we inhabit and about the people with whom we work is so that we might make better decisions within that world. This is so that we might make better sense of that world and so that we might come upon ways that will help our students make better sense of the world into which they wish to enter. I should not however lose sight of a more mundane but perhaps pragmatic motivation. Within the academe, a doctoral qualification is regarded as essential and this study would therefore have a multiple ‘pay off’ for me as an academic.

A study such as this however, cannot be just about what knowledge might be considered important for teaching physical education. This is inherently linked to the process of ‘becoming’. My own reordering of narrative through my own mediated experiences have taught me this and in some respects, like the students with whom I work, some of my learning for becoming a PE teacher came from a from a negative result. Some of my own learning is captured within these pages in the form of vignettes. I have no doubt that my own dilemmas of identity (Gergen, 1991; Giddens, 1991) as a teacher educator will reflect the dilemmas of identity experienced by my students as they struggled to construct meaning and knowledge as they forged their fledging identities as teachers. These are the stories I would like to portray and understand.

I shall attempt to capture my own beginning in this venture, which may underscore the issues of relevance and importance. For this a couple of short vignettes will be
used, short episodes from my own life history which may help locate the study in its broader unfolding context.

The Study

This study had its genesis in my own interests in what stood for knowledge in physical education. The reasons for being interested in this will again reflect my own life history. However, such reasons essentially have their focus in the disparity between university knowledge one has to acquire to become a PE teacher and the subject matter knowledge (Shulman, 1986) that is said to represent physical education at the primary and secondary school level. This is old ground. Indeed Henry's (1964) intellectual arguments were founded on the disparity between physical education as a discipline and physical education as a professional practice with its own corpus of professional knowledge. Physical Education knowledge in the school setting has more recently been established by the emergence of National Curricula, to which the example of England and Wales has already been alluded. So for physical education teachers in the UK, a body of knowledge exists largely through Government mandate which identifies physical education as the acquiring of (physical) skills in six major movement areas: games, swimming, track and field athletics, gymnastics, dance and outdoor/adventure education. Whilst the privileging of certain knowledge, in this particular context, can seen to be a particularly political process (Kay, 1997; Penney 1994; Penney and Evans, 1997; Penney and Kirk, 1997) there is none the less an official (Apple, 1991) body of knowledge divided into 'key stages'. These more or less represent what children should be able to do at particular stage of schooling.

In Australia it might be argued that the 'National Curriculum' is also a political document but it does demonstrate how a corpus of knowledge within a similar subject area can be differently constructed in search of different learning outcomes (Penney and Glover, 1998). However, significant mapping exercises in Australia to evaluate the implementation of the document reveal that the areas that are given
dominant value are those which relate to physical motor tasks most commonly in the form of sport (see Kirk, 1995). Tinning Kirk and Evans (1993) provide a useful distinction by indicating that in Australia, knowledge in school physical education is characterised by movement activities up to year 10. In the senior school such movement and physical activity is part of the course of study which also includes some of the biophysical sciences and some socio/cultural/historical knowledge as the medium of analysis of physical education.

*The articulation between university and school knowledge in physical education*

The assumption then, is that the courses of study undertaken at the university level in order to become a physical education teacher must somehow inform professional knowledge of the physical educator (Laws, 1994). So for example, for a physical educator to have a full understanding of movement, it is assumed that the study of biomechanics, kinesiology, functional anatomy is appropriate. To understand how skill develops, how motor action is controlled, the study of skill acquisition and motor control is appropriate, and so it continues. The problems for student teachers emerge when they attempt to make all of this ‘discipline’ knowledge somehow meaningful (perhaps rather than relevant). However, students are socialised into believing that such knowledge is somehow important for accreditation purposes, but perhaps come to regard it as meaningless for practical purposes. If so, what knowledge do physical education teacher education (PETE) students regard as meaningful, how do they make meaning of it, what meanings do they construct and how do they construct them? These are the questions I was asking myself. However, there are greater levels of complexity. For example, if we assume that meaning is constructed from these sub-discipline areas, how then does that assist in the construction of professional knowledge, which represents some of the knowledge which informs teacher action? Moreover, what are the various influences on knowledge for professional action, how are they constructed, of what are they constructed? These are also questions I wanted to address.
More recently it became apparent, by being introduced to other writers and their various texts, that PETE students become teachers through the creation of a professional identity. This is fraught with dilemmas and the dilemmas can be traced back to the uncertainty of knowledge (see Gergen, 1991; Giddens, 1984, 1991). Thus, through this process of self-questioning three major theoretical influences emerged. First was George Kelly’s (1955) Personal Construct Theory where Kelly views persons as scientists capable of constructing and reconstruing their world in light of experience. Second Ken Gergen’s (1991) notion of the Saturated Self where the self is inundated by conflicting and shifting claims of truth. The final influence was Anthony Giddens’ (1984, 1991) and his ideas about the self in high modernity as someone who is knowledgeable about their social action but whose action creates the very conditions for such action to perpetuate itself, or what Giddens calls the duality of structure. This may seem a strange selection of theory, but all have shaped my thinking profoundly and have offered a way to view the development of physical education teachers in new and exciting ways.

The Research Issues
This study seeks to examine how university education students who are studying a major in physical education, construct the knowledge considered to be important for teaching physical education in the primary school setting. It is important to emphasise that these constructs will be considered in the first instance to be personal constructs. It is clear however that human agency is subject to a range of pressures and frequently is shaped by the very context one is situated within. However, such agency may also be shaped by context external to the person and Giddens (1991) suggested this is so because time and space in late modernity are greatly compressed by modern communication systems. Similarly Gergen (1991) argued that because of the compression of time and space (though he prefers to argue that they have disappeared altogether) we as humans are subject to a far greater range of interactions that fifteen years ago were simply not available. Under these conditions, we become what he calls saturated and are subject to competing claims for truth.
This renders our personal constructions as vulnerable not to our own reconstruals through new experience but through construals that are constructed socially.

The theoretical position of this thesis then, is that the constructions of knowledge will come to have a profound impact on the development of a professional self-identity for (PETE) students. Furthermore, professional self-identity experiences a series of dilemmas which further shape what it means to be a teacher of physical education. This must prompt further questions. Therefore, the research questions may be framed as follows:

• What is the nature of constructed knowledge for teaching physical education?
• How is knowledge constructed socially?
• What happens at the point of interface between these two?
• What is the role of belief in how knowledge is constructed?
• How does knowledge shape professional identity?
• What part does one’s life experiences play?
• What dilemmas must be lived through to become a teacher of physical education?

Many of the current problems in physical education as a school subject are as bound up in the issue of what stands for knowledge as a subject area. This was indicated in many ways by the submissions made to the Senate Inquiry into Physical and Sport Education (1992). The Inquiry concluded that physical education was consistently framed by sport throughout Australia, which in turn was consistently framed by games. This is attributable in part to both the recruitment patterns into PETE courses which still tend to attract (perhaps not surprisingly) accomplished sports performers. In addition, such courses, according to the Senate Inquiry, make an unbalanced mix of course work favouring the bio-medical and biomechanical sciences. Hence the identity constructions of the physical education teacher and of the PETE student will be correspondingly influenced. So to continue with a recent example, curriculum developments aimed at providing prescriptive or general frameworks for
pedagogical practice in physical education may further cement the 'coaching identity' as the dominant self (or even an essential self - Gergen, 1991) of a physical education teacher (Penney, 1994). This is an example of what Sparkes (1987) called 'innovation without change'. In Australia, there has been much theorising about a crisis in secondary physical education and to a lesser extent in physical education more broadly. In this context, the identity of the physical education teacher is more difficult to characterise, at least in the first instance. The historical connections that physical education has to the study of health in Australia compound this, but so does the influence of omnipresent sport. The success of health and sport has perhaps contributed to the Australian crisis in physical education. More recently, researchers and theorists have argued that in fact the crisis has been 'talked up'. Kirk (1996, 1998) argued that far from being in crisis, physical education in Australia is in pretty good shape, pinning his argument largely on the innovative conceptualisation of the National Statement and Profile. He also points to the local state interpretations of these documents, and on much of the good work going on at the senior school level, particularly in Queensland.

Not withstanding such debate, the nature of what is considered pedagogical knowledge in physical education continues to be an issue. An important factor in this study is that it is the knowledge for teaching physical education that represents the focus of the research. This is so, because teaching physical education is frequently seen as commonsensical, taken-for-granted and unproblematic (Crum, 1993; Gore, 1990; Kirk, 1989; Rossi, 1994; Sparkes, 1993; Tinning, 1991, 1992a).

**Genesis of the Study**

*(Re)Constructing my own identity through knowledge: A short vignette*

I felt I knew something about teaching physical education. After all, I had over ten years of broad professional experience in teaching physical education and in managing physical education departments. I had also gained extensive experience working for local education authorities (LEAs) in England as a curriculum adviser on
a voluntary basis. Moreover, I was a 'trained specialist' in the area having attended what was recognised as one of the 'top' institutions in the UK for male 'teacher training' in physical education.

However, upon entering the university sector in Australia I found my expertise questioned by a variety of texts and by professional colleagues. This was unsettling to say the least. The literature, imbued with critical theory seemed to denounce what I believed. This was largely because I appeared to resemble what Tinning (1991) has called a performance pedagogue - someone whose sole pedagogical concerns are for the systematic accretion of skilled performance in learners without due regard for context, children's background etc. I suspect I did not completely fit into this category. I had for most of my career experimented with aspects of teaching physical education. I had even gathered some fairly crude data. I did not however conduct such activity under the framework of an action research model (cvcn if that is what it resembled) but I was interested in improving my practice (and hopefully the practice of those around me) as a physical educator. I suspect though, that I was not driven by an overtly emancipatory agenda. So as a performance pedagogue one might assume I was endowed with the technical where-with-all to teach physical education. This would suggest that I knew something about movement in its broadest sense, something about sport in general and particular sports specifically. It would also suggest that I had a good idea about how these things might be transmitted to young learners. These assumptions however, came under severe scrutiny.

In a discussion with a colleague from the Training section of my own Faculty, I emphasised that it seemed to me to be impossible to divorce what was being taught from how it was being taught. This argument was steeped in my own belief system. I also argued that the movement culture (Crum, 1993) of the subject added to the uniqueness of physical education. I believed this quite independently of reading work in this area (see Lusted, 1986; Shulman, 1986, 1987; Tinning 1992a). My colleague however (whose teaching area was Instructional Strategies) had a view of teaching
which steeped in the rhetoric of behavioural science and argued that there were a
given number of *approaches* to teaching that could be employed for more or less any
situation. The teacher’s skill simply rested in choosing the right one. I had long had
an understanding of teaching skills, styles and strategies in physical education
(Mosston and Ashworth, 1986; Rink, 1985; Siedentop, 1991). Indeed Mosston’s
spectrum of teaching styles had been of great interest to me for a long time as had the
Teaching Games for Understanding (TGFU) movement (Bunker and Thorpe, 1982;
Spackman, 1983) which had dominated much of the literature in the England in the
early to mid eighties. However, I was unable to argue that there was more than this to
teaching physical education even though I knew that there was! I had no language
with which to argue. The discussion continued with my colleague suggesting she
could apply any ‘instructional strategy’ to any physical education content
knowledge. This episode in my own development convinced me I needed a broader
understanding of knowledge for teaching physical education, for my own sake and I
believed for the sake of students. This was the genesis for this study and much later I
came to see how it was consistent with Britzman’s (1991) perspective of wanting to
know more about the world I inhabit.

This fateful moment (Giddens, 1991) was and remains unsettling. I was not the
expert I considered myself to be. My subjectivity had been put to a severe test in my
most recent period as a teacher. Whilst raising consciousness may bring about
improvements in professional practice, the degree of anxiety of existence (see
Giddens, 1991) has a profound impact on self-identity. What seemed apparent was
that knowledge of PE, knowledge in PE and knowledge for teaching PE lacked
coherence and certainty. In this sense I had become what Gergen (1991) referred to
as a ‘Saturated Self’. Gergen argued that this is a symptom of what he prefers to call
'postmodernity’. Gergen indicated that under such conditions, knowledge is
uncertain and transient. It is governed by collective agreement through what he terms
a ‘coalition of subjectivities’. His argument suggested that you are either part of
some kind of ‘knowledge club’ or you are not, based largely on the belief system to
which you might be committed. This he suggests will lead to dilemmas of self-
identity, and I believe that I was experiencing a dilemma of self-identity as a teacher
of physical education. It occurred to me that the students with whom I worked were
likely to experience this also.

A second short vignette

Part of my earlier experience as a school teacher, had been as a visiting lecturer in
the Faculty of Education at a university in the north of England. At the time I was the
Head of Physical Education at a large local comprehensive (state) school. I was
delighted to be asked to undertake the lecturing role and the head of the program at
the university, Chris (a pseudonym) knew of my interests in a range of pedagogical
processes.

The unique program in which I worked, catered for students of other disciplines who
were going into schools to teach their own subject area but who had a genuine desire
to teach some physical education (or perhaps more accurately I should say sport). On
speaking to Chris about his program I asked if the students covered any areas such as
skill acquisition, functional anatomy, exercise physiology or biomechanics which
have become widely known as human movement sciences. Unashamedly, Chris said
no, going on to describe his course as purely pedagogical meaning that the focus of
the program was the range of technical skills needed for teaching physical education.

In other words, the course focussed on pedagogical principles that Chris clearly felt
were unique to physical education and which would equip the students with some
techniques for the role for which they were supposedly preparing. At first I had some
concerns with this but then considered my own background and began to ask myself
to what extent the human movement sciences or any other sub-discipline area for that
matter had informed my pedagogical practice. I still hold the belief that they do
somehow and in varying degrees but I would be unable to pinpoint exactly how. And
whilst the program in which I was working foregrounded the technical aspects of
teaching physical education (this is not meant as a criticism), the students were committed to being good at it. In other words, they wanted to be good teachers.

I soon realised that my question about the sub-discipline areas of movement science had been rather pompous, assuming that if these students did not undertake such courses, they were not as knowledgeable as I was! My own reaction to this one of confusion and it served as one of the early catalysts to my questioning of the nature of knowledge in physical education and what is meant to become a physical education teacher.

The evolving nature of discipline knowledge for physical education
Of course the academic nature of physical education is something of a paradox. For decades school physical education has been the butt of staffroom jokes for the nature of the work that goes on in the lessons which predominantly has been viewed as playing games. Indeed during my own schooling (a very traditional London grammar school) an activity called ‘games’ is what appeared on the timetable and a whole afternoon was devoted to it. PE also appeared on the timetable and this was a half hour session indoors sometimes gymnastics, sometimes basketball (not very popular in England in the late 1960’s), but mostly unstructured activities where the education in physical education was conspicuous by its absence. In primary schools, physical education has (and perhaps still is - see Tinning, Kirk and Evans, 1993) traditionally been little more than an occasion to get children outside to blow off a little steam or get rid of excess energy. These forms of physical education were readily exported to the colonies along with military drill or physical training (Kirk, 1994; Kirk and Spiller, 1994; Tinning, Kirk and Evans 1993).

Kirk and Spiller (1994) pointed out physical education as the name of a school subject is relatively recent and really only gained widespread acceptance after the second world war (also see Kirk, 1992b). PE as an academic discipline had its origins in the 1970’s and can be traced in large measure, though not exclusively, to
Franklin Henry's efforts in the Department of Physical Education at the University of California at Berkeley. Motor skill research had been around for some time (for a good review see Schmidt, 1982), and the American journal Research Quarterly had published such research since its beginnings. By the early 1960's motor behaviourists were in decline, and the discipline (motor behaviour) seemed doomed to disappear. However, as Schmidt (1982) described, Henry was taking the concept of motor skill acquisition research in completely new directions under the auspices of physical education. Henry moved away from the traditional tapping tasks used in psychological research and looked at whole body movements that one might see in sports activity. Schmidt referred to Franklin Henry as the "... the father of motor behavior research in physical education..." (p.14), signifying the importance attached (in the motor behaviour field at least) to the directions Henry was prepared to take.

Henry's (1964) contribution was perhaps all the more significant when his article on physical education as an academic discipline appeared in the national physical education journal in America (Journal of Health, Physical Education and Recreation). Henry was clearly disdainful that physical education had no recognised discipline knowledge to underpin its theory. In his view there was, in fact, an overwhelming amount of subject matter that physical education could call its own. Indeed, he pointed out that it could not be covered in a 24-semester unit course. Moreover, he felt the very close ties to education had in some way been an impediment to the development of a unique body of knowledge. As he said:

In fact physical education has the doubtful distinction of being a school subject for which colleges prepare teachers but do not recognise as a subject field, since the typical physical education department is unique in being under the jurisdiction of or closely related to the school or department of education. (p.32)
Henry found the dichotomy of discipline versus profession to be most obstructive and failed to see why there had to be an either or situation. In attempting to define what a discipline was (and indeed is) he said this:

An academic discipline is an organised body of knowledge collectively embraced in a formal course of learning. The acquisition of such knowledge is assumed to be an adequate and worthy objective as such without any demonstration or requirement of practical application. The content is theoretical and scholarly as distinguished from technical and professional. (p.32)

Henry recognised the great problem of diversity in this fledgling discipline. However, he felt the focus of attention was on the human individual engaging in various forms of motor activity in a variety of environments. What is fascinating is that Henry’s description of what the new field of study might look like included of course the human movement and exercise sciences. However, it also included sociology, history, philosophy and anthropology. Over thirty years later, these subdiscipline areas are still conspicuous by their generally lower status in most contemporary manifestations of physical education (Macdonald, 1992; Swan, 1993). Whether Henry’s vision has been fulfilled is difficult to determine. Something resembling a discipline has clearly emerged out of Henry’s work. This was supported by some of the other early steps towards identifying physical education as a discipline to be found in the work of Abernethy and Waltz (1964) and from Curl’s (1973) work in the United Kingdom. However, it seems that the early advice has not been heeded in that the content of contemporary programs of human movement studies normally serve as (among other things) the ‘rite of passage’ to professional certification as a physical education teacher. The power of this socialisation (see Macdonald, 1992; Macdonald and Tinning, 1995) will serve as a system of structural rules (Giddens, 1984) that will bestow privilege on some knowledge at the expense of other knowledge.
The identity then, of the PETE student then is one which given the traditional biography of PETE students, tends to be characterised by ecto-mesomorphic individuals who have been socialised by the rigours of highly competitive sport (Gore, 1990; Macdonald, 1992; Rossi 1996). When added to the requirements of teacher preparation in physical education which are dominated by the traditions and rhetoric of the 'natural' bio-physical sciences, the outcome is a particular form of pedagogical discourse in physical education which, Tinning (1991) labeled performance pedagogy (see also Hendry, 1986 for an earlier discussion). Performance pedagogy as was described before, is where the systematic accretion of the performative aspects of movement to an increasingly sophisticated level exists as an essentialist goal. Such essentialism underpinned by certain privileged and hegemonic knowledge, then comes to dominate the way PE teachers and PETE students think about and act in physical education. Alternatives to such thinking and action are viewed with deep suspicion (Tinning, 1990).

It is important to note that among the reasons for the apparent importance of Henry's early work at Berkeley was the application of the scientific method as a form of inquiry into physical activity. Work in departments of physical education became respectable because it was scientific. Indeed, so successful has this approach been, that the scientization of physical education knowledge continues to evolve as Whitson and Macintosh (1989) and Kirk (1990a) have accurately described. It is this brand of physical education that now finds its way into schools in the form of senior school physical education within Australia and can be seen in programs such as Senior Physical Education in Queensland. This trend is being repeated elsewhere such as in Britain where Advanced Level Physical Education or Sports Studies also resemble potted human movement study courses from universities.

So a circle is complete. Academic respectability has helped shape the nature of knowledge in physical education both at the tertiary level and at the high school level and in Australia, even at the primary school level. Moreover, it has influenced what
physical educators come to look and think like. And yet, paradoxically, the physical educator remains a lowly member of the school staffroom or the within the academic community. The latter underlined by Macdonald’s and Brooker’s study (1993) with a group of students who clearly demonstrated some angst as their extremely high entrance requirement for university was seemingly not matched with their status around campus.

The legacy of this evolution is that those students interested in teaching physical education certainly at the secondary level but increasingly at the primary specialist level too, must now enter programs with very high levels of achievement in the natural sciences. This often includes mathematics and bio-medical knowledge as part of their accreditation process.

The participants in this study did not have to conform to such strict entry requirements, as their area of study was part of a specialist option within a Bachelor of Education degree for prospective primary school teachers. There is a trickle down effect however in that the program of study that contains 50% movement/exercise science. This, plus the so called professional study of education both within physical education and education more broadly, represents the spectrum of knowledge formally encountered within their course of study. Of course there is an encountering of less formal but equally (if not more) powerful knowledge during the periods of practice teaching and there is a substantial body of research describing this phenomena (see, Giroux, 1988; Goodman, 1988; Goodson 1991; Kirk, 1986)

Somehow, the students have to structure knowledge that will facilitate them becoming teachers of PE and allow them to develop a sense of professional identity. How individuals do this has remained largely unexplored within physical education teacher education and represents the second focus of this study. Graber (1989) has indicated that students often aim simply to ‘get through’ course work (she describes this as studentship). Hence questions of how students build their theories of teaching
physical education are important since dominant forms of knowledge may only be of marginal importance yet they represent a powerful socialising agent.

**Professional knowledge in physical education**

It would seem then that there is uncertainty in the professional knowledge that distinguishes us as physical education teachers (Kirk 1990b; Macdonald, 1992; Siedentop, 1989; Tinning 1992a; Whitson and Macintosh 1991). Not only does certain discipline knowledge assume status and privilege, so to do forms of pedagogical knowledge. For the most part, these tend to be of a technical nature. This is not surprising. One might expect professionals in any field to have a range of competencies upon which to call. However, when these competencies represent the only form of important knowledge, it could be argued that this represents a particularly narrow knowledge base for teachers. This type of knowledge seems to assume importance because it represents what Buchmann (1987) called folklore knowledge and she suggested that it represented one of the metaphorical lights that teachers live by. The technical aspects of teaching though have also sustained a prolific research and scholarly agenda, an example of which is the Stanford Project (see Gage, 1979).

Various attempts to identify professional knowledge for teaching that have attracted considerable effort in general terms (see Carr, 1989; Elbaz, 1983; Shulman, 1987; Smyth, 1987, are a few among many). In physical education, in common with education more broadly, there have been attempts to identify important knowledge for teaching from a technical perspective (Mosston and Ashworth, 1986; Rink, 1985; Siedentop, 1989, 1991). These endeavours might be characterised as texts for pedagogy.

Other researchers have taken an alternative view of knowledge for teaching physical education and these might be characterised as texts about pedagogy (Gore, 1990; Kirk 1986, 1988; Kirk and Tinning; 1990; Lawson, 1993; Sparkes, 1991. 1992a,b;

Also important work has emerged from the scholarly field of feminism and poststructuralism (See Dewar, 1987, 1991; Humberstone, 1990, 1995; Kirk, 1992, 1993; Kirk and Spiller, 1994; Scraton, 1990, 1992; Sparkes, 1994; Tinning, 1997; Tinning and Fitz Clarence, 1992; Wright, 1990, 1992, 1996). However, the impact of this work on pedagogical practice is difficult to determine. Tinning (1992a) argued for a praxis pedagogy - a pedagogy constantly under revision based upon critical reflection within an Action Research model where theorising about the nature of pedagogy is tested out and then re-theorised. I have indicated elsewhere (Rossi 1997) that it would not be unfair to suggest that success in this endeavour is mixed with an equal measure of failure, a point made by Tinning (1993) himself. It is not surprising then, that professional knowledge is something that becomes readily distilled into a range of technical skills and competencies. These are normally the province of the expert and emerge as important again by virtue of being researched in a quantifiable, scientific manner. It is perhaps appropriate to pursue this further.

McKay (1991) argued:

Professionals attempt to become powerful by convincing a community's economic and political elite that their knowledge is important, even indispensable, for the efficient functioning of an institution or part of it (e.g. education, law, medicine, economics, politics). In most cases, professionals pit the factual, scientific, quantitative and technical bases of knowledge against the unscientific.
intuitive, irrational, unpredictable and inefficient kinds produced by their competitors. Many such professionals feel justified in defining others as 'cranks', 'quacks', 'amateurs and 'charlatans' and in subjecting them to marginalisation, discreditation and even prosecution. (p.129)

As McKay indicated, education has been party to this credentializing of knowledge by scientific means and when this is applied to the activity of teaching (and therefore learning) most of this knowledge has come from the field of psychology. And so it is in physical education. A glimpse of early volumes of the Journal of Teaching Physical Education since its beginnings in 1981 reveal a plethora of research articles that 'scientifically' (i.e. use the 'scientific method') analyse teaching behaviour. Some of these projects employed some of the most complicated observation schedules from which have spawned a number of lengthy acronyms. A text by Darst, Zakrajsek and Mancini (1989) reports many similar articles and is representative of the broad level of research into physical education teaching at the time.

Whilst interest in such process-product inspired research has waned, it does seem to have entered the contemporary lexicon. It certainly represents a common aspect of research and has held significant place in the general debate in physical education teaching in the last 15 years. However, whether it really affected common sense teaching in physical education (or teaching anything for that matter), is probably doubtful. In teaching physical education, management and organisation are also seen to be important. Techniques such as how to group children, where the equipment should be, how equipment should be distributed, where should the teacher be placed to best observe the group, isolating difficult or awkward (in the behavioural sense) children, and so on. Such matters are given incredible status and assume the mantle of knowledge for teaching physical education rather than techniques of organisation.

Clearly the skilled use of techniques is a legitimate concern and worthy of competent mastery. Increasingly these are being identified as concerns in new teachers of physical education (see Capel, 1997; Mawer, 1994; Rossi 1996). However, of themselves they do not constitute teaching or at least, they could be said to represent
a very narrow view of it. This approach to teaching is characterised by its mechanistic. It is a process or a performance which like factory tasks has a number cues that indicate a change or adjustment in the task behaviour. It is no surprise to know that much research on teaching has used forms of task analysis, the same techniques used to investigate factory assembly lines. Hence this form of teaching activity in physical education has been described as technocentric (Charles 1979), technocratic and rationalist (Gore 1990; Macdonald, 1992; Sparkes, 1993; Tinning, 1992a, to mention just a few). These would be examples of Tinning’s (1991) notion of ‘performance pedagogy’ where the purpose of the teaching activity is the measurable improvement or accretion of performance levels in learners.

For (PETE) students, there is no inherent problem in this. It is for the most, part easy to grasp. Indeed, many students feel that this is all there is to learning to teach, with everything else simply being ‘out there’ to be appropriated by way of common sense. Crum (1993) in fact argued that the apprenticeship of observation identified by Dan Lortie (1975) is far more powerful than any teacher education program, a phenomenon I have recorded in my own work (Austin and Rossi 1994; Rossi 1994).

The alternative then appears to be to problematize the nature of teachers’ work in the broad sense and specifically the teaching of physical education. However, Gore’s (1990) study, indicated that some of the participants (her student teachers) had little or no interest in reflection and in problematising the nature of teachers’ work in physical education. Moreover, they saw the whole process as a waste of time. Gore termed these students recalcitrant. Tinning (1993) also noted such difficulties, and Swan (1993) found considerable student resistance to such theoretical work.

**Constructing teacher identity through physical education knowledge**

If knowledge for teaching physical education is subject to competing claims for truth, then forging an identity as a PE teacher is going to be equally problematic. Kelly
(1955) claimed it is not so much the accumulation of knowledge that is important. It is more how meaning is made of it or if you will how a reality is constructed.

Gergen (1991) showed us however that knowledge could only be framed within a community of agreement. Giddens (1984, 1991) indicated that such communities with their rules and resources (structure) are reproduced by the agents within them in order to be part of that agreement. It is under these circumstances that student teachers attempt to 'become somebody' (Wexler, 1992).

The complexity of this cannot be overstated. Bakhtin (1986) for example suggested that persons are caught in a perpetual incompleteness of identity. It is not difficult to picture how PETE students are affected in this way. They exist in a world where they must have multiple selves and perhaps are rendered as little more than a pastiche (Gergen, 1991) or an assemblage of images. Certainly student teacher identity appears to be a tension between what might be expected or desired and what is more often than not experienced in the day to day requirements of university based teacher education and the parameters of the practicum school (Provenzo, McClosky, Kottramp, and Cohn, 1989). Britzman (1991) argued that the site of the student teacher is one of conflict and that becoming a teacher often means becoming someone you are not. This is perhaps because teacher identity is saturated with cultural myths which present a fascia of superficial image underpinned by an equally superficial knowledge. These are some of the dilemmas of identity of the physical education teacher education student.

Significance of the problem and the importance of this study
To date, little work in physical education teacher education has been influenced by the work of George Kelly. Hopper's (1996, 1998) work is a welcome addition to the literature. This study attempts to integrate Kellyan theory of personal constructs in new and innovative ways in terms of how it might articulate with other theoretical work drawn from sociology. This will provide a way to consider the constructions of
knowledge for teaching physical education within the complex social network of teacher education. At the same time, the construction of teacher identity in physical identity will be studied in a dialogical manner (Britzman, 1991). The dialogical approach is intended to provide what I have called elsewhere a reflective space (Rossi, 1997) with the intention providing a greater understanding of what it means to become a physical education teacher for both the participants of the study and myself as the researcher.

Perhaps more importantly however is that the domain of knowledge thought to underlie teaching in physical education remains largely under-theorised and as Housner and French (1994) have argued mostly unidentified. As they suggested:

Knowledge of teaching styles, curriculum strategies, subject matter, pedagogical content knowledge, and pedagogically relevant knowledge obtained from kinesiology, motor learning, exercise physiology, sport psychology, and other academic disciplines have not been the focus of systematic study. (p.242)

Moreover they argue that the confluence of knowledge and belief has a way of shaping knowledge that is inherently personal, but is so with social context in which the teacher works. They suggested therefore that the area of instructional relevance gleaned from the so-called sub-disciplines tends to be based upon (to borrow a phrase from Locke, 1990) data free theorising. As such they suggested the area needed much more in the way of systematic study and empirical research. This study aims to make such a contribution for as Carter (1994) suggested ‘For the field of teacher education to move forward, research frameworks are needed that focus more explicitly on what is learned and how that knowledge is acquired’ (p.235).

It is important to note too that there is little research or theorising that links the findings on teacher knowledge to teacher identity, particularly in physical education (see Rossi and Cassidy, in press, for more on this). Hence this study then aims to make such links and consider how constructions of knowledge might be linked to the
development of professional identity in pre-service teachers of physical education. It is intended that such knowledge will take physical education teacher education in new directions so that the important perceptions of self that student teachers come to have, become part of the process of teacher education itself.
CHAPTER TWO

RELATED LITERATURE

Introduction
This study evolved from a focus on knowledge through to a focus on identity and the professional self. Accordingly, it is necessary to engage relevant literature across these particular foci. In the beginning of this project, the nature of teachers' knowledge generally and specifically in physical education were the principal features, followed by constructions of knowledge according to George Kelly's (1955) theoretical constructs. Later, issues of socially constructed knowledge, questions of the self (Gergen, 1991), visions of self identity (Giddens, 1984, 1990, 1991) and finally dilemmas of the self in late modernity have come to dominate the study.

Knowledge and Physical Education: Sophisticated adult or petulant adolescent.
As a discipline, physical education has a very recent history and though, as Rose (1986) pointed out, the conundrum of physical education as a discipline has been around for over 100 years. It is really only within the last thirty five that a corpus of knowledge, as contested as it is, has emerged as being most closely attached to what was once called physical education. This is the irony; the establishment of a generally accepted and recognisable body of knowledge has been accompanied by various name changes to the subject area. It may well be that such changes in nomenclature, perhaps the result of some fairly vociferous posturing in the late 1970's through to the late 1980's, means that some of what is referred to here is in fact not knowledge of physical education at all!

The major catalyst for the developments over the last thirty years was Henry's (1964) paper in the Journal of Health, Physical Education and Recreation (JOHPER, now JOHPERD), the national journal of the American Alliance for Physical Education, Health and Recreation (AAPHER). The magnitude of the impact of this paper cannot
be overstated and it set in motion a stream of intellectual pursuits to further the idea of physical education as an academic discipline. Some of these made movement itself the focus of the discipline and the work of Metheney (1968) and Abernathy and Waltz (1964) work are prominent examples from the United States, a task repeated by Siedentop (1989) much later. In Britain, Curl (1973) advanced the argument in an attempt to justify human movement as an independent field of study with its own corpus of knowledge. In 1971, Walter Kroll's text furthered Henry's argument by developing a cross-disciplinary study of sport and physical activity and teaching legitimacy was granted through its attachment to scientific scrutiny. It is little wonder then, that twenty years later, the dominant pedagogical discourse in physical education had become, as Tinning (1991) discussed, one of performance pedagogy underpinned by bio-medical science (see also Hendry, 1986 for an earlier discussion that emerged out of the UK).

To return to Rose (1986) he felt perhaps as Hendry did the same year, that not much progress had been made and suggested that physical culture might actually be the core domain of physical education. His argument was that such a term was not exclusive. In hindsight, twelve years later, we can also argue neither is it definitive. However, his argument was that the breadth of a discipline was not necessarily a disadvantage and though works in favour of music and other experiential areas of study (Siedentop, 1989 used the example of dance). Rose felt that the term physical culture could alleviate the problems of the notions of 'cross-disciplinary' and 'inter-disciplinary study' which seem to have bedeviled the evolution of physical education. A closer inspection however, reveals that Rose was still drawn by the language of performance:

Within a department of physical culture, research is directed toward improving or enhancing performance. As implied above, such research includes more than just anatomical, physiological and psychological investigations. Outside a department of physical culture may be individuals studying some subdomain of expressive human movement from the perspective of their discipline. (p.12-13)
Rose also argued that game forms are potentially problematic. If a game is identified as sport then it is conceptually identified as *agon* i.e. a competitive game. What is a game to be if it is not competitive? Indeed is there such a thing and therefore are all games sport? If we look at the national curriculum for physical education (NCPE) for the United Kingdom then it is bulked up largely by competitive team games ... should we call it sport education? Using Rose's logic, this is not an unreasonable assumption.

The legacy of Henry's (1964) paper then was that physical education was seen to be little bits of a lot and not much of any one thing. Even the movement culture (Crum, 1993) was beginning to diminish and the whole discipline or subject area was being 'fragmented'. Greendorfer (1987) disputed the claim that the blame for this (which in some circles was seen as a demise of the subject) should be ascribed to Henry. She argued that his paper simply exacerbated an already difficult situation in the United States which was perhaps being mirrored elsewhere where physical education was being studied for the professional preparation of teachers most usually within Faculties of Education at universities, Colleges of Education or Teacher Training institutions. For Greendorfer (1987), part of the problem was that up until this point, the logic of the debate was not unified. Various aspects of the debate took centre stage according to the vested interests of the protagonists e.g. curriculum, programmatic issues, content etc. She argued supporting the work of Thomas (1986) that:

Despite all the debates, however, the one issue never discussed in the literature is the fundamental disagreement over what our knowledge base and focus of inquiry should be. The failure historically, to develop a clearly defined knowledge structure is no small matter, and the disagreement is *not* merely one of terminology or semantics. For example, most of us can define exercise, dance, movement, physical education, work, sport, or whatever. Yet how well versed are we at identifying our knowledge base beyond its nominal definition? Aside from making superficial distinctions, listing primary characteristics, or
elaborating on typologies of form and type, we seem to be in a conceptual vacuum. (p.57)

Greendorfer suggested that rather than follow Henry’s lead (or Metheny’s for that matter) it would have been more helpful to try to establish what it is that we are about in terms of a corpus of knowledge. However, the profession has persisted in finding it more attractive to engage in the profession versus discipline debate (one of the motivating factors for Henry in the first place). This seemingly has not got us very far. Moreover, Greendorfer argued that we succumbed to the hegemonic practices of parent disciplines for the sake of academic legitimacy, rather than seizing the discipline and calling it something meaningful (she suggested at the time that human movement would have been appropriate). As she said though, name changes are largely inconsequential and serve only as a process of proclamation. Her fundamental criticism with the directions that physical education was taking at the time was that the narrowing of the curriculum within the discipline along scientific lines was a disservice to students who were likely come to see the world in only one way. This, she argued, was the power of knowledge generation through science. Greendorfer’s statement was prophetic in that persons wishing to teach physical education in schools were (and are) required to study sub-disciplines which were heavily scientised and as such beginning teachers were tending to leave their preparation programs with a scientific view of physical education. Towards the end of the decade, a number of scholars had come to question such an orientation to physical education. They argued that a more socially critical orientation to knowledge for teaching physical education should be embraced (Kirk, 1988, 1989; McKay, Gore and Kirk, 1990; Tinning, 1987a, b; Whitson and Macintosh, 1990), perhaps best captured by the edited work by Kirk and Tinning (1990).

Increasingly then, physical education programs that were involved with teacher education were criticised because of the body of knowledge contained within it. At a taken-for-granted level, such knowledge was assumed to underpin physical education pedagogy. Such a body of knowledge in fact was considered to have little relationship
to the work of physical educators in schools. This is not to demean the kinds of knowledge to be found in those programs, simply that its applicability to school teaching was seen as tenuous. This was the thrust of Whitson and Macintosh's (1990) work. They argued that with the shift towards names that acknowledged the dominance of the scientific agenda, physical education was increasingly seen as actually having little to do with education. They developed their analysis using the methods of semiotics. In doing so, what was perceived to be a crisis in physical education had much to do with language use and its impact on how certain things are understood. Discourses they suggested, are linguistic constructs that can serve to marginalise some groups and privilege others. In the case of physical education, the linguistic construct is in the shape of science at the cost of education. Such discourses they suggested can pave the way for new professions. In human movement (to use but one name among many), the language of the discipline constructs a knowledge which sees the pushing back of the limits to human performance as its professional goal:

The growth of both sport science and sport management then, as disciplines, reflects the efforts of university physical education faculties to prepare their graduates for new kinds of professional roles (i.e. outside teaching), and to promote the value of these newly constituted kinds of expertise among potential clienteles, including governments and the elite competitive sport community. (Whitson and Macintosh, 1990, p.43)

The increasingly emergent emphasis they argued was an Enlightenment inspired research agenda, which extolled the values of rationality and technocentrism. The body of researchers that not so much opposed this development from an epistemological sense, but more from a political stance, moved to get their voice heard and to show alternative paradigms for pedagogy in physical education were intellectually possible and eminently operable. Hellison (1988) argued for a more interpretive paradigm and that through this kind of physical education we might be able to move towards a more emancipatory pedagogy where social concerns were not relegated to the poor relation of 'serious' positivist research resulting in 'scientific
pedagogy'. In drawing from his own work with delinquents in America, he suggested that through emancipatory research where the researcher and the research are not separated but cojoined in the enterprise, a pedagogy of empowerment could be sought. Therefore the notion of social change should be built into programs of teacher education and research in teacher education. This he argued can only be built on a better understanding of other positions. There is no sense arguing for this or that paradigm. We should be more concerned with whether we can actually make the world a better place. In this way Hellison argued that our reality in physical education was due for some reconstruction.

Kirk, (1988) was particularly ambitious in his project to move those in physical education teacher education toward a more emancipatory form of physical education pedagogy. He chose to focus on the curriculum as the site for his analysis. This was quite intentional as very early on Kirk argues for a dialectic curriculum. In other words, the content and the methods of the curriculum cannot be separated. They are as Kirk argued 'dialectically related' (p.14). Therefore the notion that pedagogy and curriculum might be two separate entities was seen to be bankrupt and Kirk's simple use of Mosston's and Ashworth's (1986) teaching styles demonstrates this. As he argued creative dance might best be served by a teaching approach that that has discovery at its heart. Teaching the back dive or abseiling however using such an approach would seem foolhardy in the extreme and unlikely that too much learning would take place. Lusted (1986) made a similar case for the dialectic relationship between the content of a curriculum and the practices that lie within it, and around the same time, Shulman (1986) also made a significant contribution to the argument for the inseparable nature of curriculum and pedagogy. In arguing for the dynamism within a dialectically framed conception of the curriculum, Kirk (1988) suggested:

The implications for this point are of crucial importance, for what this dynamic interrelationship means is that we can only gain an adequate understanding of curriculum problems and issues, and propose workable solutions, when we consider how knowledge is mediated, adapted, altered and made meaningful through the interactions of teachers and
learners. At the same time, we also need to consider how these interactions are shaped and formed by schools as institutions and by the purpose schools are intended to serve in the community and the wider society. (p.15)

Curriculum he suggested, should be viewed as educational praxis to get away from the dichotomous view of theory and practice which is part of the folklore of the teaching profession and in particular of teacher education.

While drawing from the traditions of the Frankfurt School, Kirk was heavily influenced in his analysis by two major sources that are linked intellectually. Habermas’s (1971) influence is quite apparent but it is important that the debt to Carr and Kemmis’s 1986 text *Becoming Critical* is acknowledged. The influence experienced by Kirk under what became known by some as the ‘Deakin Perspective’ is significant and the Carr and Kemmis publication remains a landmark text today. Kirk’s use of Habermas though is intriguing as it provides a way for physical educators to be encouraged to think beyond positivist science. In talking about Habermas, he said:

First he has attempted to undermine the idea that all true and valid knowledge can be derived only through science, and has claimed instead that science is just one form of knowledge among others. Second, he has argued against the widely held belief that science is objective and politically neutral by showing that all knowledge is grounded in human activity that serves particular needs and interests. Indeed, it is only by striving to satisfy these needs that knowledge is created. (p.24)

In a later work, McKay, Gore and Kirk (1990) continued in a similar vein ‘...We argue that one strategy that increasingly has been used to enhance the academic credibility and security of physical education has been to emulate empirical-analytical science and de-emphasise hermeneutic and critical sciences’ (p.52-53). Hence, they argued that physical education teacher education is immersed in the rhetoric of biomedical science, which is for politico-hegemonic reasons, rather than an
intellectualised account of teacher preparation. In explaining the enduring power in
hegemonic structures they suggested:

When the ideologies of fractions of ascendant groups temporarily win
the hearts and minds of subordinate groups, then they can be referred
to as being hegemonic. Hegemonic ideologies are not monolithic
apparatuses that a group of omniscient conspirators impose on a mass
of cultural dopes. Instead, they are articulated by superordinates in
ways that resonate with people's common sense, thereby winning
popular consent. In short, ideologies are vital aspects of cultural
struggle among fractions or superordinate and subordinate groups.
(p.53)

Their argument, however, went beyond the reference to the scientisation of physical
education in favour of an educational or socially critical model. They suggested that
professionals tend to translate the moral dimensions of questions into technical ones
(questions about how to). In other words the province of science had not only been
powerful enough to frame the knowledge for the discipline of physical education (in
its alter ego of human movement) but it had also pervaded the ways in which
pedagogy is considered.

Up until the time of the McKay, Gore and Kirk (1990) paper, physical educators had
been largely untouched by the critique of science, mainly because science had served
their needs for and interests in academic credibility. It can be seen in the approach to
research in the biophysical sciences which perhaps can at least be understood.
However it can also be seen in the plethora of measurement tools which emerged
onto the academic scene with which we were supposed to gain a clearer
understanding of the teaching physical education. This development was inspired and
galvanised by the use of Academic Learning Time (ALT) to study teaching
behaviours in physical education. The most complete compilation of the instruments
developed to facilitate systematic data collection based on this 'teachers view of
teaching' is found in the pages of Darst, Zakrajsek, and Mancini's text (1983)
Analyzing physical education and sport instruction. Interestingly, the second edition
(1989) does contain research methods that do not seek to reduce the complexities of teaching to a coefficient of this or a ranking of that. However, a look at edition two will reveal that this section is successful in only gaining a fraction of the space available in the book!

What of course emerged from the ALT-PE inspired studies was the generation of a collection of competencies, skills, techniques that were regarded as signifiers of good teaching in physical education. McKay et al (1990) argued that a range of technical skills or competencies couldn’t be regarded as the only indicator of good teaching - since it removes the moral, spiritual and social dimensions of the educational engagement. The dominant discourses however tend to support and endorse what the student teacher of physical education brings to the training institution (training used intentionally rather than education) and the focus on the bio-medical body holds pride of place in the knowledge stakes for PETE students. McKay et al argued that the way to overcome such discourses was to move towards a critical agenda in PETE.

Macguire (1991) argued that even this could be achieved within the sports sciences if people were to be studied what he called ‘in the round’. He argued that by having sports science guided by natural science produces a one-dimensional view of persons within the sport/physical activity context. By implication, PETE students would also be considered here. This would suggest that the type of person going into schools to teach physical education would be similarly one-dimensional. Macguire argued that this should be overcome:

A bolder and more imaginative view of the sport sciences would center on its potential to tell us something about human beings generally, not solely related to their performing in elite sport events. A multi-disciplinary synthesis, eschewing the canons of positivism, would focus the sports sciences on a human-development, not a performance-enhancing, research agenda. (p.191)
Sport science (the inquiry into various aspects of institutionalised competitive physical activity - more commonly referred to as sport), he argued undergirds the ‘...mechanical quest for efficiency in human performance...’ (p.191) itself underpinned by the rationality of the market place and a sinister nationalist agenda.

Of course establishing a critical agenda within physical education, as laudable as this might be, has been profoundly difficult. Tinning (1990) has indicated that to view things in ways other than the commonsensical or the scientific is viewed with great suspicion. Earlier, Dewar (1987) arguing from a feminist perspective, showed similarly that developing critical perspectives within tertiary physical education courses of study was never going to be easy. She argued that there is great resistance to critical perspectives and that such knowledge, for example in the sociology of sport, might be seen as less useful than say real knowledge drawn from scientific sub-disciplines. Dewar’s words were prophetic when one considers the immense power invested in the area of study with Newell’s (1990) proposed name change to Kinesiology in the USA. This he argued, described more accurately the core nature of the knowledge contained within the discipline. The proposal in many respects split the academic community wide apart with Siedentop and Locke as the main antagonists. In an edition of Quest in 1991, the argument and counter argument contained within the pages perhaps represents a level of academic posturing rarely seen in the field of physical education.

Wade (1991) supported Newell’s position by arguing that the term ‘kinesiology’ was the soundest way to conceptualise ‘our field’. Wade’s argument however was shrouded in market place and political rhetoric. He suggested that a unified, all encompassing title demonstrating solidarity was a far more powerful position and suggested that the degree of disintegration provided no basis for political clout. Wade argued that academic study should be conducted through the professions, as multiple as they had become but which still includes teaching, which link or bind the ‘area’. The choice of the word ‘area’ was preferentially and intentionally chosen instead of
‘discipline’, which he regarded as too territorial and therefore limiting. He argued that there is value in PETE being an area of professional derivation of kinesiology, suggesting that research into PETE can be better undertaken under such circumstances. His basis for taking such a position almost goes back to Locke’s 1977 claim that research on teaching physical education was a ‘dismal science’, arguing that in reality, research on teaching physical education was scant. This attack in essence, accused Locke and Siedentop of not having produced the goods in terms of systematic research on teaching physical education. One must take a moderating view of Wade’s argument given that it contained some thinly veiled academic trumpet blowing with references to Loughborough University and the claims of traditions and progress in research in teaching physical education and in PETE. In a show of solidarity with Newell, Wade suggested that:

There is ample room in the framework laid out by Newell for local conditions to drive the scholarly enterprise more toward the preparation of teachers rather than the preparation of university-based scholars who wish to pursue only the cross-disciplinary study of kinesiology. ... The term kinesiology does not seek exclusion of any component of the study of physical activity; rather, it encourages the different opportunities available both in pure and applied domains. (p.221)

Bain (1991), also reacting to Newell’s proposal drew on the work of Foucault (1980) and on Ball’s (1990) analysis of the impact of Foucault on educational theory to suggest that what might seem to be a rational argument is underscored by the knowledge/power relationship. Moreover she suggested that those with power establish ‘regimes of truth’ which signify a position from which a version of truth becomes acceptable. Bain’s point was that the discussion, or perhaps exchange is better descriptor, was conducted almost entirely on masculine grounds and that different views of the same thing (and therefore different versions of the truth) might in fact be available through the lens of women. The term human movement she argued more aptly captures the heritage of women’s physical education. This she claimed is rich in diversity and moves away from the functionality of sport and
physical activity, which Newell argued, relies on a premise of intentionality (which Bain disputed on the basis that it is a weak defining construct for physical activity). Whether physical education (or whatever it might be called) then is better described as a profession or a discipline appears to have more to do with what the program within which it resides is attempting to do, and the orientation of its methods to bring that about. What is important is that all parties placed performance fairly close to the heart of the undertaking:

The critical feminist finds strengths and weaknesses in both of these two “regimes of truth.” The kinesiology model provides a broad perspective of the field but tends to reify traditional science as the source of knowledge. The professional-practice model validates personal experience as a source of knowledge but tends to endorse a technical efficiency approach to practice that reinforces rather than challenges current physical education programs. What appears to be needed is a program of kinesiology that explicitly endorses alternative ways of knowing and critical reflection. (Bain, 1991, p.216)

Dewar (1987) had already begun to argue that constructions of knowledge within physical education were dominated by male discourses and that alternative regimes of truth and other ways of knowing were ridiculed as being some form of flaky quackery.

It is clear that the debate about the disciplined study of physical activity and the professional preparation of teachers has persisted. The debate has been fuelled by such contested positions and academic vitriol that one imagines either lost friendships or at least a lost sense of collegiality perhaps captured by the exchanges almost twenty years ago between Lawson (1980) and Locke and Siedentop (1980). Lawson (1980) for example argued that the technical mode of PETE and ‘competency’ had been around for some time even then:

The ad hoc technical model of professional preparations begins with an analysis of the role requirements and behaviors of practitioners in the real world. After such a job analysis has been completed, a
program designed to prepare future practitioners is designed. What practitioners do or have done is broken down into objectives or competencies. Courses built around the latter are the sequenced in an undergraduate or graduate degree program. Such courses emphasise technical competence or "how to do it," often at the expense of theory. In this fashion, large numbers of technicians can be produced. (p.24)

Lawson's (1980) view was that most professional preparation was like this. In other words, the knowledge base for professional preparation is always anchored in existing roles and role settings. This of course assumes that such settings remain fixed and are therefore reproduced in all cases. More recently in Australia, the competency movement has gained ascendancy inspired by the Finn report (1991). This suggested that technical efficiency, and competent skill development are at the heart of what it is to be a professional and that those who prepare professionals need to attend most closely to such issues. Recent developments in national curriculum design and in new models for initial teacher training (ITT) in England and Wales also tend to extol the virtues of a technicist approach to teacher preparation. (Laws, 1994). Indeed, Evans, Penney and Davies (1996) have indicated how physical education pedagogy has been shaped by such government intervention and effectively reduces the professional knowledge of teachers (and pre-service teachers) to a simple technical checklist. Laws (1996) further argued:

Teaching as an intellectually rigorous activity is in danger of being reduced to a checklist of behaviour objectives if it is not underpinned by a philosophy of teaching and learning and a sound model of the teacher. Instrumental competencies ignore a range of the qualities, understandings and abilities by a teacher, not least an appreciation of how young people learn. (p.184)

So in England and Wales, government proposals for teacher education continue to emphasise 'training' linked directly to practical application, perhaps reducing teachers and prospective teachers to little more than what Giroux and McLaren (1987)
call pedagogical clerks who are compelled to teach in ways that are measurable, controllable, and predictable.

Scholars who maintain a position that physical education is best seen as a profession with close association to the human movement sub-disciplines argue that it is the point of synthesis which is important. As O' Hanlon and Wandzilak (1980) argued:

Perhaps the major attraction of human movement as the basis for a physical education discipline is that it focuses on those aspects which are unique to it and thus are not part of any existing discipline. (p.53) … The most unfortunate outcome of the discipline movement has been the development of an increasing discipline-profession confrontation. (p.54)

It is a confrontation that seemingly remains with us in spite of words of warning about some form of reconciliation and the case for some identity within the higher education sector. As Sage (1984) argued:

Unless physical education resolves the issue about its role in higher education and its quest for identity, it may become an endangered species in the world of higher education. Its disciplinary and occupational preparation roles will be scattered among several departments and its general education role will be taken over by some branch of student services. (p.121)

Oliver (1990) attempted to bridge the profession/discipline fissure by critiquing moves in California towards a competency model. He argued that one of the most significant problems was that the agencies that carry out such work seldom agree on a definition/consensus of what competence might actually be. Therefore, competence tends to be defined by default. In the Californian case, being competent seemed to suggest knowledge of subject matter, knowledge of pedagogy, and some real (supervised) practice. Hence there were prescribed teacher competencies and by implication an expectation that training institutions would conform to such prescriptions. However, as Oliver (1990) suggested, these were some way from the
reflective approach to knowledge so widely referred to (see Carr, 1989; Gore, 1987; Schon, 1983, Tinning, 1988, 1993; Tinning, Kirk and Evans 1993; Zeichner, 1987) and extol a notion of habitual knowledge (see Giddens, 1991). Alternatives to the technical approach to competence Oliver (1990) argued, might be conceived in terms of the teacher as a reflector upon action. As he said ‘... Within this framework, teaching is seen as occurring in the social context of complex interactions with students, mediated by the day-to-day realities of everyday classroom events. From this perspective, teacher competency is seen as praxis or thoughtful action’ (p.186).

**Teachers’ knowledge: What we assume all teachers to have**

In discussing the development of knowledge in contemporary western society, Lyotard (1984) suggested that it is impossible to know of the state of knowledge without understanding something of the society in which it is produced or situated. In teaching this is no different and similarly so in teacher education. There are various rules of engagement attached to both contexts.

In terms of the control of knowledge, Lyotard argued that increasingly knowledge would be stored, released and utilised by machines. However, he drew on the notion of expert because it is experts who are likely to have unfettered access to knowledge. Here Lyotard did not use the notion of expert in any traditional sense (i.e. a white coated laboratory person or dark suited politician but rather:

> Access to data is, and will continue to be, the prerogative of experts of all stripes. The ruling class is and will continue to be the class of decisions makers. Even now it is no longer composed of the traditional political class, but a composite layer of corporate leaders, high level administrators, and the heads of the major professional, labor, political and religious organizations. (p.14)

He suggested that each person exists in a fabric relation that is far more complex and mobile that ever before. A person he said is located at nodal ‘points’ (p.15) of specific communication circuits. It is because of this he argued that knowledge would
emerge through narrative means. This goes beyond the notions of competence but is a complex blend of knowing, which cannot, argued Lyotard, be reduced to science. He acknowledges that knowing cannot be restricted to typology but importantly must involve as many types as possible. As he said knowledge ‘... coincides with an extensive array of competence-building measures and is the only form embodied in a subject constituted by the various areas of competence composing it’ (p.18-19).

Narrative forms of knowledge then were taking (and have since taken) precedence over the sterility of scientific knowledge. Hence such narrative is able to play a greater role in establishing the criteria for what might be counted as knowledge in other words it can define the criteria for competence. The narrative forms of knowledge are, in Lyotard's analysis, drawn from what he terms forms of 'traditional knowledge'. Such knowledge positions the speaker, the content of the narrative and the listener. All positions once the narration is over are interchangeable. However, in teaching it could be argued that authority is still maintained through power and expertise. Nonetheless, Lyotard suggested that whilst participants are positioned within a discourse, it is each role he argued, that is important.

Lyotard developed this by demonstrating cultures that give precedence to narrative forms of knowledge have no need to bestow special privilege upon the narrator as a knowledgeable person. Once such narratives are shared ... all are as knowledgeable as the narrator is. In other words there is no direct need for legitimisation of the knowledge ... because it is part of the culture it is legitimised in this way. In teaching (physical education), herein lies an important issue. The deference to experience and authority often acts as a gatekeeper who new recruits of teacher education students can only pass when they show they have the goods. Hence technocratic forms of teacher knowledge still prevail and the sharing of important knowledge for teaching physical education tends only to be in one direction, that is from the top down.
Lyotard indicated that what is important is that the relevant criteria against which narrative knowledge and scientific knowledge must be judged is necessarily different. It requires different language, it is for different purposes, scientific knowledge retains the notion of knower and non-knower whereas narrative knowledge is a collegial construction through the dialectic. Scientific knowledge requires the parameters of verifiability and falsification; narrative knowledge requires no such legitimisation. It is legitimised through being part of the culture (or subculture) in which it emerges.

Lyotard however did indicate the degree of tolerance generally extended by narrative knowledge to the ways of knowing through science. It is significant that he argued the reverse of this is not the case:

I have said that narrative knowledge does not give priority to the question of its own legitimation and that it certifies itself in the pragmatics of its transmission without having recourse to argumentation and proof. This is why its incomprehension of the problems of scientific discourse is accompanied by a certain tolerance: it approaches such discourse primarily as a variant in the family of narrative cultures. The opposite is not true. The scientist questions the validity of narrative statements and concludes that they are never subject to argumentation or proof. (p.27)

And later: ‘Scientific knowledge cannot know and make known that it is the true knowledge without resorting to the other, narrative, kind of knowledge, which from its point of view is no knowledge at all’ (p.27).

For the most part teacher’s knowledge, that knowledge which we assume teachers must have in order to be teachers, has perhaps been most consistently shaped by Shulman’s (1986) principal work on pedagogical content knowledge. His follow up paper in 1987 was also significant and drew upon the Stanford project on teachers’ knowledge in the early 1980’s.
**Knowledge in the professional teacher’s world**

Connelly and Clandinin (1995) addressed this with a question: ‘We want to ask the question of how the embodied, narrative, relational knowledge teachers carry autobiographically and by virtue of their formal education shapes, and is shaped, by their professional knowledge’ (p.3). As for relational knowledge, this is likely to manifest itself as a relational self. The instability of knowledge, even teachers’ knowledge means that to cope with different knowledge demands, the self cannot be stable. It has to find a relational balance. Connelly and Clandinin (1995) argued that the interface of theory/practice provides a landscape on which teachers lives can be considered. It is here that teacher’s epistemological dilemmas are created. The relationality of the self and the teacher’s knowledge create the basis for these dilemmas to develop upon what they call a knowledge landscape.

The importance of the landscape metaphor is that it allows the researchers to talk about place, space and time, though both Giddens (1984, 1990, 1991) and Gergen (1991) might dispute what Connelly and Clandinin (1995) said about space/time. They claimed that within the landscape there is a diverse mix of persons, expertisec and relationships. Under these circumstances, the landscape is thought to be both a moral and intellectual one. Connelly and Clandinin indicate the argument for a relational self, in that they acknowledged that the classroom is one place among many where teachers spend their professional lives. In this regard those other ‘professional spaces’ are likely to have different professional influences on the professional self-identity. They argued that this ‘split existence’ is crucial to forging professional knowledge and as far as this study is concerned, professional identity. Dilemmas, they suggest, occur because of the movement across the different parts of the landscape. They are regarded as epistemologically different places within the landscape. Perhaps, however they ought to be considered differently in that while they are indeed different places, it is the epistemology that inextricably links them.
Connelly and Clandinin (1995) attempted to further unpack the theory/practice dilemma, though perhaps it is more helpful to perceive these things in Giddens's terms as practical and discursive consciousness. Connelly and Clandinin suggested that to move into the realm of theory when one is a practitioner is regarded as a useless enterprise and when practitioners engage in theory it is regarded as non-theory by discipline theorists. They also noted that the terms 'theory' and 'theoretical knowledge' are often conflated reducing the power of both. Theory should not be regarded as empirical findings, but should represent the intellectual risks teachers (and student teachers) might be prepared to take. At this point discursive consciousness and practical consciousness merge into the knowledgeability of the teacher. Having said all this, most studies tend to show the dilemma in the practice/theory gap. When we see practice however, what we see at work is personal practical knowledge, which somehow emerges from the intellectual and self-exploration work that has already been undertaken.

Kettle and Sellars (1996) suggested that the personal nature of practical theories of teaching is characteristic of them. They suggested that one of the reasons practical theory is of an individual nature is that the successive experiences gained by teachers and pre-service teachers are highly individualistic. This supports the work of Handal and Lauvas (1987) who argued that practical theories of teaching are personal constructs, continuously established through a series of diverse events. Sanders and McCutcheon (1984) argued that it is the interpretation of experiences that are both unique and individualistic. Most of this work owes a debt to earlier work by Argyris and Shôn (1978) who developed the idea that professionals have theories of practice, an idea Shôn was to develop further in 1983 when talking about reflective practitioners. Goodman (1988) also suggested that teacher education students are active agents who construct perspective and choose actions. The major problem Goodman suggested is actually recognising a practical theory of teaching which actually directs everyday conventional practice. In the Kettle and Sellars (1996) study, there were many findings that supported the idea of experience being personal.
There were suggestions for example that teacher education was in fact a high impact endeavour challenging Lortie’s (1975) idea and yet supporting what he has also said about institutional biography. What is also important to note is that many of the students had quite different experiences in different semesters which appears to have had a profound effect on how they think about teaching.

Carter, (1994) preferred to identify knowledge as something which is situated. Her research was structured around weekly descriptions of what she calls ‘well remembered events’ by eight teacher education students over a 13 week period on their first field experience. Such an event is considered to be an observable event that persons consider salient or meaningful in some way. Carter argued that this assists in the development of event-structured knowledge and is premised on the notion that teachers have a rich store of situated knowledge. Previous work in the area indicated that cooperating teachers and pre-service teachers interpret the same event differently. Carter argued that the well remembered events provide a window through which the cognitive world of the teacher in preparation can be viewed. The data collection for the study was part of assigned work for the unit of study in which the research resided. Whilst acknowledging the problems inherent in this, Carter argues that slant and prejudice can almost never be eliminated from teacher education saying insomuch that players within such structures will work to please others within it.

The data were used to map and interpret developing pedagogical knowledge in pre-service teachers. Carter hoped to assess the power of well-remembered events as windows into developing knowledge of teacher education students. It is important to note that the pre-service experiences a range of dilemmas different from other (qualified) colleagues. These had to do with class control (for one student a fight broke out in her class) and class management which was a prime knowledge component which was seen to dominate the thinking for these students. Teaching methods and curriculum became increasingly important. For some participants however, knowledge was hard to discern. Carter concluded that learning to teach is
not a unitary and homogenous process and that teacher education models tend to ‘smooth out’ (p.250) the learning to teach trajectory.

Coming to know during the teacher education process is Bruckerhoff and Carlson (1995) argued something of a haphazard affair. Even though their study focussed on socialisation, they encompassed it within a professionalisation framework. Within the study however, there was implicit talk about what it is that a teachers knows in order to be a ‘professional’. The authors advocated a move away from professionalisation of teacher and a move towards professional conduct they regarded as being different and separate. They argued that school districts and schools are so bureaucratic that professionalisation can never occur. Moreover, they argued that professionalisation is a top down affair which is against all democratic workplace principles. As they said:

We believe teacher education should reject professionalization and, instead, prepare teachers to conduct themselves in a professional manner. Concern for teachers’ professional conduct would emphasize their role in theoretical decision making. We define professional conduct of teachers as educational work that involves the best application of routines and the ingenious spotting and solving of classroom problems with a concern for the students’ well-being. ... The improvement of teacher education that is consistent with democratic ideals requires a moral and thoughtful grass-roots reorganization that is coupled with institutional reform, not-as professionalization would have it - more dependency on bureaucracy. (p.431)

The participant in their study experienced the push towards professionalisation and experienced a process of bitter disengagement and disappointment being left to fend for herself, resulting in poor pedagogical decisions. The authors argued that such experiences are more commonplace than the profession is prepared to acknowledge. Even if she had relied on the imitation model this would have failed her miserably.

Prawat (1992) argued a case for teachers to be significant change agents (American context) and that, mirroring the business world, this will come from a 'shop floor'
empowerment. However, empowerment is regarded as a slippery concept because as Prawat suggested ‘... it encompasses both political and epistemological agendas.’ (p.355), but does represent a shift in top down control strategies. The political agenda of course means of course improving the professional authority of teachers. As Prawat suggested, this assumes that teachers with discretionary power will do the right thing and this is the nub of the issue. What exactly is the right thing Prawat asked? These are some of the complicated questions that student teachers face during the becoming a teacher phase of their career development. Given the dominance of the transmission and absorption model, the student teacher becomes placed within a dilemma if alternative methods of pedagogy are preferred. Also, encouraging change in the first place ... or getting people to see things differently is itself very difficult. As Prawat said:

Getting people to change beliefs, especially intuitively reasonable ones, is a difficult proposition. Research on the conceptual change process indicates that several criteria must be met: First, individuals must be dissatisfied with their existing beliefs in some way; second, they must find the alternative intelligible and useful in extending their understanding to new situations; third they must figure out some way to connect the new beliefs with their earlier conceptions... (p.357).

The notion of metaphor Reddy (1979) argued can be seen as the dominant form of communication. Though this does not fit too well with Lyotard's (1984) notions of language games which have at their heart a socially constructed arrangement rather than a personally constructed one. Teachers' metaphors whilst useful can only take us so far unless the duality of structure is considered. However there is always the temptation to extol metaphor as a way of talking about teacher knowledge without acknowledging that outside the landscape that Connelly and Clandinin (1995) talked about, it has an almost ethereal quality about it, in that it tends to exist outside its historical context. This knowledge seems to appear in absence of human agency, in which case it is hard to justify it as knowledge at all.
In Berliner’s (1986) landmark article, he attempted to describe some of the characteristics that denote expert pedagogues, to which one assumes student teachers aspire. He suggested that well scripted lessons were seen to be important, as were habitual routines, which allow time for activities perceived to be important (these tend to be managerial and administrative). Not over talking was highlighted and attention drawn to research which suggests that experts talk about one third less. Berliner claims that such cases of expertise provide a starting point for novices to develop a temporary pedagogical scaffold upon which to develop their practice. Berliner though indicates that this is problematic because the teachers that student teachers come into contact with are cooperating or supervising teachers:

There is some consensus that it is the cooperating teacher or supervising teacher who during the student teaching experience, makes the greatest impact on the career development of the novice teacher. The cooperating teachers are supposed to be the models, experts, masters, mentors, coaches, and so forth, who lead the novice to some sort of competency in teaching. But a fundamental problem in apprenticeship programs is that the experienced and expert practitioners very often lack the ability to articulate the basis of their expertise and skill. (p.7)

Tinning alluded to this also within physical education (1993, 1996), arguing that imitative approaches to learning to teach are left rather to chance, the chance being that it might be the sort of creative teacher that one might like to imitate. Even so, this hardly conforms to what Stenhouse (1975) called the ‘extended professional’ and upon which Tinning, Kirk and Evans (1993) base their ideas about teachers as educational craftspersons.

The problems of establishing criteria for expertise are, as Berliner (1986) suggested, profound. This is problematic because the people who judge such matters (school inspectors and politicians etc.) bring different ideological positions to the process of judgement making. One can see how this manifests itself in teacher education. With a student teacher at the bottom of the traditional triad they are subjected to a range of positions as to what it means to be a good teacher. As a mediating experience this is
a powerful influence particularly as such mediating takes place under conditions of surveillance (Foucault, 1977; see also Macdonald and Kirk, 1996 for an analysis within physical education).

There can be problems when to the notion of experience and expertise are conflated to mean the same thing. For identifying knowledge systems used in pedagogy, Berliner argued that it is helpful to conceptualise these as knowledge of subject matter, and knowledge of organisation and management of classrooms. In many respects however, this falls into the trap about which Lusted (1986) warned us, which is the balkanisation (Hargreaves, 1994) of the pedagogical act. Indeed, this is the very essence of Lusted’s work. However, he went much further by suggesting that not only can subject matter and how to teach it not be separated, these cannot be separated from the knower or the learner because as he claims, pedagogy is not just about the transmission and reproduction of knowledge. The very act of pedagogy is about knowledge production. As he said, the notion of pedagogy:

... enables us to question the validity of separating these activities so easily by asking under what conditions and through what means we ‘come to know’. How one teaches is therefore of central interest but, through the prism of pedagogy, it becomes inseparable from what is being taught and, crucially, how one learns. (p.3)

The pedagogical act, Lusted said, forces us to question notions of theory production, teaching and the very nature of knowledge itself. It is in this regard that Lusted claimed that pedagogy was (and probably still is) seriously under theorised. But one thing should be clear, he felt it is that the intimate relationship between the knower and the learner and the knowledge they together produce confirms the degree of interactivity within pedagogy and that one agency should not be valued over another in this interactive relationship. As he said, pedagogy ‘... foregrounds exchange between and over the categories, it recognises the productivity of the relations, and it renders the parties within them as active, changing and changeable agencies’ (p.3).
Lusted in many respects vented a certain amount of frustration which what stood for teaching and perhaps still does. The transmission of ideas he argued was seen as an adequate form of teaching and even those working from a radical and critical genre failed to step beyond it. Such a model of pedagogy he argued, for the most part meant that making sense of what had been transmitted was left mostly to chance. Particularly when teachers’ actions were so governed by the institutional structures in which they operated and the inevitability of the curriculum to be shrouded in the rhetoric of ‘most useful knowledge’. Within Lusted’s analytical framework, it seems difficult to suggest that there is any such thing as teacher’s knowledge with the commensurate inevitability that teacher identity is likely to be similarly anonymous.

Zeichner (1983) suggested that others define the body of professional content including what are considered to be appropriate teaching skills in advance. This means that the student teacher is merely a passive recipient. In discussing other possibilities, this was Zeichner’s criticism of teacher education in the early 1980’s. One must wonder how far we have traveled (if at all) since. This is largely because teacher education was framed by a behaviouristic paradigm. In spite of Zeichner’s exhortations at the time, we still do not appear to have moved towards an inquiry-oriented model. Moreover as National Curricula increasingly govern not only what we teach but how we are meant to teach, the behaviourist model has somewhat increased its stake for legitimacy as an appropriate model of teacher education.

Giroux (1985) however noted that such approaches to teacher education simply reduce teachers to technicians. In this sense he supported Zeichner’s criticism in the early 1980’s that teaching was viewed as an applied science. As part of this approach to pedagogy, teaching packages were seen as a way of teacher proofing school curriculum content. Even though this was not its purpose, the Daily Physical Education package in Australia was implicated in this. Giroux regarded such packages as management pedagogies. This means that teachers perform the
educational labour for those who are removed from the everyday realities of the classroom. This has certain attractions to teacher education students as it removes the worry of curriculum content and design believing that this can be separated from the act of pedagogy. The Daily Physical Education program whilst successful in fulfilling certain objectives like increasing levels of physical education in primary schools was criticised for the same reasons (see Tinning and Kirk, 1992), noting that even this elaborate program evolved into something much more simplistic in many parts of Australia.

Shulman (1986), one of the key researchers in the area of teachers’ knowledge argued at the time, that little research had been done on how teachers transform subject content into what he termed the content of instruction. He asked the questions ‘... What are the sources of teacher knowledge? What does a teacher know when did he or she come to know it? How is new knowledge acquired, old knowledge retrieved, and both combined to form a new knowledge base?’ (p. 8). He further asked what prices are paid when the subject matter itself is compromised by deficiencies of prior education or ability.

Geddis and Wood (1997) in attempting to elaborate on Shulman’s model argued that the transformation of subject matter into pedagogical reasoning requires a range of interactions which go beyond Shulman’s account. It accounts for the children, the context, the time and place and in this sense the knowledge becomes a representation upon which children’s understanding is developed. Therefore as Geddis and Wood argued:

As a consequence of this focus on teaching as the transformation of subject matter, we see a variety of different kinds of knowledge as relevant in the continuing teacher deliberations from which subject matter transformations emerge. (p. 612) ... The effective subject matter transformations enacted in classrooms are the product of complex deliberations by creative and imaginative teachers. (p. 613)
They made the case that whilst there has been extensive study on teacher education, the focus had largely been on the students and the way knowledge is appropriated, constructed, gathered etc. There remains a paucity of research related to pedagogical content knowledge of the teacher educator. Similarly there is a paucity of curriculum materials. The consequence was that this study related to producing an account of teacher education practice in mathematics education in particular. For Geddis and Wood, the dilemma of the teacher educator was described thus:

While teacher educators need to provide routines and strategies that help novice teachers cope with the uncertainty of early classroom encounters, they also need to foster in novices that awareness of the inherent ambiguity and complexity of pedagogical encounters that make it possible to see those same routines and strategies as problematic. In the absence of such a critical perspective in beginning teachers, the possibilities for continued professional growth are in jeopardy. (p.617)

In turn this creates dilemmas for the student teacher and the beginning/novice teacher. The novice must make decisions about what kind of teacher behaviour to display, should it be considered to be lacking in strategy and routine, it may well be considered to be poor practice. Should there be too much strategy, the pedagogical act may appear to be overly structured and stiff. Student teachers in particular have to guess in the early stages of each practicum experience and then come to weigh up just what the supervising teacher might value. This is a pedagogical strategy in itself since finding a way through the practicum is crucial. The dilemma comes when the appropriate course is identified, imitated and then enacted, success (as defined by the supervising teacher) flows and the perception of self may well change as a result of this relational experience. This may well serve to mediate behaviour into conformity as a learning process or, in the eyes of the novice, learning from a negative result. In the Geddis and Wood study it was clear that the students in the classes of the research subject/object manifestly showed signs of anxiety consistent with student teacher behaviour. Their immediate concerns were for classroom management, discipline and order, and lesson planning which they felt if it was sound, the other things would flow.
Geddis and Wood claimed that in terms of professional preparation in teacher education, a problem is faced that is not apparent in any other profession. This is the problem of familiarity identified so forcibly by Lortie (1975). Even so Calderhead (1987, 1988) pointed to the potential reality shock of the first teaching practice experience which has a tendency to encourage a more authoritarian approach to pedagogy. Rodriguez (1993) also suggested that this is likely to contribute to the widening of the gap between theory and practice as perceived by pre-service teachers.

There have been other attempts to reconceptualise Shulman’s work and to more broadly configure the notion of pedagogical content knowledge largely because it is considered to be more complicated than the simple commonsensical. Wilson, Shulman and Richert (1987) suggested that for successful teachers, pedagogical content knowledge couldn’t simply be an intuitive understanding of subject matter. They argued:

Successful teachers cannot simply have an intuitive or personal understanding of a particular concept, principle, or theory. Rather, in order to foster understanding, they must themselves understand ways of representing the concept for students. They must have knowledge of the ways of transforming the content for the purposes of teaching. (p.110)

Shulman (1986) originally coined the term pedagogical content knowledge as a way of conceptualising that essential knowledge required to be able to teach subject content knowledge. He described pedagogical content knowledge as ‘... the most useful forms of representation ... the most powerful analogies, illustrations, examples, explanations and demonstrations—in a word, the ways of representing and formulating the subject that make it comprehensible to others’ (p.9).

Shulman’s conceptualisation has been useful in so far as it has enabled an understanding of the knowledge base for teaching to develop. Moreover, it has served as the impetus for acknowledging the link between subject content knowledge (or
discipline knowledge) and knowledge for teaching. For some however, Shulman's conceptualisation does not fully capture the essence of pedagogical content knowledge. For example Cochran, DeRuiter and King (1993) described pedagogical content knowledge as follows:

Pedagogical content knowledge differentiates expert teachers in a subject area from subject area experts. Pedagogical content knowledge concerns the manner in which teachers relate their subject matter knowledge (what they know about what they teach) to their pedagogical knowledge (what they know about teaching) and how subject matter knowledge is a part of the process of pedagogical reasoning. (p.263)

Using a constructivist perspective, Cochran et al attempted to go beyond Shulman's conceptualisation, which they regarded as too static. They regarded pedagogical content knowledge is neither complete nor absolute but dynamic and ever evolving. Drawing on the work of Lerman (1989) in mathematics education, Cochran et al indicated that '... knowledge is actively created by the knower and not passively received in an unmodified form from the environment...' (p.265). Cochran et al therefore preferred to refer to the knowledge for teaching subject content as pedagogical content knowing to emphasise the dynamic qualities of coming to know.

Significantly though, pedagogical content knowledge as a key feature of teachers' knowledge has proven elusive to clarify (see Marks, 1990). Metzler (1992), argued that pedagogical content knowledge may be considered as follows '... in many ways it is the heart of teaching, encapsulated in those lessons when a teacher knows a good deal about the topic or skill and knows how to teach it effectively to a class of students in a particular context' (p.154). However, this may fall short of a satisfactory definition and possibly does not capture the ambiguity inherent in the term pedagogical content knowledge, which Marks (1990) claimed was derived from the broad conceptualisations of it.
It is a reasonable suggest then that pedagogical content knowledge will to continue to be reshaped or reformed by teachers and students teachers and is unlikely to be static or complete. Rather, it is knowledge that is recursively re-ordered and thus may represent what a teacher understands about pedagogical content knowledge at a particular time usually having been shaped by what Giddens (1991) referred to as mediating experiences. Some of the experiences clearly have greater impact than others and it would come as no great surprise that for pre-service teachers, the practicum is located as a site where much knowing takes place, supporting work done elsewhere (Barrow, 1990; Graber 1989; Hargreaves 1984; Rovegno, 1992).

**Pedagogical content knowledge for Physical Education**

How does this manifest itself within physical education? Tinning (1992a) also attempted a re-conceptualisation of Shulman's ideas to demonstrate the dynamic qualities and to indicate the need to emphasise the subject specific nature of pedagogical content knowledge. He argued that the nature of physical education – its experiential qualities, determines that pedagogical content knowledge within physical education is likely to require special treatment in teacher preparation courses. He argued that such ‘special treatment’ should complement general courses in pedagogy within a teacher education course of study. Like other researchers, Tinning identified pedagogical content knowledge as being concerned with the ‘how to teach’, in other words the adept use of the best analogies, representations, examples and demonstrations. However, he extended Shulman’s idea by suggesting that pedagogical content knowledge in physical education can be seen as having practical and theoretical dimensions. In other words it is possible to know about pedagogy in physical education but not know how apply such knowledge in the practical setting. To explain, Tinning argued that pedagogical content knowledge can be learnt about for the purposes of say, passing an exam. This is quite different however, to knowing how to use such knowledge in a practical way to bring about desirable learning in children. Hence it is possible to regard pedagogical content knowledge itself as being forms of both knowing that and knowing how.
Schempp (1993) suggested, supporting the work of Cochran et al (1993), that teachers' knowledge is 'living', it is not inorganic but grows in certain directions in accordance with the synthesis between the many and varied views of teaching. Certainly in Schempp's study, the participant saw the development of professional knowledge as coming from the distilled wisdom of practice. He took the view that what he knew about teaching he had learned on the job. Moreover, he felt that most of the learning about how to teach had been in the real situation and this knowledge accrual had occurred as a result of experience rather than thinking or theorising about the experience. Furthermore, he argued that new knowledge (in other words, things that he didn't already know) should be of a practical kind, that is, to serve a utilitarian purpose. This view may well be consistent with the view of many teachers as demonstrated by Rossi and Nicholls (1994). In their study, teachers from an Australian school and teachers from a British school were unanimous in arguing for a broader frame of practice in learning to teach citing their own experience as evidence for its worthiness. Indeed for many student teachers, their appetite for the how to of teaching physical education is often insatiable. Under such circumstances, one can see how this kind of teacher development might be aiding and abetting the production of pedagogical clerks (Giroux and McLaren, 1987) referred to earlier. Elsewhere McLaren (1994) argued that this technical rationality creates an 'objectivist' theory of knowledge that sees knowledge in autocratic and impersonal terms. A teacher would impart this form of knowledge for teaching in the appropriate effective manner established by scientific research. He argued that this might be perceived as a form of 'mainstream pedagogy' and he suggested '... Mainstream pedagogy simply reproduces those forms of subjectivity preferred by the dominant culture. Such an approach to pedagogy domesticates, pacifies and deracinates agency; harmonizes a world of disjuncture and incongruity; and smooths the unruly features of daily existence' (p.320).
This represents a practice that is simply a list of technical procedures requiring little professional judgement or reflection?

Many texts on physical education pedagogy substantially deal (though not exclusively) with the technical and functional aspects of pedagogy (e.g. Mosston and Ashworth, 1986; Rink, 1985; Siedentop, 1991; Wall and Murray, 1990). Much of this work does go beyond simple instructional skills. However, it does represent a considerable contribution to the literature on technical aspects of teaching. For example, nearly all of Mosston and Ashworth's chapters include a section on 'how to do it'. The importance of this knowing how should not be understated but it perhaps represents a limited view of what pedagogy is about and again serves to underline the balkanisation of the pedagogical act so often seen in pedagogy texts. One must also wonder how effective such books are in the first place, since it would not be unfair to argue that most teachers of physical education use a teacher centred command/practice approach. Certainly neophyte teachers and student teachers teach very close to the command end of Mosston's spectrum as there is a desire for security and safety afforded by tightly disciplined lessons (Rossi, 1995). In this sense, there are elements of teacher identity in physical education beginning to appear at this stage. The need for safety and security and a pedagogy of non-risk is a powerful force in shaping early physical education professional identity.

Rink (1993) argued that in the context of physical education teacher education, different research paradigms produced complimentary knowledge, which she said, draws from all disciplines within 'kinesiology' and which can make a contribution to teacher knowledge in physical education. However she argued that for this to happen, ideological barriers must be broken down and academic tribalism and infighting must cease.

Moreover, by alluding to the weak assumption that acquiring a set of technical skills alone can produce a teacher, she was in many respects then 'problematising' the
nature of knowledge for teaching physical education. She said that the simple acquisition of a set of skills would fall short of what it is to be a teacher.

Rink lamented the antagonism that appears to exist between research that aims to be prescriptive and therefore supposedly intent on improving action and that which simply seeks to describe and understand. She suggested that where there is little move from description, there are two major assumptions upon which such work seems to be based. First, that the most valid model of teaching resembles chaos where small changes in one context have a range of impacts on an entire system, the second that such research wallows in relativism with nobody going anywhere particularly quickly. As such she called for an holistic approach to teaching. As she said ‘...A holistic perspective of teaching, which integrates and legitimates ideas from positivistic perspectives as well as those from the naturalistic inquiry perspective, rests heavily on the idea that both perspectives have validity for understanding and guiding the teaching/learning process’ (p.311).

However, there are parts of her argument that are flawed particularly with regard to the notion of routine. She developed her argument around what it is that can be considered what she calls 'authentic'. She suggested that some things must be relegated to a lower level of cognitive functioning because some things must be given greater attention. Her argument was that it is the non-authentic things (i.e. the things which are not authentic in the teaching experience) which are thus reduced. In doing so she perhaps unwittingly made procedural knowledge subordinate to declarative knowledge setting up a dualism (even drawing from cognitive sciences). Later however, she argued for the inseparability of thought and action. To argue this, which is appropriate in my view, in fact problematised her claims about habitual routine in pedagogy and the false hierarchy between procedural and declarative knowledge.

She also made an erroneous link between intent and action. The link fails because earlier she talked about how good teachers display certain behaviour. However, if we
take the unorthodoxy of Gary in Tinning’s (1987a) account - his actions might be
seen to be extravagant even suspect in the full scheme of things. And yet to draw
from Mosston (1986) his actions were congruent with his intent.

Rink’s claim then was that authenticity is perhaps captured by the distinction
between those teacher actions that are performed automatically, and those that are
ascribed greater meaning. As she said:

The more effective teacher probably is highly selective about the
information attended to and gives more meaning to that information.
The highly skilled teacher also makes better decisions concerning
what should be attended to at a higher level of functioning and what
should be put on automatic. Understanding the process of
authenticity in teaching is more related to the selection of what is
attended to and the meaning the teacher gives to what is attended to
than the amount of time spent in thought versus automatic responses.
Although it is likely that the expert teacher does spend more time
reflecting about the process of teaching when not involved in action,
practitioners who spend all their time trying to be continuously
“authentic” would indeed be lost in thought and immediately 10
steps behind the action in a classroom or gymnasium. (p.313)

Rink drew from Lawson (1990a) and suggested that teacher education should be
grounded in practice and framed in the development of problem solving skills for the
variability, complexity and uncertainty of the real world. However, Rink’s case
seemed not to be totally structured in this way, and hence presented a different
emphasis to Lawson.

In essence however, the thrust of the paper was that a holistic form of teacher
education pedagogy and curriculum should exist. Rink’s fears which were quite
legitimate, were that teacher education (in physical education) will simply be pulled
from one orientation to another and in many respects, she was making a similar call
to that of Joe Macguire has urged us to see people in the round.
Pedagogical content knowledge in physical education as being problematic

Clearly the skilled use of teaching techniques is a legitimate concern and worthy of competent mastery. However, such teaching skills alone do not constitute pedagogical content knowledge for teaching physical education, at least not if teaching is viewed as having something to do with learning. Such pedagogy conforms to the observance of a strict set of rules (Grundy, 1987). This form of teaching in physical education has been described as technocratic and rationalist, and Tinning has argued that it is the dominant paradigm in physical education teaching. He has argued elsewhere (Tinning 1987a) that such forms of teacher work in physical education ‘... is more likely to be physical miseducation, characterised by unjust competition, long periods of inaction for most children...’ (p.10). Dodds (1986) indicated that physical education is perhaps the site for the greatest degree of social injustice including motor elitism, sexism and racism. Physical education is also implicated (whether we like it or not) in the issue of body shapism or what Tinning (1985) referred to as the cult of slenderness. Cultural practices in the form of multimedia entertainment endorse such a cult. At the same time those practices encourage a form of victim blaming. The necessity to stamp out the 'ugly isms' in our gyms (Dodds, 1986), must manifest itself in our actions and our use of language signifiers. Language therefore is inherently a part of pedagogical content knowledge for teachers and in particular physical education teachers.

It appears then, that much of what a teacher of physical education does and says leads to hidden learnings which may be a more powerful form of learning than what appears in the overt curriculum. How is this to form part of the knowledge for teaching physical education? Tinning (1990) argued that one way of considering this is to problematise the nature of teaching and teaching work. This however, is not without difficulties and certainly, Tinning suggested that to problematise the nature of teachers' work, to consider the unseen or the not so obvious is viewed with great suspicion by student teachers, novice teachers, and veteran teachers.
In spite of this, there is a growing body of work that challenges the technocratic conventions of pedagogy. Some of this was alluded to earlier in chapter one (see page 18). Sage (1993) for example argued that the discourse of a ‘New World Order’ has entered the realm of public discourse. Therefore, as professional ‘human movement workers’ he suggested physical education teachers must determine the way or extent to which their work in physical education contributes to this world order, particularly given the nature of the contested meanings of new world order.

Sage argued that physical education teachers typically see their work in physical education as isolated from the larger socio-cultural context in which the very activity itself takes place. As a result we often fail to see the connections that our own subject might have to larger social questions about justice and fairness and the ugly isms (Dodds, 1986). Sage lamented this ... as he said:

>This is unfortunate because by not employing a socially critical perspective to human movement practices, we are unable to see the extent to which these practices are socially constructed by particular interests; we have difficulties recognizing how hegemonic political and economic interests shape and mold the values of our world and how our human movement practices reinforce and reproduce these same values. (p.153)

He further argued:

>As long as we confine our vision merely to what is going on in our profession, we will only be dealing with symptoms of much larger configurations. Sport and physical education are practices which are socially constructed within the culture in which they exist, and any adequate account of them must be grounded in an understanding of power, privilege, and dominance within society. The essence of human movement practices is found within the nature of their relationship to the broader stream of societal forces of which they are a part. (p.153)

Hence drawing from in particular the work of Flacks (1988) (whose work is similar to that of Giddens), Sage suggested that by becoming ‘active’ in the construction of
our human movement practices, we could in fact avoid being shaped other structures, which in turn shape, our further actions. Hence Sage suggested that physical educators must be ‘active’ in shaping physical education practices so that our contribution can be to shape the (or ‘a’) New World Order.

Sage argued that what ‘New World Order’ means is that for the most part a re-packaged ‘Old World order’ where rich and powerful elites are secured in such positions of privilege. Political collusion, corporate collusion and the thin masquerade of a newfound citizenship and participative democracy bring this about. This continued rationalist, corporatist approach to day to day life (see Saul, 1997), obviously has its effects in public services including education. Sage alerted us to Kozol’s (1991) analysis of American funding for education that indicates that children from wealthier families are likely to get a superior educational opportunity. It is little wonder that Sage made such claims when reading Kozol’s harrow account of educational disadvantage. Early in the piece Kozol shows that little has changed in 25-30 years in education in the United States. Segregation (of one kind or another), inequality and oppression are still present in an educational system even though in the 1990’s there is a belief that inequality has been addressed. Hence there is a rhetorical justification to current policies of education which are part of a New World discourse. This is possibly more widespread than in America. For example, indigenous needs or minority ethnic groups are seldom addressed with any true commitment to amelioration probably anywhere in the world even in so called western democracies. Such systems then tend to be capable of producing communities that are ‘expendable’. Kozol’s account of such a community makes depressing reading.

To return to Sage, he urged us to see how the role of the physical educator is connected to the wider world and how physical education practices might be able to help overcome the inequalities within our communities which seem now to be simply regarded as the way things are. Hence a critical and progressive orientation he
suggested must be adopted as it seeks to ‘...transform the present and produce a different, better future’ (p.161).

In recent work, Fernaddez-Balboa (1993, 1995, 1997) developed similar or related themes by also drawing on a socially critical epistemology. In the first paper he supported Kirk’s (1992) notion that the hidden curriculum does ‘ideological work’ because certain discourses are privileged and others are marginalised. As he said:

In a sense, the hidden curriculum acts as a highly selective, powerful screen that filters what we pay attention to and what we ignore, this creating a single contextualized world. This often limits our ability to become aware of our victimization (being victimized or victimizing others) and to envision other worlds and possibilities. (p.231)

He regards the curriculum structure in physical education as an example of stratification. The major team games enjoy an inflated status within the curriculum and these structures also contribute to differential treatment among students (i.e. boys’ activities and girls’ activities). Also certain groups are considered more appropriate for certain sports (aborigines and the various football codes commonly played in Australia) (see also McKay, 1991).

Hence he suggested what stands for physical education in schools is immersed in elitist practices and that traditional educational practices in physical education tend to be discriminatory by regarding ‘difference’ as deficient. Under these circumstances, the maintenance of an Old World order is preserved since curriculum activities in physical education lack context and are therefore frequently meaningless to many students. The PE curriculum is he suggested totalitarian. In part, the fragmentation and compartmentalisation of physical education knowledge into disciplines bring this about. These have served to erode physical education as an entity. This affects the very identity of what it is to be a physical educator by allowing the more powerful technocentric and scientific discourses and agendas to dominate both physical
education pedagogy and in particular physical education teacher education. Fernandez-Balboa attempts to ‘reclaim’ physical education by his development of a discourse informed by critical theory. Both later papers (1995 and 1997) are powerful critiques of knowledge and practice within physical education and within teacher education. The latter paper which attempts to outline program possibilities is perhaps caught between the rhetoric of good intention and the failure of basing program ideas on almost no empirical data whatsoever. Both Kirk’s (1997) and Ingham’s (1997) response to the paper (both of which appeared in the same issue of *Quest*) share a similar view, yet applauded Fernandez-Balboa’s attempts to get the physical education community in higher education to sit up and listen.

It is worth paying some closer attention to Fernandez-Balboa. He argued that although physical education teacher education does allow students to ‘fit’ into schools as teachers (for transmission purposes) it renders them as what he calls ‘unskilled workers’ (p.161). Moreover the knowledge structures and the rules and resources of those structures (Giddens, 1984), have a profound impact on the ‘becoming a teacher in physical education. As he said:

Who one is depends partly on what one knows or ignores. In turn, one’s knowledge and ignorance affect his or her beliefs and behaviors. Likewise, a profession’s body of knowledge also influences the beliefs and actions of its members. People view the world, establish goals, set and solve problems, and evaluate outcomes according to their professional knowledge. The same can be said of physical education and their knowledge (1997, p.162)

However, he argued that as teacher educators it is not our place to make PETE students (or beginning teachers) take professional and personal risks, for to do so would Balboa suggested potentially lead to career suicide. In this regard, the exhortation to become active workers in making the world a better place falls rather flat and perhaps does not have the power of Sage’s (1993) earlier call. In this sense, Fernandez-Balboa’s call was for students to be relational selves. That is, he clearly stated his case for lighting the sparks in students’ minds for critical work but realises
that the rules and resources of the structure into which beginning teachers step will shape them in certain ways and their behaviour must be commensurate with such expectations. In my view this is self-defeating. We already know from the work done on occupational socialisation that conformity in new teachers is likely and yet if we imbue them with a sense of change, as an essentialist part of their persona, this will be denied. Sowing the seeds through the methods of critique is all very well but I have argued elsewhere (Rossi and Cassidy, 1999) that this needs to be acted upon reflexively, lest the new teacher descend into habitual forms of pedagogy through the power of occupational socialisation.

The result of this then is that Fernandez-Balboa’s (1997) paper is long off rhetoric but short on detail other than global suggestions which appear to have little foundation - but intuitively seem to be ‘good ideas’. Whilst the ideas are highly attractive, both in Kirk’s (1997) and Ingham’s responses, the same misgivings were aired with David Kirk suggesting that empirical data is needed to make judgements about the efficacy of the widespread reform that Fernandez-Balboa advocates.

Perhaps some of the most challenging work done recently which relates to pedagogical content knowledge in physical education is the return to the idea of skill acquisition. Having indicated at the beginning that the influential work of Franklin Henry was significant in the evolution of the area of physical education in higher education, his area as an experimental psychologist was the acquisition of motor skill. Such courses still exist but have taken convoluted theoretical turns in recent years with a developing research field in ecological/dynamical systems of motor control which contribute to the development of skilled performance. What perhaps is of particular interest is that the theory has at its heart, the interaction and interrelationship between, the individual, the task and the context/environment. These are known as the ‘constraints’ to skill acquisition. This has provided a theoretical opportunity for other researchers to theorise about skill acquisition in a qualitative, individual, human sense rather than a predictive behavioural sense.
Langley (1997) for example, argued that researchers into motor behaviour and the processes of skill acquisition have not paid sufficient heed to the subjective nature of learning. In other words, Langley suggested it is important to give attention to how learners actually experience the teaching and learning context. Langley referred to Locke (1990), who has suggested that teachers need to have a deep understanding of how learners actually encounter the subject matter (subject content knowledge) in schools.

Langley made a case therefore, that along with conventional research in skill learning, interpretive research developed through narrative provides a far more developed picture of this process than currently exists. He further argued that the narrative can address some of these silences because narrative can be seen as the storied nature of human experience and therefore represents a form of knowing in humans. Langley suggested not unreasonably, that if narrative is a form of human knowing then it follows that it can contribute to motor skill learning and as teachers, our understanding of motor skill learning. Elsewhere, Langley (1995) argued that skill learning is not dependent on the error detection mechanisms within the motor system. Rather skill learning is a holistic process in which narrative can help organise the multiple realities of learning in a coherent way especially as these constructed realities may well be different for each learner. He was mindful however of the gap between how reality presents itself to the individual consciousness (experience) and how that experience might be conveyed through a narrative process (expression). Notwithstanding this, Langley argued that motor skill learning is situated within an individual’s historical context.

This approach then would be regarded as constructivist. In the ecological approach to learning skills, two of the constraints, the environment and the individual, emphasise that there is a contractedness about skill learning. Hence a narrative approach fits not only from a skill learning perspective but also from a socially critical model as argued
by Kirk and Rovegno (1995) and the notion of learning as a situated phenomena (Lave and Wenger, 1991)

In 1994, an edition of Quest sought to re-establish the links between motor learning research and research into pedagogy or perhaps more closely... research on instruction in motor skills. The essence of Richard Magill's introduction was communication both as an efficient instructional 'tool' but also he was referring to the communication that should exist between researchers who he felt had related goals.

What emerged very early on in Rink's (1994) paper is the sheer complexity involved in the whole instructional event with variables such as long term and multidimensional of educational goals, the learners' ability, the variability in learner styles, the social context, pupil motivation and so on. If, as Rink suggested (drawing from the classic work by Shulman, 1987) being able to structure content for learners as identified as part of the pedagogical knowledge of the teacher, then it follows that all the things above (and more) are part of pedagogical content knowledge of the teacher. This she said has been regarded as a separate ability from the teacher's knowledge of content. It may well be considered thus but the inextricable links of one to the other are emphasised by Shulman (1986, 1987) and Lusted (1986) regards them as inseparable. Interestingly, Rink's paper focussed solely on task presentation for skill acquisition and little attention is given to alternative such as a Games for Understanding approach. This is not a criticism, but perhaps reflects the brief for the paper that Rink was given which in turn reinforces Tinning's ideas about performance pedagogy as the dominant discourse in physical education. In this way it is at odds with the far more ambitious project of Rovegno and Kirk a year later.

The essence of Kirk's and Rogengo's (1995) paper was that it is framed by a socially critical agenda and yet for the most part deals with how the skill acquisition aspect inherent within physical education can be undertaken not in accordance with
performance pedagogy but in a more humanistic way. They argued that in fact there has been no real shortage of socially critical work in physical education in the historical sense linking much of what has gone on in the past with previous trends in 'natural movement' including the work of Laban and H'Doubler. More recently they suggested that socially critical work is underpinned by an agenda of social justice, which whilst laudable is in fact too narrow for meaningful physical education curriculum work to be undertaken. They argued that the ethic of care and a commitment to community also be included within the broader framework. The authors showed however (drawing from Whitson and Macintosh, 1990) that discourses of performance were the more powerful (i.e. in the decade 1980-90) and Tinning's (1991) work underlines this.

The principle shortcomings Rovegno and Kirk argued, are the lack of articulation of socially critical work with an ethic of care (as described by Noddings, 1984) and a greater understanding of children’s learning and development. Moreover, they drew from the field of psychology to suggest that curricula imbued with a sense of individual achievement (often at the expense of others) is the norm and is persistent in ever evolving education. It therefore takes a very narrow view about how children learn and develop. For example, the authors claimed that most of what is known about children’s learning in physical education is conceptualised narrowly within the motor domain.

In a similar way to Langley, (1995/97) Rovegno and Kirk explored the potential of the ecological/dynamical approach to motor learning as it is an interactionist theory of motor development and abandons the behaviourist model which suggests that motor competency develops through an error detection model. An interactionist model places the individual at the centre of the activity in an exploratory context. A behaviourist model suggests that there are 'given' processes in motor control that become available as we learn to detect and correct motor error. Rovegno and Kirk suggested that an ecological approach fits well with a socially critical agenda.
Particularly with the learning of games which tend to dominate physical education curricula around the world.

What really emerges from the 1994 *Quest* edition is that there are viable links between motor learning research and physical education pedagogy. However, it is frequently the case that ne’er the twain shall meet. Not I suspect because of any animosity between the various academic camps but rather because a common language between the two has yet to be developed. This requires an acknowledgment that a range of educational outcomes are possible from physical education but no one is necessarily more important than another.

**The case for reflective teaching: Reflection as teacher knowledge.**

Given that there is no 'one size fits all' pedagogy (Lawson, 1990) in the day to day lives of teachers and their practice, the necessity for reflective teaching becomes paramount. By collecting data about one’s own practice, it becomes possible to seek improvements in teaching physical education. The idea of reflection as epistemology can then fit within the broader parameters of pedagogical content knowledge for physical education. This is not to say that it is unique to physical education, rather that it represents an indispensable facet of it.

As Gore (1987) indicated, in some cases it is appropriate to regard reflection as a technical process. Indeed the term reflection could be regarded as very overworked. At the superficial level (perhaps the most common) it serves purely as a functional process to improve individual technical practice. This form of reflection addresses a limited range of questions that relate to technical aspects of teaching, such as: ‘did my voice reach all the group’ ‘were my instructions clear’, ‘did the equipment come out in an organised and efficient fashion’ and so on? Don’t misunderstand me, these are important questions but they are narrow and limited in their focus. For a start, nowhere in the above examples is there any consideration of pupil learning. A
reasonable starting point in reflective teaching might be ‘what learning took place, and more importantly, why?’

Zeichner and Tabachnick (1991) indicated that the range of reflective discourse includes nomenclature such as action research, reflective teaching, and teacher-as-researcher. As a consequence, reflection has come to mean many things to many people and the term has been appropriated and used in different ways. Therefore as Tinning (1993) argued it is not so much how we reflect that is important but rather the kinds of questions we are asking ourselves. Tinning took the social reconstructionist position and believes that schools should have a broad mission, which is to transmit the best of culture and to eliminate those practices that are unjust and oppressive. Zeichner and Tabachnick (1991) concurred suggesting that reflection of this nature must take account of the social and political ramifications of schooling. Therein lies a problem. For the most part student teachers only focus on their own performance as teachers. This is hardly surprising given the traditional power triad of university lecturer or supervisor, the supervising (or co-operative) teacher and the student teacher. For reflective practice to reach its full potential, in other words, reflection on a number of planes and levels as characterised by the work of Zeichner and Tabachnick (1991), the mentor-intern/student teacher relationship clearly needs to function at a collegial level.

**Becoming and being a (PE) teacher: Questions of professional identity**

Bakhtin (1986), referred to earlier, has suggested that persons are caught in a perpetual incompleteness of identity (perhaps because the self is saturated) and that this represents the becoming of a person. This is something of an ideological dilemma (Billig 1988) and adds further complexity to the already complex world of becoming a PE teacher. Trying to take a position which may clash ideologically with one’s professional role (Giddens, 1991) can cause a situation of great discomfort or what Giddens calls existential anxiety.
Calhoun (1994) emphasised Gergen’s argument for saturatedness. Meeting people in a way we do now (i.e. in diverse contexts, under diverse circumstances), means that placing others is difficult. In tighter communities, where local custom is pre-eminent, whether it be a mining community in South Wales or an Aboriginal community in North Queensland, this would not have been as difficult. I suggest that this is the case in teaching (or at least teacher education) as the meeting of diverse (but sometimes dominant) discourses within which one is implicated occurs with more regularity. This is brought about largely through the compression of time and space (Giddens, 1991) and is largely attributed to contemporary forms of mass electronic communication. Calhoun suggested that ‘...The modern era brought an increases in the multiplicity of identity schemes’ (p.12). Pre-service teachers then are caught within this complexity since they are subjected to a range of essentialist claims that demand sovereignty over what is right and yet, most recent sociology is anti-essentialist. Hence post-structuralism rejects essentialist notions of identity and truth supporting Gergen’s notion that whilst there may be claims for essential selves in fact we develop multiple selves. However, Calhoun has indicated that essentialist discourses are common. Kirk’s (1986) analysis of teacher education indicated as much. He suggested that the discourse of teacher education, ‘... fails to locate teacher education in a nexus of structures that arise through societal pressures and through imperatives created by the institutionalised nature of the educational system and the bureaucratized nature of its administration’ (p. 160). According to Kirk, teacher education institutions are so immersed in rules and procedures related to recruitment, course content, granting of credit and so on that their ‘sedimented tradition’ (p.160) will act as a functional constraint on the very nature of their existence.

Furthermore, Kirk suggested that classroom knowledge in schools fights for recognition and the right to ‘be in’ the course and, in some cases, dominate it. The boundaries of this knowledge, Kirk argued, are jealously guarded. It is little wonder then that with the subject matter knowledge and pedagogical knowledge both maintaining claims of relative sovereignty that ‘... professional identities are formed
and maintained on the basis of the knowledge over which teachers have gained some mastery and to which they owe some allegiance' (p.160). It would seem unwise for teachers to question the basis of their proclaimed professionalism and expertise. They can do little else then, but perpetuate the process of institutionalisation and reification of subject knowledge. My argument is that there are competing discourses that surround the pedagogical knowledge that is considered of most worth. Teachers are similarly likely to protect what it is they think they know about teaching that will relate to the competing claims for pedagogical knowledge which comes from those in the field and those which reside in the teacher education institution. Calhoun (1994) argued that functionalist sociology naturalised the language of becoming but more recently Psycho analysis challenged the appeal to nature by making the individual newly complex and showing ways in which identity had to be achieved in development rather than discovered in direct reference to nature' (p.15).

However, Calhoun indicated that identity still tends to be structured around dominant (privileged) discourses even though the move away from essentialism has meant incompleteness, fragmentation and contradiction. This is problematic. Calhoun indicated that the social constructionsists have been accused of social determinism, which he argues is viewed as another form of essentialism. He continues to argue however, that this is destructive in terms of social theorising '... Rather than simple opposition between essentialism and constructionism, it is important to see a field of possible strategies for confronting issues of identity...' (p.17). For example some feminist thinkers have suggested a need for risk essentialism... as Calhoun described '...the point is to see that under certain circumstances-mainly identified as political but I think also intellectual - self-critical claims to strong basic and shared identity may be useful' (p.17). And later '... Moreover, we can see that essentialism itself need not be essentialized, that there are a plethora of claims to “basic” or “root” or essential identities that stand on different grounds, that cohabit with different bedfellows, that open (or foreclose) different insights or coalitions or conflicts' (p.19).
As Kirk (1986) suggested, this is fundamental to teacher education. The competing realms of truth force teacher education students into a choice. This has the effect Britzman (1991) argued that the students are sometimes forced to become someone they are not. Again Kirk was clear about this in his analysis of the theory/practice divide where different protagonists argue for different forms of reality in terms of teaching depending upon where they are positioned. Calhoun suggested that the problem is one of recognition since he regards recognition as being at the heart of the matter:

No matter when and where one looks, subjectivity is perhaps best understood as a project, as something always under construction, never perfect. In varying degrees for different people and in different circumstances it may be more or less challenging, but it is never automatic. A crucial aspect of the project of subjectivity is identity. Identity turns on the interrelated problems of self-recognition and recognition by others. Recognition is vital to any reflexivity, for example, any capacity to look at oneself, to choose one’s actions and to see their consequences, and to hope to make oneself more or better than one is. The component of recognition may be the aspect of identity made most problematic by the social changes of modernity. (p.20)

Under such circumstances there is a challenge to the notion of identity. As Kirk (1986) said ‘... The sheer scope and complexity of recognizable identities and competing identity schemes makes recognition problematic and in need of specific establishment in various institutional and interactional settings’ (p. 20).

It is this Calhoun suggested that gives rise to identity politics which he suggested are exacerbated by the degree to which we underestimate what he terms as the struggle inherent in attempting to forge an identity:

... the tension inherent in the fact that we all have multiple, incomplete and/or fragmented identities (and sometimes resistances), the politics implied by the differential public standing of various identities or
identity claims, and the possibilities for our salient constructions of identities to change in the context of powerfully meaningful, emotionally significant events... (p.24)

Johnstone (1992) suggested that image (of a teacher) is a way of conceptualising and understanding the practical knowledge of pre-service teachers. She argued that images provide a language for pre-service teachers to make explicit the assumptions upon which practice is based. This makes for an interesting link in how teachers are perceived in relation to what it is they seem to know.

Weber and Mitchell (1995) argued that teacher identity is treated too often in an unproblematic way and particularly singular in nature. Often, they suggested teacher identity is taken for granted as an outcome of pedagogical skills or is something that emerges into place after a classroom experience (read teaching practice). As they suggested ‘... Teachers are not merely victims of society’s cultural imagery. Although they are born into powerful socialising metaphors, some of them manage to break and recreate images while making sense of their roles and forging their self-identities’ (p.26).

Weber and Mitchell’s (1995) approach was unique in that it employed drawing as a way of creating representations of teachers by teachers and by pupils. The pervasive image was clearly one where the teacher is a transmitter of knowledge (and for skills), where the teacher is all knowing and the transmission is into empty vessels. In many respects, this demonstrated persistence in traditional stereotype and remains a popular cultural image. It is seemingly one to which teachers often readily aspire, ‘...confronted with the realities and complexities of university-based teacher education, education professors sometimes feel unable to combat what they perceive as firmly entrenched stereotypes and ideas about teaching’ (p.27). The importance of cultural imagery cannot be overstated. In their study, some teachers (pre-service) tried to forge their own coherent teaching self by not conforming to institutionalised frames of reference about what it is to be a teacher. However when these failed
amidst the realities of teaching it was necessary to adjust which is a process that Lacy (1977) argued is internalised. This process has the effect of taking the students in some divergent directions, which are heavily influenced by the profession at large. Certainly teacher identity appears to be a tension between what might be expected or desired and what is more often than not experienced (Provenzo et al, 1989).

Britzman’s (1991) study has close connections with Giddens’ idea about the duality of structure when she said:

"... to see teachers as being shaped by their work as well as shaping their work...” (p.1) the reference was that to see teachers this way enables us to move away from the instrumentalist discourse of control and manipulation to a dialogic discourse which she suggests can ... take into account the discursive practices and their social relationships that pedagogy and the lived experiences of teachers (p.1)

She argued that attention to the student teacher voice is imperative because this is the first point where competing images of teaching multiple meanings of what it is to be a teacher and the constraints and possibilities for teacher identity are first encountered in any significant way. At first glance this may challenge what Lortie (1975) and others have said about an apprenticeship of observation. However, subtle differences need to be teased out here. The emphasis by Britzman was in encountering what it means to be a teacher for the purposes of critique. For Lortie, his argument was that the observation provides a model of teaching which for most part is taken for granted by those that enter teacher education.

The purpose of Britzman’s study was to ‘... raise thorny questions about the inherited discourses of student teaching and to theorize the contradictory realities that beckon and disturb those in this field’ (p.2). She regarded all pedagogy to be enshrined by multiple dualities in the way pedagogy is enacted. She argued that they are traditionally expressed as dichotomies but she says they are not nearly so neat (therefore Giddens’ analysis using the duality of structure may provide a superior
form of analysis). She argued they are better considered as dialogic. Moreover, the site of the student teacher as a person is one of conflict, for becoming a teacher often means becoming someone you are not often requiring teacher skills that can be considered as '... custodial moments...' (p.4). In this sense, teacher identity begins to assume essentialist qualities anchored by forms of folklore (Buchmann, 1987) which arc powerful discourses ensuring that identity is saturated with cultural myths. These present a fascia of superficial image underpinned by an equally superficial knowledge. As Britzman (1991) advised '...In the case of learning to teach, cultural myths partly structure the individual’s taken-for-granted views of power, authority, knowledge and identity. They work to cloak the more vulnerable condition of learning to teach and the myriad negotiations it requires' (p.7).

The image of teaching advocated here is dialogic. That is teaching must be situated in relationship to one’s biography, present circumstances, deep commitments, affective investments, social context, and conflicting discourses about what it means to learn to become a teacher.

Britzman suggested that one way for teacher education students to become influential in their own sense of becoming and being a teacher is to use ‘voice’. This she argued is a form of participation in the social world. However, Britzman acknowledged that this is problematic since we have many voices; voice is contingent upon shifting relationships and contexts, practices that we construct; it may reproduce (recursively organise) or change slightly (recursively re-organise) and hence may not actually realise its powerful potential:

... student teachers appropriate different voices in the attempt to speak for themselves yet all the while act in a largely inherited and constraining context. This struggle characterizes the tensions between being and becoming a teacher as student teachers draw from their past and present in the process of coming to know. (p.13-14)
Britzman suggested that this is central to the student teacher’s dilemma. They are caught in a struggle between tradition and change and the desire to carve out one’s own territory, develop one’s own style amidst steeped history and tradition of previous teachers and past and present classroom lives. This struggle then is between authoritative discourses and internally persuasive discourses and the relationship between these two determines a person’s becoming because the internally persuasive discourse is renegade knowledge that has no institutional privilege and represents risk. This kind of investment in professional self is often too risky and the power of the authoritative discourses of the structures and processes of learning to teach come to win the day.

A paper by Macdonald and Glover (1996) supported other work to suggest that teacher identity is inextricably linked to the subject specialism of that teacher. Whilst this paper relates to professional development activities, it raises the issue of subject boundaries and membership to a professional body which exists in a de facto sense. None the less these have a considerable impact on the professional identity (the perception of how others view us) of the membership. This membership then endorses the interests of the membership and this is representative of Giddens’ ideas about the double hermeneutic. It would appear that this also embodies the knowledge considered to be important to be a physical educator.
CHAPTER THREE
A THEORETICAL FRAMEWORK

Laying the cornerstones

This study has something of an evolutionary nature about it. Seemingly, this is not unusual when working in what might be loosely termed the human sciences (van Manen, 1990). Alternative theoretical positions sometimes come as a surprise within the evolutionary research process and clearly others have experienced this phenomenon (see Lyons, 1992).

George Kelly’s (1955) Theory of Personal Constructs offers a way of representing the implicit theories of teaching (Munby, 1984, 1986; Olsen, 1980; Pope and Denicolo, 1993; Reid and Jones, 1997; Solas, 1992; Yaxley, 1991). The theory is characterised by the notion that individuals are independent agents capable of constructing their own reality and making meaning of the world around them. In the case of this study, Personal Construct Theory seemed to provide a way for the participants to make sense of the professional knowledge for teaching physical education. This is for the most part left to students to distil out of three to four years of course work, teaching practice experiences and indeed from their own life histories.

There is some convincing evidence in the literature that the use of PCT has indeed been a successful research strategy in a range of settings where teachers or pre-service teachers have been the research participants (see Diamond, 1991; Kompf and Dworct 1990; Munby, 1984; Obcrg, 1986; Popc, 1982; Solas, 1992; Yaxley, 1991). A search of the literature revealed that these ideas had not been explored within physical education teacher education therefore giving the study some originality and perhaps justification. Since the beginning of this study, other work has emerged using George Kelly’s work as the theoretical impetus (see Hopper, 1996 and 1998).
So, working on the notion that humans create their own reality by how they construe the world, Personal Construct Theory offered a way of looking at the development of professional knowledge for teaching physical education through the formal teacher education process. Moreover, work done on life history (Sparkes, 1993; Sparkes and Templin, 1992; Woods, 1987) suggested this would be the perfect match both from a methodological perspective and an epistemological one. Indeed, Solas' work had used the same combination of theory and method and his findings were promising in so far as using such a framework. They seemed to provide a way of really understanding how pre-service teachers come to learn to teach.

The origins of Kelly's theory are in psychology and more specifically in psychotherapy and Kelly (1955, 1970) chose to refer to the theory as a theory of personality. A reading of Kelly's work suggests that while he was a product of the rationalist age of reason and thereby steeped in the scientific rhetoric of modernity, he had grown tired of such an approach to understanding humans. Instead, he chose to make the individual the locus of his concerns, believing that they had the same capabilities as scientists to observe, analyse, and predict (their own) behaviour. Thus he came to regard the man-as-scientist (sic) (Kelly, 1955), a person who could construct the reality before them.

Delving further into the literature, other inextricably linked yet divergent theoretical work does appear. The edited work by Shotter and Gergen (1989) provides an example of the field commonly referred to as of social constructionism. Social constructionism uses an esoteric code of language, convoluted theoretical conventions, and draws as much from social theory as it does from psychology. Indeed Giddens (1991) has argued that the distinction between these two is very tenuous.

Social constructionism certainly challenges the idea of the individual as an independent agent. Social constructions are seemingly as powerful as personal
constructions. I indicated earlier that Gergen (1991) has argued that the postmodern social condition has arisen through what he calls saturation. He argued that the self has become saturated with a range of interactions which 15 years ago were not possible or even available. Furthermore, Gergen suggested that because of this level of saturation it has lead to a situation of immersion in multiple perspectives whereby the self has become what he terms *multiphrenic*. This is not a recognised medical condition, rather it represents a necessary and unavoidable social condition whereby the self is fractured or fragmented to cope with the diversity, range and amount of social interaction a person will encounter. This heralds a new consciousness that challenges and perhaps seeks to transform previously held canons of truth. Given that this challenges the nature of the individual as a rational decision-maker, it is not hard to see how this would cast serious questions about the person-as-scientist metaphor. As Smith (1995) indicated:

> While the scope and range of postmodern social theory is contentious, it is characterized by the social construction of reality which relativizes claims to knowledge and authority; multiple realities; multiple goals, and diverse evaluation criteria so that the concept of rational decision-making is threatened; self-reflection and irony... (p.2).

Smith (1995), argued that formerly delineated genres, positions, theories have become blurred and theoretical homogeneity has been replaced by multiple and diverse claims to truth and knowledge which challenge convention, compete for legitimacy and generally disrupt many of the long held canons of western science. It is not hard to understand how such an apocalyptic view of the world would be deeply disturbing. However, encounters with further literature serve to emphasise the role of social constructionism and the ensuing problems of self-identity (Harré, 1979; Secord, 1982; Shotter and Gergen, 1989). Initially it appears that investment must be placed in one or other of these theories. This serves only to maintain the dualism between persons (actors), their actions (agency), and the broader social edifices.
(structure) which may affect how such actions are shaped. Giddens' (1984, 1991) work provided a third and mediating cornerstone.

Giddens' (1991) notion of self-identity and modernity is attractive in the first instance because it deals with the self and the formation of identity within what Giddens call high modernity. This offers some respite from the language of crisis in which postmodernism appears to languish. Giddens uses two concepts that are immediately identifiable: ontological security and existential anxiety. In the former of these, Giddens (drawing from Laing’s 1965 work) was referring to a sense of continuity in the ordering of events in which the self is involved or implicated; there is some prediction, even control. Ontological security provides a form of comfort and in some cases such security is provided by what Giddens calls a “protective cocoon” (p.40) which he argues, all of us carry around with us in order to get on with our day to day activities.

Existential anxiety occurs when there is a threat to this security and individuals find themselves in situations of doubt and uncertainty. Day to day activity is disrupted, not on a temporary basis (say like a sports day in school) but on a chronic basis where what was known, what was done, what was accepted are all subject to challenge. Giddens regards these two concepts to be significant in forming what he calls the contours of modernity.

Looking at the lives of physical education teacher education students (though the same is true for any teacher education student), they seem to oscillate between these two. They do so as they try to make sense of the knowledge they appear to need to be successful. The knowledge needed first in their course of study and secondly, the knowledge they seem to have to acquire to be considered as a member of the teaching profession, or at least to move towards being recognised as a member of the profession.
What I intend to show is how this is fundamental to the development of a sense of self-identity for pre-service teachers. This teacher self-identity is forged across what Giddens (1984) called the duality of structure. By this he means that action by persons, in other words their individual subjectivity, is inextricably linked to structure or the rules and resources that either facilitate or constrain such action. As Cassell (1994) informed us ‘...Structures exist only in their instantiation in the knowledgeable activities of situated human subjects...’ (p.171), capturing the inseparable nature of agency and structure.

The theoretical position and hence my thesis will rest upon a hybrid theory drawn from the influences of Kelly’s (1955) work on personal construct psychology, social constructionist theory, in particular Gergen’s (1991) postmodern saturated self, and Giddens’ ideas of structuration, self-identity and modernity. There are clearly tensions in any attempt of this nature to draw together elements of seemingly different theoretical positions. These are not insurmountable. As the chapter progresses, weaved through this theoretical frame will be the nature of knowledge in physical education, the nature of professional knowledge, and teacher beliefs, all of which will serve a role in the formation of a professional self-identity.

**Developing a hybrid theory**

This is always a risky business. However, the literature within the three areas that have been identified have an obvious common theme and that is the self. For Gergen (1991) the self may be de-centred, for Giddens (1991) the self may be implicated in the struggle between security and anxiety, and for Kelly (1955), the self is a scientist. However, it does seem that throughout all three theoretical positions, the self as a dilemmatic construct seems constant. I am not suggesting that all three theoretical positions will be represented in equal measure. Indeed the person-as-scientist metaphor has some serious challenges from the literature of the other two cornerstones. However, if the project of the self in high or late modernity is a reflexive project as Giddens (1984, 1991) assures us, then there are strong similarities
with the way George Kelly viewed the individual. Kelly (1955) talks about how individuals re-construe their view of the world (their reality) in light of new experience. Giddens (1991) suggested that self-identity is constituted by the reflexive ordering of self-narratives. Self-narratives are mediated by a range if influences upon the human sensory experience. Gergen (1991) cannot be left out. Whilst his language is more apocalyptic, hastened by the plurality of perspective that he employs, the message is not that dissimilar, as he said ‘...Under postmodern conditions, persons exist in a state of continuous construction and reconstruction; it is a world where anything goes that can be negotiated. Each reality of self gives way to reflexive questioning, irony and ultimately the playful probing of yet another reality. The center (sic) fails to hold’ (p.7).

So a hybrid theory might not be so fanciful. As a preliminary step it might be appropriate to consider more closely the influences from which the theorising is drawn.

**PERSONAL CONSTRUCT THEORY**

During the course of his work as a psychotherapist George Kelly recognised that each person had a story to tell which represented a very personal view of the world. In trying to understand this, Kelly felt a need for a different approach to coming to understand the nature of the problems of his clients. Moreover, he felt he needed someway to help his patients understand themselves, or at least be able to make meaning of how they saw the world and in turn be able to construe their world in some other way. This provided the impetus for the development of his theory of personal constructs. So George Kelly's contribution to the broader concept of constructivism has its origins in psychology (and more particularly in psychotherapy) and its therapeutic application. It is apparent that his theory developed from his own progressive concern for the approach of psychotherapy at the time and its reliance on positivist science (Bannister and Fransella, 1977, 1986; Dunnett, 1988; Kelly, 1955). This is something of a paradox however. Within Kelly's (1955) theory there is
emphasis on the person as a scientist. In reiterating that the aim of the scientist is to predict and control, Kelly asked why it is that only scientists aspire to this and as he said, mere human organisms cannot or do not. Gergen (1991) argued that this represents the epitome of modernist thinking and in fact conforms to a positivist way of viewing the world. Indeed, Gergen singles out Kelly for particular criticism in this regard. This is unfair to Kelly as principally he felt that persons could act like scientists when thinking about how to control and predict future events in their lives. Kelly did not regard his role (as a scientist or psychologist) to be able to predict, generalise and control future events from his work with his clients. The essence of the theory is that each individual has a way of seeing the world and that to generalise behaviour from a scientific treatment group failed to account for the individuality of the person. In this regard, Kelly is much closer to Gergen (1991) than we might at first suppose. Clearly though the notions of control and prediction might cause us some concerns, especially when we consider both the social constructionist perspective and the lack of certainty and Giddens' (1984) structuration theory which closely links human action with structure. It is important to establish that Kelly (1955) was only working from the view of the individual, the fact that their construals might be heavily shaped and even reproduced by structure was not Kelly’s immediate concern. This is not to say that it will not be a concern here.

There are fundamentally three major aspects of the theory (Bannister and Fransella, 1986; Dunnett, 1988; Dalton and Dunnett 1992), they are: the philosophy, the person-as-scientist metaphor, and the theory itself, which according to Kelly (1955) has its basis in a fundamental postulate and eleven corollaries.

The Philosophy

The central tenet of personal construct theory is that of constructive alternativism. This implies that there are always alternatives to how a person may view the world. A person may hold all of these alternatives at one time or they may be developed in response to new situations or a failure (and therefore rejection) of previously held
beliefs (constructs). Kelly (1955) emphasised that the theory was not only underpinned by constructive alternativism but that this philosophical root was an explicit and recurrent theme in his particular field of psychotherapy.

The idea of constructive alternativism warrants further explanation. Part of the construct process is establishing which view of the world is most appropriate for any particular person at any particular time. So an individual tries to interpret the way that they see it and that this represents the real world. As Dalton and Dunnett (1992) suggested:

An individual, indeed all individuals separately, develop their own personal view of the world and what goes on in it. For each individual there is a huge range of alternatives only bounded by the rules he (sic) imposes on the system itself. And those rules being created personally, can be altered by personal choice also. Equally, the personal view of the world created by one individual may to a greater or lesser extent be similar or different to that created by any other individual, inherently personal. (p.7)

Elsewhere, Dunnett (1988) has been similarly explicit about the philosophical foundations of the theory:

... the philosophy allows us to say that there are always alternative ways of construing our situation or that around us. We may choose not to see them, or not to act upon them when we do, but that does not prevent the alternatives being around, to be explored, discovered and experimented with. It is an essentially hopeful and liberating philosophy which encourages individuals to consider change not just possible but advisable (p.3).

As Kelly (1970) himself suggested, the abiding principle of the theory is that even the most obvious of occurrences can be transformed if only we were inventive enough to construe them otherwise.

The Man-as-Scientist (Dalton and Dunnett 1992) metaphor implied that persons engage in scientific activity about themselves. As Dunnett (1988) explained:
Kelly postulated that individuals were in the business of anticipating events; that they wished to make sense of their world in order to better anticipate events occurring in it; and that they operated metaphorically like a scientist in doing this. In other words, they set up a hypothesis, tested it out and then incorporated it or rejected it depending on the results of the experiment. (p.4)

Kelly felt that the differences between individuals were a unique source of data and he began to see the individual as a population of data (Bannister and Mair 1970) rather than an ‘N’ of one. Bannister and Fransella (1986) pointed out that the study of one (ideography) had been gathering momentum since the 1930s and that in a substantial number of cases such an approach is desirable. Moreover, they argued that pure fact gathering is in fact a ‘myth’ (their term) as the selection of facts is a value laden process which may serve to constitute the fact gatherer’s internalised theories anyway and point to Habermas’s (1971) idea that knowledge is constituted through vested human interest.

Of course arguments to suggest that an individualistic psychology in fact pays too much attention to context and not enough to more generalised predictions of the world have claimed intellectual space. Indeed Bannister and Fransella (1986) pointed to Proctor and Patry’s (1978) position on this issue and offered some support to it. They suggested the question of where constructs actually come from in the first place was a question still some way from being answered satisfactorily and it remains a persistent problem today.

It is perhaps important to understand that a construct developed by an individual is part of a more elaborate personal system whereby a person is able to ‘successively construe a replication of events’ (Kelly 1955, p.54). It is this that is thought to facilitate a further prediction of events. It is not merely a representation of reality; it is reality as it is being lived by that person. Kelly (1970) vigorously defended this
perspective as he felt it to be vital to help a person confront their problems in the world of psychotherapy.

There are eleven corollaries that form part of personal construct theory. Kelly developed the corollaries as a way of elaborating the fundamental postulate. In describing what the corollaries represent in the theory, Dalton and Dunnett (1992) regard them as follows: ‘... essentially a statement which follows on from one already made (in this case the fundamental postulate) as an immediate inference, deduction or consequence (p.12). The corollaries also serve the purpose of elaborating specific elements of the theory, which are important in its application to and understanding of an individual’s personality (Dalton and Dunnett, 1992).

Dalton and Dunnett (1992) indicated that a distinction should be made between the theory, which is considered to be the main premise or as Kelly (1955) himself called it 'the fundamental postulate' plus the parts of the theory. These parts of the theory they claim support explain and develop the postulate (the corollaries) and the psychology of the theory, which Kelly (1955) felt, was the way the theory worked within individuals. Dalton and Dunnett (1992) further pointed out that Kelly felt the theory was a starting point for many journeys that an individual may undertake. He did not necessarily see the theory itself as a journey in its own right.

The structure of personal construct theory
The starting point of the theory is the fundamental postulate, that is ‘...A person’s processes are psychologically channellised by the ways in which they anticipate events’ (Kelly, 1955, p.32). The notion of prediction comes across strongly here but essentially, it was aimed at getting to know ‘what a person was in business (sic) for’ (p.32). Kelly sees a postulate as an assumption, but one, which is so basic, it ‘antecedes everything which is said in the logical system which it supports’ (Kelly, 1955, p.14).
During Kelly's building of this theory, he developed the eleven corollaries that he felt would serve to elaborate the theory. A closer look at the corollaries is appropriate. Much of the research work has been based (in a variety of fields) around the elaboration of the theory.

**The Construction Corollary**

In essence this corollary introduces the ideas of construing and replication or seeing/believing and what is seen of believed as being repeatable. Construing for Kelly meant an interpretive view of the world. It was not to be confused with a verbalised (or verbalisable) label. This is not to say however, that the construct itself could not be verbalised. Indeed, verbalising one's view of the world became an important part of the research and therapy process. It is within this part of the theory that most researchers have worked as predominantly it facilitates the use of a variety of methods to expose a person's thinking. As Dalton and Dunnett (1992) argued constructs have contrasts built into them. It is important to recognise however that these contrasts are not opposites even though they may be 'poles' apart, they are nonetheless the personal creation of the individual. Moreover, they suggested '...It is therefore incumbent on anyone else to understand the personal meaning of those constructs for that individual, not to try to impose their own constructs' (p.14).

**The Individuality Corollary**

Essentially this corollary says that individuals will construe the world in their own way. For the most part this will occur because of the individual biographies persons bring to any given situation. Moreover, individuals are likely to have different predictive pressures on them as a direct result of their own lived experience. This corollary does not preclude a sharing of experience, Kelly points out that the likelihood of common ground is great but such common ground does not necessarily constitute 'sameness' in construing. The potential richness that this can bring to the process of inquiry is self-evident. Individuals are not constrained by norms or
percentiles; they are not neatly packaged. Individuals have potential for liberation as they are only constrained by their view of the world.

**The Organisation Corollary**
Given that personal construct theory is (in its original pure form) a *system* of constructs, as Bannister and Fransella (1986) indicate, the constructs within the system are interrelated. Such a relationship may take the form of inclusion or subsuming. Dalton and Dunnett (1992) indicate that the relationship is something like scaffolding. Kelly (1955) indicated the categorisation of constructs might then have the effect of creating superordinate or subordinate constructs.

**The Dichotomy Corollary**
Kelly suggested that all constructs were dichotomous. In keeping with his concept of constructive alternativism he saw constructs as being bi-polar. In other words all constructs have elements about them which are not opposite but alternatively different (and hence one assumes have the potential to contrive a different meaning) often according to context. This aspect of the theory lends itself to analysis by mathematical structure that in fact came to characterise the style of research in the field and in the application of the theory. The theory shows itself to be dichotomous therefore, since the general dissatisfaction with a positivist epistemology seems to have been usurped (by accident or design) in some applications of the theory, many of which are contemporary studies.

**The Choice Corollary**
The thrust of this corollary is that a person will make decisions, which clearly lead them to an elaboration and consolidation of their own view of the world. In essence, this builds from the dichotomy by which all persons are faced. Inevitably, the choices we do make are governed by some kind of personal advantage which arise from of individualised and contextualised understandings. Bannister and Fransella (1986) recognised that this corollary is in need of tighter definition and probably extension.
They also pointed to Holland’s (1970) argument that this corollary is unstable and hence unscientific. The degree to which we are prepared to accept this view may depend on a view of what is scientific that we hold at this time. This in itself might be a lived truth of the corollary, particularly if we give currency to the postmodern view of uncertainty in science.

**The Range Corollary**

This corollary confirms that a construct can only have relevance for a finite range of events. Kelly called this a *focus of convenience* and anything that fell outside of this range, was not part of the construct. Bannister and Fransella (1986) pointed out that Kelly was not attempting to reinvent the ‘concept’. As has been said, a construct is contextually bound hence a construct may be seen as being far more versatile than a concept which frequently is bound by societal norms and cultural capital. A person may attempt to make broader application of a construct but it is unlikely to assist the person in the prediction of events.

**The Experience Corollary**

Put very simply, any anticipation of events is open to potential change with successive experience. The lived experience of persons is a way of testing hypotheses resulting in a person re-construing.

**The Modulation Corollary**

Whilst recognising that change (could we for our purposes call this personal development) is inherent in this psychological framework, Kelly admitted to their being limits to change. Viewed in a more positive way we could say that change generally does occur but in relatively small proportions. That change is limited; it can be identified as a parameter of the theory. Kelly has argued, as pointed out by Bannister and Fransella (1986), that a person is not static but represents a form of motion. It might be useful to consider Shôn’s (1983) notion here of theory in action. A person could be viewed as a theory builder in action. As such, an individual is able
to demonstrate the reflectivity of the practitioner (Shön) and the making of a personalized meaning described by Kelly. These appear to be compatible views of the person and certainly the person who is perceived to be a professional. It is widely recognised that change is often small, frequently slow to take place and often not without controversy. Such limitations are often contextually confined. The modulation corollary is an acknowledgment of such parameters but at the same time emphasising the potential for human change.

*The Fragmentation Corollary*

This corollary has been largely interpreted as the true diversity of the human condition. What perhaps is important is that as Bannister and Mair (1970) pointed out persons are often not aware of any inconsistencies and incompatibles in their system. Observations in classrooms will reveal this when a teacher espouses a value position perhaps say about power sharing and then proceeds to conduct her classroom work in a totally didactic manner. Clearly these are incompatible but it may not be recognisable, it may even be that classroom practice is perceived by this person as non-problematic and value free when in fact hierarchical structures and taken for granted assumptions about classroom behaviour are in operation.

*The Commonality Corollary*

Whilst the foundation of personal construct theory is built upon individuality, it does not preclude there being elements of *sameness*. This sameness between individuals can arise even if two persons have lived through different experiences (though linked in their broader families of action). For this to occur individuals simply need to have construed their experiences in the same way. It follows that these persons will then have made meaning of their own worlds which bear resemblance to each other. One assumes two such individuals will therefore predict events (and hence approach or prepare for them) in much the same way. As Bannister and Mair (1970) wrote ‘...In common language, the point here is that having bumped into different sets of
circumstances, and worked out their ideas about what these circumstances were all about, they have come to similar conclusions’ (p.23).

**The Sociality Corollary**

This corollary describes how in Kelly’s view those with similar social and cultural backgrounds may well construe events in the same way. Kelly assures us that this corollary indicates the potential for mutual understanding via a predictive appreciation of others construing. Moreover, he argues that personal construing does facilitate participative behaviour within the group environment.

Even though Kelly’s theory is a theory of personality, its focus on the self confirms its subjectivity as being part of the interpretive school of thought. In this way it reinforces a dualist position in terms of accounting for human conduct. With the individual as the centre point of analysis, the role of structure in shaping human conduct is avoided altogether. Layder (1994) suggested that supporters of this position:

... emphasise that the subjective experience of individuals and the meanings that their activities have for them are the most important things in the social world. Anything which lies outside subjective experience is thought to belong to an impersonal realm of little or no relevance to our understanding of social life. (p.131)

This creates something of a dilemma. It casts personal construct theory in a narrow gauge: we are asked to accept that the construction of reality is bounded only by an individual’s ability to make sense of the world. That individuals do this is not in question. It can be seen in the education literature, that teachers and pre-service teachers do this all the time. They are acknowledged as theory builders (Carter, 1993; Connelly and Clandinin, 1990; Diamond, 1991; Munby, 1982; Oberg, 1986; Pope, 1982; Rossi, 1995, 1996; Solas, 1992). Teacher theories are largely constructed through narrative and represent a form of what Giddens (1984) called ‘discursive consciousness’, which is being able put actions into words often in the form of recall.
This lays a foundation for further personal theorising. However, this is at the heart of the problem for the social constructionist. As Gergen (1991) said:

As individuals sift the evidence, propose hypotheses and antitheses, and evaluate the outcomes of their deductions, they build repositories of knowledge within. And, it is said, such repositories enable individuals to cut a successful path through the complexities of the world and grant the human species an advantage in the competition for survival. It is this conception of the individual thinker, the center of knowledge and decision making that is now in jeopardy. (p.99)

With this in mind, it seems appropriate to consider the social constructionist perspective for understanding of human conduct.

SOCIAL CONSTRUCTIONIST THEORY AND THE SATURATED SELF

Central to social constructionism as Sampson (1989) contended, is the idea that psychological traits are in fact social and historical constructions, in other words they do not occur naturally but are a construction by virtue of one’s place in time-space. As he argued:

We do not begin with two independent entities, individual and society, that are otherwise formed and defined apart from one another and that interact as though each were external to the other. Rather, society constitutes and inhabits the very core of whatever passes for personhood: each is interpenetrated by its other. (p.4)

Sampson suggested that the primacy of the subject has been removed. Moreover, Sampson said the self has increasingly been reduced as an entity of significance as the State intervenes (either directly or in its corporate persona). This means that rational choice for individuals is in fact limited and determined by socioeconomic, political and cultural forces about which the individual knows little and is unable to
affect. It is under such conditions that Gergen (1991) suggested the self is saturated and the notion of the individual as an independent rational decision-maker is questionable.

The self as being saturated

Gergen (1991) preferred to identify the current social era as postmodern. Giddens (1991) however, prefers to identify it as high or late modernity. There is some proximity in these terms as used by Gergen and Giddens. For the most part both agree that the period is characterised as being post Enlightenment and in this sense reality and truth are not givens but rather are given over to competing interpretations. There are theoretical differences; for example Gergen takes the view that time-space has disappeared (through advanced technologies), Giddens prefers to argue that it has changed for largely the same reasons. Notwithstanding what should be regarded as epistemological differences (rather than simply linguistic), the theories are linked closely enough to draw upon them both.

Gergen’s (1991) thesis is basically that the self is socially saturated by the structures of the recent epoch. He suggested that this is so by arguing that the conventions of modernity observation, rationality, and scientific rhetoric while still powerful, are in fact failing to deliver the infallible truths that were promised. Moreover, he argues that the characteristics of the self in modernity were in our ability to reason, in our beliefs, opinions, and conscious intentions. The authentic self he would argue is receding from view. Under such conditions then, what we take for granted to be an unassailable truth is little more than folklore. Hence the notion of belief is a significant component to Gergen’s (1991) analysis because it tends to represent many voices.

What is apparent from Gergen’s analysis is that we cannot escape the influence that the social structures in which we reside have on our personal constructions. In other words, the things we hold to be true are not simply products of our own rational
thought, no matter how rational we might think we are being. Moreover, the saturatedness of our surroundings means that we are likely to be influenced by many social structures, possibly all at the same time. It is this immersion in exposure to different patterns, views, opinions and multiple versions of the truth Gergen argued, that is propelling the human race to a new self-consciousness - what he preferred to call the postmodern. This immersion is at saturation level due largely to the multilayers of communication we experience in our daily lives. As he said:

... we shall also see that as we become increasingly cojoined with our social surroundings, we come to reflect those surroundings. There is a populating of the self, reflecting the infusion of partial identities through social saturation. And there is the onset of a multiphrenic condition, in which one begins to experience the vertigo of unlimited capacity. Both the populating of the self and the multiphrenic condition are significant preludes to postmodern consciousness. (1991, p.49)

Gergen (1991) drew on two major influences to underline his thesis. From Baudrillard (1983) who said that we (as persons) are but terminals of multiple social and technological networks, and from Billig (1988) who talked about the level of conflict within the self, suggesting that for every belief we have there is a strong countertendency.

So Gergen saw the individual as having to cope with a degree of conflict since in his view, what is termed objective knowledge is only an expression of truth in accordance with what he calls a ‘coalition of subjectivities’ (p.84). This means that knowledge is subject to the power relations in any social setting. Gergen asked if knowledge is taken to be the results of perspectives rather than the facts themselves ‘... how is it that certain views come to be accepted as “knowledge” and others are cast aside as “erroneous” or “misleading”? ’ (p.92). Again, pre-service teachers exist in the weakest margins of a triadic arrangement that possibly renders them powerless. It should not come as a shock then to see student teachers as assuming the guise of their masters and in doing so they will be the site of conflict and uncertainty for competing implicit theories and voices of authority. Therefore as Gergen said: ‘What
is "objectively" true depends, then, not on what is the case, but on the community in which one happens to participate. And in light of the increasing availability of "other voices," we find an increasing range of "other truths" (1991, p.94).

The self then is rendered as little more than a pastiche; an assemblage of images, manipulating and manipulated by culturally endorsed knowledge. In short, the self may be perceived as a collectivity of identities. In such a climate of complexity Gergen argued that we are witnessing the disappearance of the knower '...In an important sense, as social saturation proceeds we become pastiches, imitative assemblages of each other. In memory we carry others' patterns of being with us. If the conditions are favorable, we can place these patterns into action' (p.71).

He argued that the nature of 'what is' and 'what is perceived' are ill founded questions and that meaning emerges through the social use of language, that represent the use of words in the social interchange setting. So the metaphor of the mind as an internal mirror of an external reality is in fact bankrupt. Gergen argued that it makes no sense then to separate how the individual subjectively interprets the so-called external world. Under these conditions, knowledge might be considered as a discursive practice where meaning making is established via the social use of language. Such discursive practice is formed and shaped not only by agents themselves but also by structures that may be subject to hegemonic cleavage at the hands of power brokers whose vested interest is in the maintenance of the status quo.

In teaching, we can see this quite readily. If we seek to question time honoured practice, this will severely disrupt a teacher's zone of comfort, their security if you will. Such questioning implies risk and risk is perceived as dangerous and to be avoided rather than adventurous and to be embraced. Hence there is a maintenance of sovereignty over knowledge and practice by teachers which affords epistemological privilege to some things and not to others. This maintains some degree of security
and one assumes a level of mastery, while the student teacher is left to weigh up 'what is true?' or 'who is right?'

This is paradoxical. There is some evidence to suggest that some teachers might be resistant to multiple voices and work only from their personal construction (a socially endorsed construction) and retain a commonsense directive in their professional pedagogical practice. They themselves might be perceived as complicit in officialdom where worthwhile knowledge is that which is seen to be official as described by Apple (1993). This is not unusual and complies with both Gergen (1991) and Giddens (1984) who argued that institutional structures tend to reproduce themselves by virtue of the day to day practices within them.

So even though there may be resistance to the changing of the horizon of understanding (Gadamer, 1975), teacher education students are confronted with a range of verisimilitudes of truth from a range of sources, each claiming legitimacy. Moreover, Gadamer's notion of the horizon of understanding changing does not mean necessarily that it has improved (or that our stocks of knowledge have got necessarily 'better') simply that ways of seeing are available now which in the past have not been. The traditions of meaning therefore have disappeared adding validity to a much broader range of views drawn from an ever widening scope of perspective (gay, feminist, corporate, racist). The same holds for those about to enter the teaching profession ... the multitudinous meanings in so called professional knowledge are problematic because of the competing communities of interpretation.

It is little wonder then that individuals exist in a state of continual construction and reconstruction or as Giddens (1984) argued a constant self-reflexive ordering of narratives. This is important for this study since it is focussed around individual narratives some which might be reflexive in the historical sense and some which relate to a type of forward reflexivity.
Gergen (1991) argued that this has significant difficulties. Particularly as personal narratives as a form of truth rely on the conventions of the day. Thus personal history or even narrative in the form of knowledge construction can only be an interpretation or even an approximation since certain things are selected for inclusion and others things omitted. Therefore the purveyance of the so called objective truth may imply an interpretation which relies on cultural convention and in its own way becomes a fiction because the story is ‘made up’ of bits which requires other bits to be left out. Pre-service teachers then, seem to be caught in a bind of wanting to think for themselves and constructing their thoughts in language (which might include computer software language). Their own text is immediately challengeable either through the deconstruction of the literary techniques they have used or through the competing communities of subjectivity. However the structural edifices which they are moving towards have rules and resources which maintain a discourse to which they are expected to not only subscribe but reproduce through their daily actions. It is no wonder that the durability of the self (and therefore the professional self) and self-identity are potentially subject to the most brutal erasure. As Gergen (1991) said:

From the traditional standpoint, the individual observes the world and transforms his or her thoughts into words that express these thoughts to others. For the deconstructionist, language is a system unto itself, a cultural form that owes its existence to a collectivity of participants. Its structure pre-exists any single individual, and if sense is to be made, the individual must essentially participate in the communal conventions. Thus individuals are not the intentional agents of their own words, creatively and privately converting thoughts to sounds or inscriptions. Rather, they gain their status as selves by taking a position within a preexisting form of language. “I” am only I by virtue of adopting the traditional pronoun in a culturally shared linguistic system. (p.110)

So student physical education teachers (and student teachers more broadly) face entering into a world where their personal constructions are under the powerful influence of social constructions. Moreover, the words that they use to interpret this world are not mirror like reflections of reality, they are expressions of group
convention shaped by the language used within those conventions. Gergen (1991) explained further:

Various social groups possess preferred vocabularies, or ways of putting things, and these vocabularies reflect or defend their values, politics, and ways of life. For participants in such groups, these forms of talking (or writing) take on a local reality. They seem totally convincing. Yet their very “reality” is their danger, for each renders the believer heroic and the nonbeliever a fool (p.119).

Such a situation then serves in ‘...crystallizing our utter incarceration in constructed worlds...’ (p.136).

From Self to Relational Self

In the postmodern world there is no individual essence to which one remains true or committed. One’s identity is continuously emergent, re-formed, and redirected as one moves through the sea of ever changing relationships. In the case of “who am I?” it is a teeming world of provisional possibilities. (Gergen, 1991; p.139)

The emergence of the relational self is in keeping with Giddens work in that we are not the possessors of a private rationality but the individual constructions of the self (and what the self stands for) are largely issued from the social surroundings. Therefore:

One’s own role thus becomes that of participant in a social process that eclipses one’s personal being. One’s potentials are only realized because there are others to support and sustain them; one has an identity only because it is permitted by the social rituals of which one is a part; one is allowed to be a certain kind of person because this sort of person is essential to the broader games of society. (Gergen 1991, p.156-157)

So the pre-service teacher as self is accepted on certain conditions. But this is the rub of course - how many selves must the pre-service teacher have in order to satisfy the conventions of the immediate community? First there is the university faculty which
provides a myriad of language codes (some of them seemingly impenetrable) and approaches to knowledge, some of which will claim primacy of legitimacy. Then the first teaching practice school, the second teaching practice school, from this the student has to somehow construct a vision of the profession overall and the political rhetoric of the State Board of Education, any change of government simply adds to the maelstrom. This is further complicated because physical education itself as a subject is also a social construction (see Kirk 1992) - but whose, the sport lobby, the recreation lobby, the movement science lobby and so on? As if this were not enough, student teachers often hold down part time jobs, in areas totally unrelated to their chosen career, some might be in a relationship with a partner, or perhaps be doing some voluntary work. The very idea that a PETE student could develop a sense of professional identity, at least from a social constructionist standpoint seems almost laughable. With the likelihood of the sense of self being a pastiche then it is likely that the professional self will be the same only adding to the anxiety of being they may already be experiencing. It is little wonder then that when the self-identity is acceptable within the community of perceptions of what it is to be a professional physical educator, that such security will be grasped tightly with both hands.

Authentic, core and essential selves: Can these exist?
This causes us something of a problem. Gergen (1991) argued that given that we are incarcerated in the social worlds in which we move (and some that we do not), authenticity is not possible. He suggested that within the post-modern context, the authentic self recedes from view. It does so under the conditions discussed here which Gergen called saturation. This is problematic since if it recedes from view then one must assume there was something to recede in the first place. If we use Gergen’s language, it was an authentic self. However, Gergen claimed ‘...As belief in essential selves erodes, awareness expands of the ways in which personal identity can be created and recreated in relationships’ (p.146). As he says this does not occur in thunderbolt fashion, rather it is a creeping process that as he put it ‘eats slowly and irregularly and irregularly at the edge of consciousness’ (p.146). It is this then, that
encourages us to think of the self not in essentialist terms but in relational terms as Gergen described, as he said ‘...As the self as a serious reality is laid to rest and the self is constructed and reconstructed in multiple contexts, one enters finally the stage of the relational self’ (p.147).

Holland, Lachicotte, Skinner and Cain (1998) identified a range of literature which even recently they suggested, attempted a reconciliation between what they term universalism (a psychological construct of self) and a culturalist perspective. They indicate however, that predominantly these mediations have drawn from psychodynamic theory. The thrust of this argument is that selves can have essentialist elements but these are shaped, modified even sometimes confirmed by cultural symbols and social structures within which we are embedded. This is also problematic since as Giddens (1991) suggested, our selves are dis-embedded by the contraction of space and time. It is this that lies at the heart of Gergen’s notion of saturation.

Where does this leave personal construct theory? PCT need not necessarily be consigned to the intellectual scrapheap. For example, Butt, Burr and Epting (1997) suggested ‘...It is generally accepted in Personal Construct Psychology (PCP) that an individual’s core structure is a construction and not an essential aspect of the person which in any sense precedes or pre-dates construing’ (p.39). They preferred to consider construing not as a form of self-invention, whereby some quality of the self is created. Rather, they preferred to perceive it as a form of self-discovery, which they regard as ‘ a common and vital part of the individual experience’ (p.39). They argued that it is of no use to see the core self in terms of content, that is the concreteness of being. Rather any core self should be viewed as part of a process which locates the individual within ever evolving context and represents part of becoming. In this way Butt et al argued the tension between constructivism and constructionism can be eased.
Butt et al (1997) confirmed that within the post-modern context essentialist accounts of the person must be discounted in favour of more relativist views. Moreover they identified that this has been a particular criticism levelled against PCP and hence have developed PCP 'along constructionist lines' (p.47). In attempting to produce such a discourse Butt et al argued:

Subjectivity, the experience of being a person, cannot simply be “read off” from the person’s location in discourse and social practices. What we take ourselves to be is at least in part the product of our own unique history, a history which we nevertheless write for ourselves according to culturally available scripts and narrative forms and using culturally available ingredients. (p.49)

In clarifying their position, Butt et al argued for a conciliatory position that ‘calls for a view of the person who can critically read and differentially take up discourses dependent upon the personal significations with which these connect’ (p.52). Such a model of the person they argued ‘sees us as constituted in social practices and language, and yet selecting between positions offered in a way that provides us with a sense of personal integrity’ (p.52).

There remains scepticism of the Butt at al position. Shotter and Billig (1998) suggested that the move to the dialogical in psychology practice encouraged a focus on people’s social practices rather than what was in their heads. The uniqueness of the dialogical encounter they suggest is what creates something that is so new to each party and so unrepeatable that it provides the foundation for the way we as humans can reshape the ways we relate to each other and to our surroundings. Hence from their perspective there simply cannot be a core or essential self because of the constantly shifting contexts that exist within the dialogical. Similarly, de Peuter (1998) suggested that authenticity of the self is an Enlightenment bias framed by a rational mind theory. In post-modern times she argued this simply couldn’t be so for
the relational reasons that Gergen (1991) has elucidated. However, she proceeded with greater caution than Gergen in that neither does she wholly embrace what has become convention for the self in post modern times. That is she does not commit herself to the notional of the relational self either. Indeed she was critical of Gergen’s notion of saturatedness. She claimed such a line of thought remained grounded in ‘Enlightenment hegemony of the minded self’ (p.35). The mind is thus still rational enough to discern contradiction and the descent into collapse of the self and fragmentation. In other words there is still an essential self that sees itself receding from authenticity. This for de Peuter is equally unattractive as traditional notions of essentialism. What she argues for is a situational authenticity that is not grounded in essentialism but rather couched in what she calls ‘... the logic of self-change’ (p.44). This makes authenticity highly contingent upon the shifting contextual sands of personhood. This resonates with Butt, Burr and Epting (1997) who posited the core self as a processual construct based on the dialogical interactions of day to day life.

STRUCTURATION AND SELF IDENTITY IN LATE MODERNITY

Giddens (1984) credited the individual with being knowledgeable and to know the reasons for action. As he says, ‘To be a human agent is to know, virtually all the time, under some description, what one is engaged in and why. There is a sense in which we cannot be wrong about what our actions are, or those actions would not exist’ (p.5).

Moreover, Giddens (1991) and Gergen (1991) argued that to develop systematic knowledge about social organisation requires an understanding that as human actors we have been caught up in a universe of events that we do not fully understand. To come to this understanding, Giddens suggested that that nature of modernity must be looked at again rather than seek to invent new terms (like postmodernity) as a way of explaining the complexity of human organisations. He readily accepted that we can
perceive new contours of social order and argued that it represents a period when the consequences of modernity are becoming more radicalised and universalised than before. Whilst this language use varies from Gergen’s, there is great proximity in meaning.

What Giddens set out to do then is to bridge the fissure between theories which gave pre-eminence of the social whole over the individual human subjects and those in which ‘...action and meaning are accorded primacy in the explication of human conduct; structural concepts are not notably prominent and there is not much talk of constraint’ (1984, p.2). Hence the ambitious project of his structuration theory, is to put an end to such empire building. In setting out his position he says that human action is recursive, in other words they are ‘... not brought into being by social actors but continually recreated by them via the very means whereby they express themselves as actors. In and through their activities, agents reproduce the conditions that make these activities possible’ (p.2).

For Giddens then, the action of humans (agency) develops from an awareness of what action to take. As he says ‘It is the specifically reflexive form of knowledgeableness of human agents that is most deeply involved in the recursive ordering of social practices’ (1984, p.3). Such reflexivity is only possible because of practices over space and time. In other words, social action forms a flow that has continuity that makes them have the quality of sameness. Human action occurs as a durée (the continuous flow of action in time-space) and such action is purposive but its flow is not an aggregate. Rather it is the result of continuous monitoring by actors themselves.

The Agent and agency

By the rationalization of action, I mean that actors - also routinely and for the most part without fuss - maintain a continuing ‘theoretical understanding’ of the grounds of their activity. (Giddens, 1984, p.5)
Giddens suggested that by any measure, actors would usually be able to explain most of what they do, if asked. Moreover, he argued that this rationalisation might act as the basis upon which the competence of an actor is judged. In other words it represents the main criterion for competence (see Lyotard, 1984). Donald Shôn's work of the early eighties (1983) on the reflective practitioner however was a convincing argument that in fact many persons in professional fields whilst they know what to do in their fields, they might not know what it is that they know. Giddens perhaps moves towards a similar position but perhaps with greater clarity when he suggests actors seem to be able to give reasons for their activities and actions though possibly not their motives. It is here that the differences with Gergen in language exist but where also similarity in meaning articulates.

Durée then, represents a continuous flow of intentional action. Such action may have intentional outcomes or unintentional outcomes or as Giddens called it unintended consequences and these feed back into the unacknowledged conditions of further acts.

Agency concerns events of which an individual is the perpetrator, in the sense that the individual could, at any phase in a given sequence of conduct, have acted differently. ... Action is a continuous process, a flow, in which the reflexive monitoring which the individual maintains is fundamental to the control of the body that actors ordinarily sustain throughout their day to day lives. (1984, p.9)

Giddens indicated that it might become necessary to separate out what an agent does and what s/he intends. In the context of this study then, this means that professional practice might be better conceptualised as professional intention. It still none the less represents the knowledgeability of the actor. However, it is important to recognise that some of this action becomes regularised and that sometimes the product of regularised behaviour is distributed as an unintended outcome.
Agency and power

Giddens (1984) talked about this relationship in terms of the actor being able to make a difference by virtue of their action. He argues that by being able to intervene (or choose not to), the agent is deploying causal power. Giddens took issue with the notion of having no choice (a theme which seems to run through Gergen’s analysis and part of the basis of his conceptualisation of dilemma). He suggests this should not be equated with the dissolution of action. Essentially, what Giddens argued for is that power in sociological terms is conceptualised in such a way as to see it in terms of intent or will. More specifically, power should be seen as the capacity to achieve desired outcomes or as the property of society or social community, which Giddens suggested, should be seen as the duality of structure. So Giddens rejects structural and post structural conceptions of power arguing instead that duality of structure might be better considered as follows ‘...Resources (focused via signification and legitimation) are structured properties of social systems, drawn upon and reproduced by knowledgeable agents in the course of interaction. Power is not intrinsically connected to the achievement of sectional interests’ (p.17).

What Giddens was saying here is that this characterises all action rather than specific types of conduct and that in all contexts of social interaction, forms of dependence still offer some resources (the media of power) to subordinates so that they might influence those seen to be superior. Giddens refers to this as the dialectic of control in social systems.

Structure and Structuration

The essence of Giddens’ (1984) analysis was that structure to all intents and purposes is governed by rules and he focuses on the actual types of rules that we are likely to encounter as social actors or agents. His early concern was to dismantle the functionalist approach to structure that is to regard it as a patterning of social practice almost according to template or as Giddens likens it to a skeleton. It is via an understanding of what Giddens terms rules (and resources that support such rules)
that structuration can fruitfully develop. For Giddens then: ‘Structure thus refers, in social analysis, to the structuring properties allowing the ‘binding’ of time-space in social systems. The properties which make it possible for discernibly similar social practices to exist across varying spans of time and space and which lend them ‘systematic form’ (1984, p.17).

In developing his argument further, Giddens analyses what he understood by rules. This is crucial both for his argument and his structuration theory but also for this study. This was so because he makes the claim that essential to the theory ‘... is that the rules and resources drawn upon in the production and reproduction of social action are at the same time the means of system reproduction (the duality of structure)’ (1984, p.19).

**Giddens’ analysis of rules**

In attempting to analyse rules with regard to how they might be used within structuration, Giddens used four examples and then identifies what they represent.

*Habit or Routine*

Rules which might equate to habit and in this sense such a rule might be deemed weak largely because habitual practice carries with it the notion of routine. Giddens suggested that routine is important in social life often because it is regulative and may even form part of an individuals ontological security. However, Giddens argues that routines in and of themselves should not be considered as rules.

*Constitutive Rules*

These tend to have definitive qualities and can place boundaries on certain practices because they form an integral and indispensable essence of the practice. This might be illustrated by the rules of a game. Such rules are constitutive of the game itself.
Regulative Rules

Giddens used as the example workplace rules (the actual rule he uses to illustrate this is the start time for work at a factory, office or other workplace). Such a rule might define nothing about the nature of the work itself but clearly represents the rules under which the work must be carried out.

Giddens argued that the distinction between these two is less clear than might be assumed largely because of the clumsiness of the term regulatory rule (which is a tautology). Giddens preferred to link these two much closer together and see them as variants of rule type. He suggested that through this we alerted to two aspects of rule, that they imply meaning and they are closely connected to sanction.

Formulaic Rules

The final type of rule that Giddens discussed is the one that he readily admits might offer the least in terms of sociological analysis and relation to structure and yet the one he considers most germane and that is formulaic rules. He argued that rules of this nature are procedural that implies they are methodological, and that they may be applied over a range of contexts and occasions.

He attempted to clarify the use of rules in terms of how they might be used in sociological analysis with clearly the formulaic type of rule causing the greatest problem. Of rules he suggested:

Let us regard the rules of social life, then as techniques or generalizable procedures applied in the enactment/reproduction of social practices. Formulated rules - those that are given verbal expression as canons of law, bureaucratic rules, rules of games and so on - are thus codified interpretations of rules rather than rules as such. They should be taken not as exemplifying rules in general but as specific types of formulated rule which, by virtue of their overt formulation, take on various specific qualities. (1984, p.21)
He pointed out that this can only be preliminary approach and with regard to the contribution formulaic rules can make to social analysis and structuration in particular, he posed two questions:

1. How can such rules relate to social practice?
2. What kinds of formulaic rules might we be most interested in for the purposes of social analysis?

In answer to the first question he argued:

... we can say that awareness of social rules, expressed first and foremost in practical consciousness, is the very core of the 'knowledgeability' which specifically characterizes human agents. As social actors, all human beings are highly 'learned' in respect of knowledge which they possess and apply, in the production and reproduction of day to day social encounters; the vast bulk of such knowledge is practical rather than theoretical in character. (1984, p.22)

In answer to the second, he argued '...Those types of rules which are of most significance for social theory are locked into the reproduction of institutionalized practices, that is, practices most deeply sedimented in time-space’ (p.22).

Giddens suggested that rules that can be regarded as particularly significant are the ones that maintain or sustain a degree of ontological security. This might be described as a psychological state where the individual feels at home. Cassell (1993) described how the threat to ontological security is pronounced when the routine character of daily life is or is likely to be severely disrupted. So there is a high level motivation to conduct social practice in accordance with rules which can pattern the routine nature of everyday life to the extent that they are reproducible and recursive (this does not mean that they are not adjustable). As Cassell (1993) suggested:

... actors will draw on rules and mobilise resources to re-enact practices that are found comforting; waking at the same time each day;
catching the train at the same time each day and so on. Disruptions to the routine will typically be experienced as unsettling and care will be taken to ensure that events unfold predictably. This goes some way towards explaining the conservative nature of daily life. (p.14)

This reproduction of structure is indeed part of its duality as the feedback loop mechanism will ensure that such a structural edifice will perpetuate the same rules of engagement, like a school, a school system or the profession that works within these. The duality of structure therefore is crucial to the whole idea of structuration. That is that ‘... The constitution of agents and structures are not two independently given sets of phenomena, a dualism, but represent a duality. According to the notion of duality of structure, the structural properties of social systems are both medium and outcome of the practices they recursively organize’ (Giddens, 1984, p.25).

The duality of structure neither denies that structured properties of social systems will stretch away from agents across space and time nor does it render agents impotent to theorise about the nature of the structure which may result in its reification. Giddens underlined this by suggesting that structuration attempts to avoid the suppression of the actors knowledgeability to influence structure. However, at the same time we are urged not to fall into the hermeneutic trap which as Giddens suggested, asks us to believe that society is the ‘...plastic creation of human subjects’ (1984, p.26). From a Kellyan perspective this may cause us some consternation, as superficially the theory suggests that agents construct their world. But we should really consider Kelly’s theory to be about how agents make sense of the world (most often their world) and that their personal theories (knowledgeability) guide their social practice. PCT is acknowledged as a reflexive theory with actors constantly reconstruing their view of the world in light of their social practice within it (Kelly’s notion of person [man-sic] as scientist). What PCT does not do is acknowledge the duality of structural edifices. However, as Giddens argued ‘... Structure has no existence independent of the knowledge that agents have about what they do in their day to day activity’ (1984, p.25).
Clearly however, the contribution of the knowledgeability of agents to the creation of structure and its reproducible qualities brought about by sustaining the rules and resources that created the opportunities for the action in the first place is not acknowledged in personal construct theory. For Giddens, such knowledgeability is dependent on two *psychological mechanisms of recall* (1984, p.49). He referred to the first of these as discursive consciousness, which connotes those forms of recall, which the actor is able to express verbally. The second he referred to as practical consciousness, which involves recall to which the agent has access in the *Durée* of action without being able to express what he or she thereby knows (1984, p.49).

**Routinised social practice**

Both Giddens (1984) and Layder (1994) draw significantly from Goffman’s (1958) work. Layder suggested that we enter situations bringing with us speech styles and cultural knowledge that we share with others. This knowledgeability (to use Giddens’s term) is crucial for normal social business to be undertaken. Even though such resources may be modified during encounters, this knowledge base reaches far beyond the situated encounter.

Layder (1994) also indicated that another source of extra-situational influence comes in the form of an established biography (or life history) of previous encounters which immediately affect current encounters. In further analysing the notion of encounters, Layder (1994) used the work of Rawls (1987) to detail the composition of Goffman’s (1959) ‘Interaction Order’. There are, Rawls suggested, some crucial elements:

1. The needs of the social self - an individual’s self identity is dependent upon the responses of other and that this itself is bounded by a set of rules. There is a dependence on these responses as they affect how the person will act in situational interaction. Therefore written into the interaction order is a self-protection mechanism that is almost like a moral obligation to stick to certain rules that provide a certain constraint on interaction.
2. Durability and capacity for resistance to the interaction order in the face of external threats to its existence. Some of Goffman’s empirical work in this field (mental asylums) showed that even in the most institutionalised of organisations this is difficult (if not impossible) to break down.

3. Interaction order is the domain in which meaning is produced (important for personal construct theory and the necessity of other to produce meaning).

Goffman has been criticised for focusing on the exploitative aspect of human behaviour i.e. we put on ‘fronts’ or even masks to achieve our objectives (which may be linked to our self-identities anyway). In other words the interaction order can be seen to be manipulative in very subtle ways. Giddens (1984) and Rawls (1987) however believed Goffman’s ideas are based on morality and emphasise trust and a willingness to assume a level of responsibility in social encounters. This is perhaps an unfair criticism of Goffman. When one looks at his explanation of front, the overriding emphasis is that there are many situations that can be represented by the same front. It does not appear so much that fronts are cynical (though they could be construed this way) it is more a case of front providing a position taken by an actor in order to place themselves within a particular context. Indeed, if a front is an unconscious action, then it cannot be considered cynical. The notion of front resonates with Gergen’s (1991) ideas about ‘multiphrenia’. As Gergen suggested this is a social condition brought about by the increasingly complex arrangements in society based on the fallibility of knowledge. Even though writing in a different era, Goffman’s analysis can be seen to emerge in contemporary analysis. To cope with this, different routines may assume the same front. There are however difficulties with this. As Goffman (1959) suggested:

In addition to the fact that different routines may employ the same front, it is to be noted that a given social front tends to become institutionalized in terms of the abstract stereotyped expectations to which it gives rise, and tends to take on a meaning and stability apart from the specific tasks which happen at the time to be performed in its
name. The front becomes a 'collective representation' and a fact in its own right. (p.37)

One might argue that there is cynicism deep within this social strategy however, as Goffman went on to suggest, when actors take on a role there is already a particular front which may have been established for it. In teaching physical education we can see this. Macdonald’s and Kirk’s (1996) article depicted the socialisation of new physical education teachers in rural districts of Australia as being structured by a discourse where there were some clear expectations on the part of the school, the community and more specifically the sports community. It is fair to suggest that this phenomenon is not restricted to rural Australia though one could see how it could be exacerbated by such a context.

Giddens (1984) argued that for the most part encounters occur as routines and that such encounters are formed and reformed in the Durée of daily life. In this sense, they are connected with social reproduction in that they stretch over space and time. This makes them important to the constitution of social integration. Since encounters are organised and sustained principally through talk, the analysis of the meaning making process at work is important, the fact that this happens across time and space and therefore has an element of seriality about it, is clearly constitutive of structure.

What is also important here is the maintenance of ontological security through rules that might be morally bound by the situatedness of encounters. Our conduct here as agents profoundly affects structural edifices of convention and it manifests itself through bodily control during day to day encounters. This can help lead to an understanding of Giddens’s notion of positioning:

Social systems, I have emphasized, are organized as regularized social practices, sustained in encounters dispersed across time-space. The actors whole conduct constitutes such practices are ‘positioned’ however. (1984, p.83)
Social positions are constituted structurally as specific intersections of signification, domination and legitimation which relates to the typification of agents. A social position involves the specification of a definite 'identity' within a network of social relations, that identity however, being a category to which a particular range of normative sanctions is relevant. (p.83)

So positions become organised or perhaps sifted is more appropriate, along the time-space paths of actors/agents. Giddens rejected the Parsonian concept that all is laid out before us and that we make the best of with the script we are given. Though he does not reject the notion of 'role'. However he argued that it must be seen in light of positioning. This certainly makes the notion of role more sophisticated (though not necessarily more complicated). Giddens formulates 'role' in this way:

A social position can be regarded as a social identity that carries with it a certain range (however diffusely specified) of prerogatives and obligations that an actor who is accorded that identity (or is an "incumbent" of that position) may activate or carry out; these prerogatives and obligations constitute the role-prescriptions associated with that position. (1984, p.84)

Giddens again drawing from Goffman (1959) suggested that the rules and convention which appear to shape interactions can be usefully considered as frames (or frameworks) which have the effect of ordering discourse by which ontological security is maintained within the routinised nature of daily life. Giddens described frames as ‘... clusters of rules which help to constitute and regulate activities, defining them as activities of a certain sort and as subject to a given range of sanctions’ (p.87).

Framing represents away of making sense of activities in which agents involve themselves, and this sense making is for mutual benefit so that all parties within the encounter can understand. This has much in common with Bernstein’s (1971/1996) notion of framing educational knowledge. Whilst this might be at the so called macro level, it is inherently wrapped up in what teachers do in their day to day routine and
therefore an expectation of new teachers and pre-service teachers to conform to such layers of security.

Moreover, Giddens (1984) argued that an understanding of recursively organised practices will reveal what it is that they know and how to apply that knowledge. As he says:

The knowledgeability incorporated in the practical activities which make up the bulk of daily life [which for teachers is daily professional life] is a constitutive feature (together with power) of the social world. What is known about the social world by its constituent actors is not separate from their world, as in the case of knowledge of events or objects in nature. Testing out just what it is that actors know, and how they apply that knowledge in their practical conduct (which lay actors engage in as well as social observers), depends upon using the same materials - an understanding of recursively organized practices - from which hypotheses about that knowledge are derived. The measure of their ‘validity’ is supplied by how far actors are able to pursue the purposes of their behaviour. (p.90) (Italics in parentheses added)

Characteristic of most commonsense, every day claims to knowledge is that they are formulated in a fragmentary, dislocated way. It is not the ‘primitive’ who is a *bricoleur*: much day-to-day talk among lay members of all societies is predicated upon claims to knowledge that are disparate or left unexamined. (p.92)

**MODERNITY AND SELF IDENTITY**

Giddens (1991) indicated that the period of what he calls high modernity is also apocalyptic largely because of the nature of globalisation. He suggested that the types of risk inherent in today’s societies (and living within them) simply were not there before:

In the post-traditional order of modernity, and against the backdrop of new forms of mediated experience, self identity becomes a reflexively organised endeavour. The reflexive project of the self, which consists on the sustaining of coherent, yet continuously revised, biographical narratives, takes place in the context of multiple choices as filtered through abstract systems. (p.5)
Contours of high or late modernity

According to Giddens (1991) high or late modernity can be distinguished from previous epochs by three distinct characteristics. The first of these is the separation of time and space. In pre-modern times the situatedness of people's lives and the situatedness of place cojoined these. In high modernity however, this has broken down. Gergen (1991) also alludes to this and considers it to be a symptom of saturation. Second, the disembedding of social institutions that Giddens says is the removal or lifting out of social relations from their local context. Again this fits with Gergen's ideas particularly when Giddens discusses expert systems about which he says that increasingly knowledge has a validity independent of the practitioners and clients that make use of them ‘...Expert systems are not confined to areas of technological expertise. They extend to social relations themselves and to the intimacies of the self. The doctor, counselor and therapist are as central to the expert systems of modernity as the scientist, technician or engineer' (p.18).

Finally, high modernity is a reflexive project. By this, Giddens meant that there is susceptibility to most aspects of social life. A fallibility if you will, and action is therefore under constant pressure for change in light of new information, experience or knowledge. The problem though is confounded by competing versions of the truth even amongst local knowledge:

In respect both of social and natural scientific knowledge, the reflexivity of modernity turns out to confound the expectations of Enlightenment thought - although it is the very product of that thought...

But the reflexivity of modernity actually undermines the certainty of knowledge, even in the core domains of natural science. Science depends, not on the inductive accumulation of proofs, but on the methodological principle of doubt. No matter how cherished, and apparently well established, a given scientific tenet might be, it is open to revision - or might have to be disregarded altogether - in light of new ideas or findings. (1991, p.21)
This is troubling for all ordinary individuals and for the lives of professional development of pre-service teachers in particular. As Giddens said ‘...Few individuals sustain an unswerving trust in the systems of technical knowledge that impinge on them, and everyone, whether consciously or not, selects among the competing possibilities of action...’ (p.22).

Mediation of Experience

Human experience is mediated through socialisation and in particular the acquisition of language as a representation of knowledge. In modernity this has been accelerated by first the printed word and the electronic signal and latterly by multi-media communication. This is important as it is linked with the compression of time-space. Gergen (1991) indicated that the production of knowledge is greater because the production time is shorter through computer use, and electronic communication means distance (or space) is also changed as a factor in the production of knowledge. Indeed, no one can withdraw from the pervasive expertise of knowledge systems of modernity.

The Self: Ontological Security and Existential Anxiety

All human beings continuously monitor the circumstances of their activities as a feature of doing what they do, and such monitoring always has discursive features. In other words, agents are normally able, if asked to provide discursive interpretations of the nature of, and the reasons for, the behaviour in which they engage. (Giddens 1991, p.35)

A further reading of ontological security suggests it is not too dis-similar to Gergen’s notion of community of agreement. The orderedness of day to day life is based on trust and resides within practical consciousness. It does not require the ‘carrying on’ of such practice to be, as Giddens puts it, ‘held in the mind’. In other words it is non-conscious (rather than unconscious) as part of an agent’s knowledgeability, it allows the agent to get on with the business at hand (what might emerge through discursive consciousness). This knowledgeability is shared on the basis of trust:
What makes a given response ‘appropriate’ necessitates a shared - but unproven and unprovable - framework of reality. A sense of the shared reality of people and things is simultaneously sturdy and fragile. Its robustness is conveyed by the high level of reliability of the contexts of day-to-day social interaction, as these are produced and reproduced by lay agents. (1991, p.36)

The discipline of routine helps to constitute a ‘formed framework’ for existence by cultivating a sense of ‘being’, and its separation from ‘non-being’, which is elemental to ontological security. (p.39)

Giddens advised then, that the sustaining of life in the bodily sense and in the psychological sense are inherently subject to risk. Moreover, he says that human behaviour is so influenced by mediated experience, it means that there is potential for all human agents to be overwhelmed by the anxieties implied in the very business of social practice. The protective cocoon (of trust and routinised practice) then represents a sense of unreality. It also represents a barrier to intellectual risk taking no more so than when security has its basis in surveillance.

Since anxiety, trust and everyday routines of social interaction are so closely bound up with one another, we can readily understand the rituals of day-to-day life as coping mechanisms. This statement does not mean that such rituals should be interpreted in functional terms, as a means of anxiety reduction (and therefore of social integration), but are bound up with how anxiety is socially managed. (1991, p.46)

**Self-Identity as an existential question**

The identity of the self, in contrast to the self as a generic phenomenon, presumes reflexive awareness. It is what the individual is conscious ‘of’ in the term ‘self-consciousness’. Self-identity, in other words, is not something that is just given, as a result of the continuities of the individual’s action-system, but something that has to be routinely created and sustained in reflexive activities of the individual. (Giddens 1991, p.52)
Giddens suggested that self-identity is not a trait or indeed a collection of traits that might be possessed by persons rather ‘...it is the self as reflexively understood by the person in terms of her or his biography'. Identity here still presumes continuity as interpreted reflexively by the agent (p.53, italics in original). This means that to be a person is not only to be a reflexive actor but also to have a cognitive understanding of a person applied to oneself and to others. This will vary across cultures and perhaps in terms of what it is to be a professional might also vary within cultures. As Giddens said that the capacity to use 'I' in shifting contexts '... is the most elemental feature of reflexive conceptions of personhood' (1991, p.53).

Giddens (1991) suggested ontologically insecure individuals may display any or all or the following characteristics. First, they may lack of a feeling of biographical continuity that tends to sever prior experiences from those subsequent, in such a way that a continuous narrative cannot be sustained. Secondly, people may be preoccupied with risk to the self and become paralysed in terms of practical action - there is an inability to maintain a protective cocoon. Also there is a failure to sustain trust in personal self-integrity. A normal sense of self-identity is Giddens claimed the obverse of these but the important factor for Giddens is that a person’s identity will be found in the capacity to keep a particular narrative going. In other words to be able to sort day to day practice into an ongoing story of the self.

*Trajectory of the self*

This is how the reflexive narratives of the self might be organised. Gergen (1991) suggested that this is difficult to do within the current epoch as to do this persons have to be involved in a systematic reflection of their lives (professional lives). Trajectory refers to the development from the past to the anticipated future and that through this the self is a reflexive project. Such reflexivity is continuously dependent on a narrative of the self in the formal conscious sense or otherwise. It is not an immersion in the present but a planning for future action. It might also help overcome the notion of the saturated self. As Giddens suggested ‘...Personal integrity, as an
achievement of an authentic self, comes from integrating life experiences within the narrative of self development: the creation of a belief system by means of which the individual acknowledges that ‘his first loyalty is to himself’ (1991, p.80).

Fate, risk and security
Fateful moments are when individuals are called upon to make decisions that will be highly consequential for their ambitions. However, these are sometimes managed using strategies that tend to routinise such decisions so that they are able to become part of an individual’s action over time. However, highly consequential decisions as fateful moments threaten the protective cocoon which defends a person’s ontological security - changing jobs, taking up a first position, revising habitual practice, deciding to emigrate, and in this study ... becoming a PE teacher. Under conditions of high modernity, many risks cannot be anticipated (Gergen 1991, would agree) and since we are subject to many expert systems we are all rendered laypersons. Even those within a profession such as teaching find risk in just being a teacher largely from the pervasiveness of expert systems or pseudo-expert systems. To this end, there is sometimes a blotting out of risk. Giddens suggested this is the courting of risks - the risk of not seeing risk. As he said ‘... At fateful moments, the individual is likely to recognise that she is faced with an altered set of risks and possibilities. In such circumstances, she is called on to question routinised habits of relevant kinds, even sometimes those most closely integrated with self identity’ (p.132).

Other aspects of risk are more adventurous and cultivated risk is an experiment with trust and the capability to disturb the fixity of things, open up new pathways and colonise a segment of the future. However, the expert systems that pervade teaching will mean that it is unlikely that such deliberate action can be part of a young preservice teachers’ self-identity. The (personal) risk is simply too great.

Giddens (1991) argued that doubt is pervasive in all areas of day to day practice. The actor must somehow steer a path between conflicting claims of impinging abstract
systems. The protective cocoon, Giddens argued is to screen out impending conditions of anxiety though the definitive boundary between anxiety and minimum level of security is elusive. The manipulation of this boundary captures the element of risk within the conditions of high modernity. The potential for uncertainty inherent that this manipulation represents requires the agent to make an assessment of risk with regard to how the future can be colonised. This problem of risk assessment is closely associated with learning to teach where multiple risk is prevalent. This sometimes has the effect of persuading the agent to take a more conservative course of action ‘... The difficulties of living in a secular risk culture are compounded by the importance of lifestyle choices. A person may take refuge in traditional or pre-established styles of life as a means of cutting back on the anxieties that might otherwise beset her’ (Giddens, 1991, p.182).

Clearly however, people do not spend the bulk of their time worrying about their day to day practice. Such anxiety is bracketed out and placed within a system of trust such that all will be ‘OK’. My very activity of writing this piece of work for examination by learned peers would constitute an example. My anxieties of not getting it done, or of it not being good enough are not enough to make me stop writing. Indeed, my reasons for writing might be reflexive, what I write will be reflexive as will how I write. Inherent in that reflexivity is a level of trust that I place in systems and structures that includes other agents. Young teachers are the same, they place trust in a range of systems and structures that, during their time of learning to teach, will help them reflexively order their professional narratives.

Therefore what agents tend to experience is a normalising of crisis whereby crisis is accepted as part of day to day life except that as Giddens argues it cannot be, by definition, routinised. Crisis then can be ‘put aside’ or ‘managed’ but when its impact is too great for this there is considerable threat to self-identity and the ordering of narrative confused. Under these circumstances, the narrative of self identity is as Giddens called it ‘inherently fragile’ (1991, p.185)

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Living in the world: Dilemmas of the Self

In high modernity, what the world is, is changed because though we still live in the world locally in terms of time and space, the globalised nature of high modernity means that there is what Giddens called an intrusion of distance. In other words, the globalising nature of our current epoch allows for a colonisation of our local worlds that can have a profound effect on how we order personal narratives. Given that we are ‘saturated’ as Gergen (1991) told us, then individuals must engage in the tricky business of selecting mediating experiences and these are incorporated into daily life. This might be seemingly distant from the world of teacher education, PETE in particular. But is it? In the case of PETE a simple glance across the literature at what stands for physical education (see chapter 2) might provide an example. With many competing visions of physical education selecting mediating experiences is problematic; is it health-related fitness? or daily physical education?: Should physical education resemble Don Hellion’s (1988) model of humanistic physical education, is it games for understanding, should we be pursuing Peter Arnold’s (1988) ideas of education in, through and about the physical?

These questions are compounded further when the question of sport is considered. We are bombarded by images of sport and forms of sport have been very adept at colonising sporting society around the globe (see Dunning, Macguire and Poarton, 1992 and Wilcox, 1994). The powerful and persuasive media images of sport will provide more choices (and more saturation) for mediated experiences that are provided across a globalised communications network.

Giddens (1991) took the view that knowledgeable actors can be discerning amidst such an interactive onslaught, suggesting that most can turn such information (or images) into a positive experience through mediation. As he suggested:

In some part the appropriation of information follows pre-established habits and obeys the principle of the avoidance of cognitive dissonance. That is to say, the plethora of available information is reduced via
routinised attitudes which exclude, or reinterpret, potentially disturbing knowledge. From a negative point of view, such a disclosure might be regarded as prejudice, the refusal seriously to entertain views and ideas divergent from those an individual already holds; yet, from another angle avoidance of dissonance forms part of the protective cocoon which helps maintain ontological security. (p.188)

Giddens pointed to distinctive tensions he claims to exist within high modernity. These he argues can best be conceptualised as dilemmas and suggests that they have to be resolved to preserve a coherent narrative of self-identity.

It might be fruitful to turn to Billig’s (1988) analysis of dilemmas as being ideological. Billig suggests that our profound problem as humans is for every tendency there is a countertendency. Billig suggests that one of the problems of studying dilemmas is that research is often restricted by the attention given to choice making rather than as he puts it the ‘... dilemmatic aspects of thinking’ (p.8). He and his team argued that common sense contains contrary themes, it is these contrary themes which enable the emergence of social dilemmas. Under these circumstances, commonsense must therefore be viewed as dilemmatic. Moreover, Billig and his colleagues argued that if this is so then ‘... the contrary themes of common sense represent the material through which people can argue and think about their lives, for people need to possess contrary themes if they are to think and argue’ (p.9).

This is crucial since common sense represents such a potent force in the thinking of pre-service teachers then one can assume from Billig’s analysis that it is dilemmatic. But how is this seen and what knowledge structures are at work to support commonsense as a dilemma in the first place? The methods of personal construct psychology may provide ways in which this can brought this out into the open for actors. Once exposed, the rhetorical device of argument can be used to construct important knowledge for teaching physical education and for forming a professional identity. It is under such circumstances that the self is likely to become what Gergen (1991) called a relational self, an assemblage of images or a pastiche.
Under these circumstances, Billig and his team argue that it is the general preconditions of decision making which emerge as important. In this regard, Billig's thesis was that such pre-conditions are social conditions and will therefore be ideological in their nature. Dilemmas therefore are not just out there but they too are historically located within the life story of individuals. Similarly, the individual is part of a greater community and sub-communities such (as professions) and workplaces (such as schools) within professions. Everyday thinking therefore is not an isolated act but one conducted within the limitations of the community in which one exists. In this regard, dilemmas may well be shared within the community. Hence in stressing the ideological nature of thought and the thoughtful nature of ideology, Billig might be closely aligned with Giddens (1984, 1991) who considers humans as knowledgeable actors:

Our concern is more with the dilemmatic preconditions, in other words those contrary themes which under normal circumstances are reflected in people's thoughts. In fact the existence of the contrary themes ensures that there is a need for thought. Individuals are not seen as being fully preprogrammed by neatly systemized plans of action, which are awaiting the appropriate triggering stimulus and which obviate the need for all deliberation. (Billig, 1988, p.3)

In the case of this study, tendency and countertendency are played out amidst shared but competing positions of firstly, what it is to become and be a physical education teacher and secondly, what it means to teach physical education. This is fundamental to identity. For Billig this is crucial, as he said '... The existence of such contrary beliefs is then taken as evidence for the hopeless confusion of commonsense...' (p.16). As Billig pointed out one of the problems is that most maxims (in teaching these might be nuggets of truth or reality) contain their own bits of truth and their own limitations. Asking pre-service teachers to make a 'choice' places them in difficult positions when constructing knowledge and forging a professional identity. This however lies at the heart of Giddens' ideas about ontological security and Gergen's notion of multiphrenia. Given the saturatedness of contemporary society
making choices and taking positions certainly professionally is inherently unsettling. We should not wonder that persons opt to encounter the world as Goffman (1959) suggest using ‘fronts’.

Billig (1988) suggested that we as actors play out our role existing within a commonsense that is shared (for example amongst teachers [of physical education]). Within such a context, individuals, particularly those who are new members walk a precarious path. Billig and his colleagues suggested that this:

\[...\] sees the individual existing within a social context, in which all dilemmas and oppositions cannot possibly have been worked out. Moreover the individual, by possessing the commonsense of the community, also possesses the contrary aspects of belief which permits debate to continue both internally and externally. (p.19)

Moreover, he suggested that an individual’s thinking should be thought of as rhetorical, that is it:

\[...\] does not start by considering individual motivations or individual information processing. It starts from the assumption that knowledge is socially shared and that common sense contains conflicting, indeed dissonant themes. It is not neatly systematized in a way that permits the individual who has dutifully accepted society’s values to generate automatically all necessary thoughts, actions and argumentative discourse. Indeed, commonsense provides the individual with the seeds for contrary themes, which can conflict dramatically in dilemmatic situations. (p.20)

Billig argued that the dilemmatic aspects of common sense have ideological roots. We can see this in pre-services teachers particularly of physical education. Given the immersion in certain discourses framed by science and performance (Tinning 1991) the ideological inheritance of such a discourse runs deep. Such discourses seem to be subsumed into the ‘common sense’ frameworks of PETE students so that the taken for grantedness of fact and truth becomes self-evident. As Billig said:
By stressing the dilemmatic and rhetorical nature of thinking, we see thinking as inherently social. In fact, thinking is frequently a form of dialogue within the individual. Yet the content of the dialogue has historical and ideological roots, for the concepts involved, and their meanings, are constructed through the history of social dialogue and debate. In this sense the social pattern of ideology is mapped on to individual consciousness (p.6-7).

Common sense then Billig argued is full of dilemmatic contradiction. However, Billig saw that this is important for the dialogical resolution of dilemmas to occur (based on belief, history locality etc.). *These contradictions not only exist between common senses but also within common senses. Therefore as he says, discourses contains their own contradictions and counter tendencies. Methodologically Billig says, the analyst should not be afraid to engage in hermeneutics to both bring them to the surface and interpret them. Essentially this lies at the heart of this study.* Powerful forces shape personal constructions of knowledge and beliefs associated with teaching physical education. Many of these remain quite external to the actor. Yet at the same time, the actions (based on belief and knowledge) of the actor recursively create the conditions for the conditions to continue to exist. Creating greater understanding and possibly change within PETE students means delving to the very soul of meaning that they ascribe to what it is to know in physical education, what it is to teach, and what it is to be a PE teacher.

**Dilemmas within ‘expertise’**

To illuminate this Billig referred to the example of teachers and how perhaps modern pedagogy might be (rhetorically at least) framed in a democratic scenario. However, he suggests that it cannot be so simple, in that such behaviour may well be egalitarian but it exists within an un-egalitarian social structure and hence is fraught with dilemmas. The notion of authority is itself a prime example in that there is a tendency for authority to be criticised even reviled and yet strangely justified by the same persons. The deference, whilst seemingly disappearing under conditions of egalitarianism, in fact remains in rather less obvious ways such as membership, acceptance, approval particularly in terms of professional conduct and expectation.
Deference to the *expert* then is maintained and this is visible in the process of learning to teach both within the academy and within the so-called everyday reality of classroom teaching.

According to Billig, it is expertise that reframes the more traditional dilemma of authority. Interestingly though, expertise only exercises authority in the hands of ‘users’ who lay claim to truth when it suits their vested interest. An example of this could be the Hinchinbrook development in North Queensland, Australia. Here a developer and his supporters (including state and federal government officials) make claims about the truth related to safety and efficacy of the holiday resort development based on science while at the same time dismissing other (contradictory) science produced by opponents of the development irrespective of its scientific authority. In this way knowledge assumes the mantle of officialdom. This is seen in education too. In terms of dominant pedagogical discourses in physical education, the discourse of performance as has been indicated earlier prevails. Other views, other pedagogies are regarded as some form of quackery not of the ‘real’ world. That PETE is dilemmatic is itself a dilemma. I have asked elsewhere ... what is true, who is right? These questions render truth as something of an unruly concept governed by ideology and manifested in dilemmatic terms. However, when dominant discourses do have the stamp of officialdom placed upon them, for example in the form of National Curricular or even de facto national curricula like Daily Physical Education in Australia (see Tinning and Kirk, 1991), the degree of risk taking required to challenge it, is itself dilemmatic. This in turn plunges the professional self into a dilemmatic maelstrom and the self itself in teacher education becomes a dilemma and the dilemma shapes the professional identity of the of the new or pre-service teacher.

Billig argued from a similar position indicating that less ‘authoritative’ discourses are afforded lower prestige and status. Expertise (and therefore authority) resides in the language codes that experts themselves like to use. However, some language codes are provided with freer access than others on the contested road are to acceptability.
Giddens (1991) in a sense supported this. He suggested that there is a shifting nature
of expertise such that that we are all laypersons of some kind or another. So reducing
the importance attached to some discourses and elevating others is in fact not as
difficult as it might seem. To show alternative non-mainstream discourses as
subversive, suspect, against the general interest can be achieved relatively simply by
challenging the speaker's claim to expertise. Even at the point of graduation (like the
participants in this study), new teachers of physical education (or of anything for that
matter), having undertaken four years of teacher education, are considered to have
little in the way of expertise.

CAN THIS MAKE A CONTRIBUTION TO PHYSICAL EDUCATION
TEACHER EDUCATION?

At the outset of this study I argued that my interest was in pre-service teachers as
decisions makers. However, I was also interested in how engagement in this study
may encourage the participants to see teacher physical education in different ways
(Rossi, 1997). In this regard I was interested in the therapeutic qualities of personal
construct psychology. Not withstanding Gergen's (1991) criticism of Kelly as the
epitome of modernity, I regarded Kelly's theory to offer insights into pre-service
teacher subjectivity. That teachers and pre-service teachers are theory builders is well
documented and was alluded to earlier, but what influences the decisions that they
make with regard to what stands for knowledge and what it means to be a physical
education teacher? In other words if somehow students teachers construct ideas about
what knowledge is important for being a physical education teacher then they will be
manifesting a view about what it is to be a physical education teacher. In essence they
will be constructing professional identity. However, whilst they may indeed be
constructing knowledge and identity, they do so under the dilemmatic conditions of
structure within what Giddens referred to as the contours of high modernity and what
Gergen called post modernity. Therefore, the knowledge and persona that student
teachers construct (they assume by themselves) in fact are facilitated by the rules and
resources (Giddens 1984/91) which are themselves brought about by the constructions of the agents within the structure.

PETE students are however caught within a triple bind. They tend to see themselves as having to be knowledgeable in the practical sense and be able to perform a range of motor tasks that tend to most closely resemble sports skills. Beyond this though there is an urgency to learn about how games and sports are played i.e. what are the rules what is the purpose of the game, what is the scoring system and so on? However, it does not end here because for the most part PETE students have experienced a course of study which is dominated by what can loosely be called the human movement (or better, biophysical sciences). There is an assumption that this too will form part of the knowledge requirement for physical education teaching and therefore is part of the construction process. Finally, there is the question of professional knowledge. This could be regarded as generic teaching knowledge with which all teachers must be familiar. Whether they should or shouldn’t is contestable. If we assume for a moment that it represents a non-negotiable form of teacher knowledge then this is problematic as it also has dimensions of practical/theoretical. In other words someone could know about teacher knowledge say for the purposes of passing an exam but not be particularly adept at putting such knowledge into practice. This connects with what Arnold (1988) has said about knowledge of physical activity and the principle is the same here. The knowing that about teaching is perhaps only loosely connected with the knowing how in teaching. To know about it and be able to do it or go on with it, would represent knowledge in the strong sense (Arnold, 1988). To know about teaching but find it difficult to do would represent knowledge in the weak sense. This is always a concern for student teachers and perhaps is closely connected to the reasons for conservatism in teaching practice where control discipline and organisation are of profound importance. Whilst reductions of knowing that to knowing how are not always helpful, in this case it does show that one’s success as a teacher is dependent upon both. Hence to be knowledgeable as a teacher can be seen to be a complex process. To be a teacher of physical education is further
complicated by the same dilemma - which is should teachers actually be able to do the physical activities they are likely to be required to teach within a predominantly sports related curriculum? Whilst there is no compulsion to this, there is a general level of acceptance that physical education specialists will be able to perform the skills and activities they teach.

If the theorists' arguments used here can be considered to be sound then there can be no one pedagogy, only multiple pedagogies, since it seems reasonable to assume that pedagogical narratives are constantly re-ordered in light of new experiences. In the same way, it is likely that student teachers will have not a professional identity but many identities. This will reflect Gergen's (1991) idea, that under conditions of saturation, student teachers of physical education (or generalists or secondary specialists of any subject for that matter) will develop many selves in order to cope with the competing demands of what is right, what is real and what is true in teaching?
CHAPTER FOUR
RESEARCH METHODOLOGY

Introduction
My interests in the subject of this study evolved from why people make the decisions they do about teaching. To use Kelly’s (1955) words, how do they construct the knowledge they perceive they need (indeed how do they identify it in the first place) for teaching and in particular for teaching physical education. As this study evolved, it became apparent that to address such questions would require analysis that could account for agency and structure.

However, Foucault (1982) has suggested, that knowledge itself has its own life history. Therefore in order to gain a good understanding of the constructed professional knowledge within a group of students, an analysis of their own lives was necessary. It was therefore necessary to know something about their life history.

Just as importantly though, it was necessary to understand something of their lives as it was being lived. Therefore the techniques used to gather data had to be able to capture the here and now as well as their past. Since the study followed the participants’ development over a two and a half-year period, the lived experience was clearly important. The techniques drawn from Personal Construct Theory were able to capture this.

Theoretical basis of the research methods

Personal construct theory, the repertory grid and educational research
When Clandinin and Connelly (1987), reported on an ongoing study, their focus was on personal knowledge and what stood for personal in the lives of teachers. The analysis took the form of a summary of a range of studies that attempted to understand how teachers come to know. The studies used a range of methods and
three were identified as being within the personal construct framework. Clandinin and Connelly (1987) pointed out that on the surface there appeared to be little commonality between the studies, a view they were to revise by the end of the paper as it became quite apparent that there were in fact underlying similarities. The initial and sometimes the persistent differences were largely a matter of semantics. Of the three studies that were identified as construct theory papers, it is important to note that only one used repertory grids, the other two studies used conversational techniques to develop constructs. For the most part, Clandinin and Connelly’s summary notes that to all intents and purposes, the research outcomes of all of the reviewed studies were the same. In other words, data were provided which made consideration of how teachers think about the nature of their work. To use the vernacular of George Kelly this might broadly be considered as how teachers construct the world (their world) of teaching. Moreover, the authors make some interesting observations about the cross-referencing of ideas:

People using different terms often appear in fact to mean much the same thing. To the extent that this commonality holds, we may foreshadow some positive evolution in the years to come in our understanding of the nature of the personal as it applies to teacher thinking. Furthermore, the variety of theoretical resources should enrich inquiry in the field. We do think, however, that the theoretically borrowed languages, and the various theoretical origins and corresponding differences in theoretical language, tend to divide the field making researchers sceptical of using and cross-referencing one another’s ideas. Diversity of thought is a mixed blessing. (Clandinin and Connelly, p.498)

As it will be seen later, not all researchers are so guarded in their optimism (see Pope, 1982). Some important points made by Clandinin and Connelly represent the trend at the time (1980’s) towards studying thought as separate from action (which does not fit fully with the personal construct paradigm) and the assertion that there is great value in a multi-dimensional approach to research.

One of the earliest studies to link personal construct theory with education was by Salmon and Bannister (1974) who attempted to consider the potential personal
construct theory may offer educationalists. Drawing from Kelly’s view that constructed reality inherently involved the anticipation or prediction of future events, Salmon and Bannister (1974) argued:

Looked at in this light, education must necessarily be a rather experimental affair, not consisting of a single ‘right way’. If our present view of reality, the systems we hold and the techniques we use, are no more than approximations to ultimate Truth, if they represent only a few of very many possible constructions and if sooner or later they will be abandoned for others which seem to hold richer potentialities then education is not a matter of providing the individual with as large as possible heap of what Kelly calls “nuggets of truth”. Education must rather mean helping a person to build up for himself a viable system of ideas, on the basis of which he can find meaning in his own life, discover new aspects of reality for himself (sic), and help enrich the ever growing heritage of human experience. (p.24-25)

Even though the Salmon and Bannister (1974) study dealt as much with PCT as a method of teaching as it did with teachers’ views of teaching, it nonetheless represents one of the earliest efforts to consider what an understanding of personal construct theory may contribute to the educative process. Certainly, their study has a contemporary feel to it twenty-five years on.

In a later study Olsen (1980) used reportory grids to examine teacher thinking on curriculum change. Olsen emphasised the need for the verstehen approach but perhaps more than this he felt that the context of the individual was of extreme importance. Olsen referred to this as the ‘cultural embeddedness of meaning’ (p. 4) and found for example, that when project based curriculum innovation was applied to a variety of contexts (schools) the outcome was often very different. Hence the desirability of investigated personal meanings in curriculum innovation took on a profound importance. When discussing his methodology and the theory of Kelly, he argued:

What is especially useful about this theory and what distinguishes it from other approaches to studying classrooms is that, allied to the
theory, there is a research method (use of the repertory grid) very well suited to the study of how individuals construe their life in classrooms. In short, the approach allows for access to how the individuals involved perceive their work. (p.5)

The delving into lived experience in Olsen's study revealed that though it was not discussed, the study was phenomenological. When the methods in the study are examined this is underlined. Olsen saw the process of construct elicitation as emerging out of unstructured interview whose direction cannot be pre-planned. As Olsen argued, this created an on the spot research tool which was unique, contextual and personal.

Munby's (1982) study also emphasised the importance of the interview technique. This is partly because the technique for eliciting grids before computer applications was by interview with the grids being constructed by hand by the researchers (or more usually the therapist). However, Munby showed in this study that much more was revealed about the person as an individual and about their constructions of the world in the post grid interviews (or conversations) which were often in excess of 90 minutes long. In fact so much information was generated, Munby was able only to include a fraction of it in the paper. Some important issues arise from Munby's paper. First, he argued that (at the time of his writing) while there was great importance attached to an understanding of teachers' beliefs and implicit theories, it was however totally under-researched. Secondly, he felt the repertory grid technique to be extremely valuable in getting teachers (or other individuals for that matter) to really dig deeply into their own theorising about the nature of their work. This was deemed to be valuable as he felt that some of our beliefs 'may lurk beyond ready articulation' (p.217), a phenomenon I have noted elsewhere (see Austin and Rossi, 1994). Finally, Munby became an advocate of the method to the extent that he felt it should be 'pressed into productive service' (p.223).

In 1982 the journal Interchange devoted a whole issue to the theme of personal construct theory. Indeed the editors note indicated that a view of knowledge with
personal constructs as the foci was long overdue. What is interesting in the short piece by Brown and Ritchie (1982) is that they alluded to connections between Kelly's theory, symbolic interactionism and phenomenology supporting the view that there are '... certain metaphysical commitments inherent in George Kelly's theories...' (p.1). This observation has striking relevance to this study. Such connections have been made elsewhere (see Holland, 1970) where Kelly has also been referred to as a reluctant existentialist. Pope (1982) developed the metaphysical aspects of Kellyan theory in the first article. She underlined that personal construct theory is in the verstehen tradition, in other words a coming to understand the personal construals of the world. Again, Pope's article was largely directed at classroom practice rather than knowledge for classroom practice and she felt that school science would be an ideal forum for construct theory. Indeed, she argued for what she referred to as a constructive curriculum. In Pope's view, personal construct theory was consistent with the Kuhnian view of science, where there are no absolutes and that scientific knowledge is not detached from a personal (and human) commitment to its construction.

Ritchie's (1982) study dealt more with a training perspective within a large Canadian Company, however, he emphasised the need for a broader understanding of the social reality as seen by individuals and he argued that personal construct theory allows such a deeper understanding, supporting the verstehen tradition. Moreover, he suggested that the use of Kellyan theory was not an end point but a beginning. As Ritchie said '...I will attempt to show the need for constructivist researchers to use Kelly's theory not as an end point from which to make generalizations but instead, as a beginning from which to achieve a deeper understanding of individuals' actions in social reality' (p.31).

Ben Peretz and Katz's (1982) study used construct theory and repertory grid to gain an understanding of teachers' criteria for interpreting pre-packaged curricula. Criteria were identified as constructs. Using a modification of the Role Construct Rep Test
developed by Bannister and Mair (1970) which they called the Curriculum Item Repertory Test. Differences in construct systems revealed how the curricula were interpreted differently by different teachers. The authors pointed out that the participants generated an enormous number of constructs that necessitated a classification system, thereby requiring some form of data reduction. To validate the categories developed, they were passed back to fifteen of the participants for verification. The categories were seen to be superordinate constructs that subsumed all others. What is even more interesting in this study is that to separate professional and non-professional constructs, the participants were required to generate a set of sorting criteria by using a set of cartoons, emphasising again the broad nature and uses and manipulations of Kellyan theory. Having used the Chi square test for some of the analyses, the authors then went on to argue for the value of a conversational follow up to the grid work and believed that in teacher education, PCT and repertory grid techniques can eliminate 'blind spots' in the consideration of curricula.

Candy (1982) working in the field of adult education though supportive of Kellyan theory offered a criticism, suggesting that construct systems could act as blinkers as they may limit what the participants can experience. However, it should be noted that Candy expressed great enthusiasm for the learning conversations that follow from a repertory grid session. Drawing from work a range of authors he suggested:

These various practitioners however, share the conviction that the learning conversations which take place about a person's construct system (whether it be in a group, on a one to one basis with a teacher or therapist, or in a reflective mode alone) are far more important than the technology which is used to externalise it. Likewise, they all emphasise that making people conscious of their own construing patterns and processes is an important part in allowing them to change [i.e. to learn]. (p.64)

Olsen (1982) emphasised the need to consult teachers for their views (constructs) if we are to come to an understanding of the decisions they make. Olsen underscored the point in saying there needs to be a much deeper understanding of the meaning of
their actions. Rather interestingly, Olsen suggested that anyone engaged in educating others is morally bound to act as moral agents. How (and perhaps if) this agency is accomplished is highly important and to do this the intentions of the individual must be consulted. Olsen (1982) indicated that PCT can help in passing the research activity over to the participant, a process recommended by advocates of action (participative) research (see Tinning 1992b). Olsen also believed that a hermeneutic approach to such research is desirable where interpretations are a shared responsibility. Again, the ramifications for this study are clear.

In a concluding paper attempting to summarise the papers in the Interchange edition, Morrison (1982) expressed concerns on a number of fronts. Most specific of these is the myth surrounding the structure of knowledge. He indicated that for the most part personal construct theorists reject objectivism as a myth. Morrison’s concern was that objectivism has been replaced by an alternative myth, that of subjectivism. As Morrison said:

> While it is true, if a tautology can be used, that the myth of objectivism is not objectively true, this does not at the same time, make it something to be scorned and ridiculed. The myth of objectivism is part of the consciousness of most members of our culture. It needs to be examined and understood. It also needs to be supplemented—but not as the authors of these papers apparently feel, by its opposite, the myth of subjectivism. The view that the only alternative to objectivism is radical subjectivism (that is, either you believe in absolute truth or you can make the world in your own image) is based on a mistaken cultural assumption: if you’re not being objective, your being subjective, and there is no third choice. (p.79)

Morrison clearly believed that objectivism and subjectivism are inextricably linked, one cannot exist without the other. Moreover, Morrison argued that both can block out certain aspects of reality of the other, this he suggested is one of the great problems of personal construct theory. Data generated by its techniques could be quite serendipitous. Whilst there is much to take issue with here, the underlying intent of Morrison’s argument is laudable. Subjective and objective traditions of education
need not be viewed as separate or polarised routes to knowledge, both can shed light on phenomenon, facilitate understanding and create meaning, echoing Sparkes’ (1991) call many years later for ‘polyvocality’ in research.

The role of personal construct theory in education (in its broadest sense) remained dormant until the late 1980’s and early 1990’s when it emerged once more as a form of research into the personal. As a hermeneutical research tool, repertory grid has found favour. However, the increasing sophistication of computers and software packages has also seen a rise in the quantitative uses of grid technique. For the most part though, repertory grid acts as a stimulus for further probing whether or not any kind of factor analysis is used or not. Oberg (1986) chose to link construct theory rather than the grid technique itself, to an interpretive framework as a basis for researching professional development in teachers particularly with respect to their reflective practices. Again the research was a case study involving 19 teachers and the intention was to ‘... elicit a comprehensive rather than a partial set of constructs and to generate categories which would serve as organisers for the constructs of many different teachers’ (p.58). The constructs were elicited from the teachers’ writings in response to a task which required them to indicate/describe/articulate their beliefs about teachers, learners, subject matter and the social milieu in which they worked as practitioners. Oberg recognised the necessity to broaden the categories to generate richer descriptions of constructs. It was quite apparent that a disparity existed between a described construct and actual practice that Oberg claimed was further aggravated by the use of language by some of the teachers. Hence it was necessary to overcome this problem by observing the practice of the teachers and since this is within the bounds of personal construct theory, observations of one teacher were undertaken. Upon sifting through the field notes, Oberg was able to identify a list of constructs that were verifiable by the teacher. Oberg felt that these constructs could form the basis of categories for a larger group of teachers to work within, particularly as they had been drawn from practice. Whilst it took Oberg a while to refine her construct elicitation techniques (itself a process of reflection), she felt that construct
theory was a useful theoretical frame for coming to understand the personal professional development of teachers. She concluded '...Using construct theory yields a comprehensive picture of the personal grounds of teacher practice. Making these grounds available for critical examination by the teacher opens up the possibility of improving teacher practice. A teacher who once begins to view her practice critically is likely to persist in a search for ways of improving' (p.64).

A more recent example of the use of personal construct theory and repertory grid in education, is Solas' (1992) study that is particularly interesting as it incorporates the technique of biography or life history. More importantly, the study considered students and teachers in an attempt to investigate thinking about the process of teaching and learning. Yaxley's (1991) 'touchstone' approach is also a recent addition to the literature and dealt with the development of teachers' own theories of teaching. Solas' work, drawn largely from his doctoral study, provides a comprehensive review of personal construct theory and its links with education. He acknowledged the traditions of behaviourist and positivist approaches to this area of inquiry but argued:

An alternative approach to understanding the nature of the teaching and learning process is to go beyond what teachers and students appear to be and to inquire about this process from those principally and directly involved in it—that is, teachers and students. They are, after all, the only witnesses to their own thinking [emphasis added] (p.205).

An important aspect of Solas' review and one particularly pertinent to this study, is that many of the studies generated weak constructs that are not particularly informative because of the very wide context in which the stimulus question or questions have been set. If the context is very broad, the possible elements that might be elicited are almost inexhaustible. Attempting to generate constructs from such a heterogeneous list becomes very difficult. It is understandable that when this occurs, such forms of inquiry are open to the charge of 'anything goes' in qualitative research. It is quite apparent in Solas' paper that there was a broad range of
nomenclature and variance in research techniques many of which are complementary, a phenomenon noted earlier by Clandinin and Connelly (1987). Solas argued however:

The terms used to designate the topic of study have a somewhat different meaning, but they hold in common the idea that a teacher’s behaviors are guided by and make sense in relation to a personally held system of beliefs, values, and principles. Prior to the researcher’s intervention, these systems are typically not well specified, and the central task of the researcher is to assist the teachers in moving from an implicitly held and private belief system to an explicit description of his or her cognitive frame of reference. (p.208)

Solas recognised the common problem is that such an approach to understanding people’s thinking assumes that they are able to articulate their implicit theories and ways of thinking about things. I have noted such problems elsewhere (see Rossi, 1994 and Austin and Rossi, 1994). As Solas rightly indicated, whether what people say is a good representation of what they are thinking is open to question. However, in the therapeutic sense, Kelly (1955) argued that if you wanted to know what was wrong with someone ask him/her. In much the same way, in this kind of research, if you wish to know what people are thinking about the nature of teaching (or whatever the topic may be), ask them; each has a story to tell.

Yaxley’s (1991) work took such a position in his touchstone approach to developing teachers’ theories of teaching. This project was undertaken as an in-service program for practicing teachers. Basically the touchstone approach was developed because Yaxley believed that teachers’ implicit theories would have some idiosyncratic nature but would overlap, in other words they would ‘touch’ upon other theories. Hence a touchstone approach allowed a dissemination of areas of agreement and disagreement in competing theories. Yaxley further indicated that the touchstones are frequently context dependent or at least context specific. This clearly adds to the complexity of theory development in teaching. Moreover, Yaxley argues that theories of teaching can never be foundational, that is there is no one theory of teaching out of which
others are derived. The touchstone is dynamic and certainly nomadic in so far as it will never have a stable ‘home’ probably, not even in the spiritual sense. The need then for articulating such theory is self-evident. Again Yaxley problematised this by arguing the lack of semantic purity in teachers’ descriptions of theory is often misleading. This results in great problems in reducing narrative text to themes and factors. He argued that to make personal theories more intelligible or axiomatic, statements within the theories must have coherence and plausibility. In an attempt to enhance the intelligibility of teachers’ descriptions of effective teaching, Yaxley was motivated to use personal construct theory. His project was lengthy and full of required activities (reading lists for example), however, the repertory grid process allowed the participants to create or construct theories. In a sense it allowed an unraveling of all their implicit theories so that the touchstone or common ground could be identified thus enabling an intelligible discourse of teacher practice.

The Repertory Grid

This is the ‘tool’ that evolved out of the development of personal construct theory (or personal construct psychology, as it was originally known). It has a range of sophisticated applications based upon mathematical analysis that some researchers or psychologists opt to use and others ignore. Kelly’s view was that both approaches were perfectly legitimate. More recently Pope and Denicolo (1993) argued the same, suggesting that this is in fact its great strength within the human sciences.

The technique is largely referred to as a conversational tool and this is how it was used in this study. This is because it is effective in eliciting responses which provide the basis for structured or non-structured interview or less formal storytelling technique (Dunnett, 1988 tells the remarkable story of one of his patients reliving a biographical interpretation of the world through mime!).

The grid itself represents an individual system of cross-referenced ideas around a context set by the investigator. With the context set, the participant then thinks of a
number of ideas (called elements) which pertain to the context. There is a minimum requirement that at least six elements are devised or thought of. This may sound contrived. However, it is unusual for a participant not to be able to think of six elements and more often the reverse is true and the participants usually have to be encouraged to stop listing elements as the grid will become so big that it is unlikely ever to be completed. The reason is that once the elements have been elicited they are then arranged, at random, in triadic form. This structure is generally chosen as it is the least number at which differences and similarities will manifest themselves. The participant must pick one of the elements as being distinguishable from the others. Once selected, the elements are arranged in a bi-polar fashion, with one element (identified as different in some way from the other two) at one end of the pole and the other two at the other end.

At this point that the participant begins to construct their personalised view of the contextual world within which they are working. The participant has to say why or how the one element is different from the other two. This is known as the emergent pole of the construct. Once this is done, the participant then has to say why the two elements at the other end of the pole are similar. This is the implicit pole of the construct and once identified cross-references the elements in the form of a bi-polar construct. The final task is to place the rest of the elements on the bi-polar scale at a point deemed appropriate whereupon they can be placed on a numerical scale to indicate their closeness to one pole or the other. It is common to use an odd number of points in the ordinal scale so that the participant may choose a value at which elements can be placed which is equidistant from both poles. This process is repeated for all of the random triadic formations of the elements. Once completed, a grid can be formed showing the unique and personally subjective interpretations of the context. This rich text is likely to have multiple meanings that are likely to be located in a range of social contexts and relations which may have to do with power, human interest and ideology. It is at the interview or conversational stage that the subjective
meanings are explored further. A full description of how repertory grids are constructed can be found in appendix A.

When George Kelly originally developed the theory and designed the repertory grid technique, much of the grid construction was done by using small cards and by writing elements and constructs on the cards. Some psychologists still prefer to work this way. Indeed, some researchers even provide the elements. Hopper’s (1996, 1998) work is a recent example in physical education teacher education. In the computer age, software packages are available for this purpose. One of the advantages is that by using such technology, the researcher can be partially removed from the situation other than for guidance on how to use the hardware to manipulate the software. Since the triads are thrown up randomly by the program the researcher is not in control of the situation and this helps to remove some aspects of researcher influence.

For this particular study, a software package was used that was developed by Mildred Shaw at the Centre for Computer Person Studies at the University of Calgary. Shaw is a supporter of the theoretical basis of repertory grid and is widely published in the area. She is also a regular contributor to the PCP list on the Internet. The package is called RepGrid II version 2.1 and is only available through the University of Calgary.

This research then, attempts to reveal something about knowledge appropriation, construction, deliberation, and reflection by using data generated by the repertory grid technique. In doing so the research was also seeking answers to professional identity formation in PETE students. To make sense of the data the theoretical framework discussed in chapter three was used.

Researching Lived Experience

In large part, this study was a shared enterprise in the seeking of meaning between the researcher and the participants of the study. There were two levels of functioning for this. The students themselves made attempts within the conversations to understand
their own view of the world. My search for meaning was perhaps more intrusive but rewarding in that all participants gave freely of their time and they were mindful that broader meanings may emerge in terms of a broader understanding of the process of knowledge construction and identity formation within the group. My intervention (perhaps participation is a better word) as the researcher meant that what emerges through my analysis of the data would be consistent with Giddens (1984, 1987, 1990, 1991) idea of the double hermeneutic. As Giddens (1984) suggested:

The appropriateness of the term derives from the double process of translation or interpretation which is involved. Sociological descriptions have the task of mediating the frames of meaning within which actors orient their conduct. But such descriptions are interpretive categories which also demand an effort of translation in and out of the frames of meaning involved in sociological theories. (p.284)

The participants in this study then, experienced occurrences that were likely to affect their development as teachers in some way. These experiences were in addition to what the students brought with them to the point embarking on teacher education. It may be have been teaching practice or a chance encounter with a field practitioner, it may have been the course work in which the students were engaged. Whatever, it was likely to have influenced how the students think about (construe) teaching and education broadly and physical education more specifically. In other words, such experiences will affect how the students are theorising the nature of their work as teachers and thus help shape their own theories of action or agency. The students will have opportunities to test out their developing theories either in a formal sense which may have happened on the teaching rounds (though often this situation is not free enough and the issue of 'wash out' has been well documented-see Zeichner, 1983) or in less formal settings. Such theory testing will go beyond the life of this study. However this happens, their personal theories will be challenged. This part of their coming to know will shape my own understanding of the knowledge development in students for teaching physical education. Van Manen (1990) commented:
... to do research is always to question the way we experience the world, to want to know the world in which we live as human beings. And since to know the world is profoundly to be in the world in a certain way, the act of researching-questioning-theorizing is the intentional act of attaching ourselves to the world, to become more fully a part of it, or better, to become the world. (p.5)

The common criticism is that this form of research lacks rigour and really does not contribute to our broader understanding of phenomena. Van Manen (1990) argued that the terms objectivity and subjectivity need to be reconsidered but adds we should not consider them mutually exclusive, again offering further support for Sparkes' (1991) call for polyvocality in the research community. Objectivity, Van Manen argued requires us to be the guardian (his term) of the object of research. The object however doesn't always remain pristine particularly when it is inextricably entwined with the subject of research such as in human science. In this case, Van Manen urged the researcher in his or her subjectivity to be 'perceptive, insightful and discerning' (p.20) in analysis. He encourages the researcher to '...show or disclose the object in its full richness and its greatest depth' (p.20). Van Manen (1990) therefore saw the human scientist as having compelling stories to tell not simply folklore or anecdotal meandering, as he said '...The aim is to construct an animating, evocative description (text) of human actions, behaviors, intentions and experiences as we meet them in the lifeworld' (p.20).

Clearly human science deviates from the norms of the natural sciences. Van Manen (1990) made no apology for the nature of human science though recognises what it is and is unable to do. Most apparent, is that human science does not measure, replicate or control and hence does not necessarily seek to generalise. It does seek however, to recognise, chronicle, understand and interpret the real world through living experience. Whilst it seeks to understand problems, it does not set out to solve them. It might be argued however, that by understanding problems (particularly those of a personal nature), we are able to move much closer to solving them or to paraphrase Giddens (1991), to reflexive reorder our narratives.
To describe or interpret?

As Van Manen (1990) said, 'Actually it has been argued that all description is ultimately interpretation' (p.25). Geertz (1973) argued that humankind is suspended in cultural webs, and an analysis of these webs is not an experimental science used to establish a new law, rather it is an interpretive one in search of meaning. Analysis is, as Geertz puts it, sorting out the structures of significance. This view has been of great importance for this study as interpretation has been operating at two locations. The participants in the learning conversations interpreted their own constructs generated by the grids. They further interpreted the learning conversations when they were returned almost creating an interpretive circle. Woven within the student self-interpretations have been my own which have related to the interpretation of participant theories of action, the development of the group, and the social constructions and structural parameters in which this has happened. As an anthropologist, Geertz’s position is that anthropological writings are interpretation, however, the anthropologist can only engage in second or third order interpretations. As he argues, only ‘natives’ of a culture can formulate first order interpretations. It does not tax the imagination too much to regard the participants in this study as the ones who engaged in first order interpretations which, as I have already argued, belonged to them. So in coming to terms with their constructs, a level of interpretation took place. My first role as researcher at that point was to lay open the constructed knowledge as it was at that time. My second and third order interpretations came later. However, as Giddens, (1984) suggested, it is the nature of social science that the observed second order concepts (as he called them) become first order concepts as they become appropriated within social life itself. For the participants, and myself, this project was part of our social lives.

Again, when discussing the rigour of interpretation, Geertz warns that cultural analysis cannot be too tightly structured. Clearly, very tight analytical structures may serve only to generate what researchers wish to see, and allow for interpretations that they wish to make. As Geertz (1973) advises ‘...Cultural analysis is (or should be)
guessing at meanings, assessing the guesses and drawing explanatory conclusions from the better guesses, not discovering the Continent of Meaning and mapping out its bodiless landscape' (p.1).

He further argued that interpretation and analysis are ongoing with no definite end. As he said ‘...Every serious cultural analysis starts from sheer beginning and ends where it manages to get before exhausting its intellectual impulse’ (p.25). Jameson (1981) went further:

I happen to feel that no interpretation can be effectively disqualified on its own terms by a simple enumeration of inaccuracies or omissions, or by a list of unanswerable questions. Interpretation is not an isolated act, but takes place within a Homeric battlefield on which a host of interpretive opinions are either openly or implicitly in conflict. (p.13)

**Narrative and Forms of Story Telling**

Arising from the personal construct technique of the repertory grid distinct yet inextricably linked forms of narrative were generated. These are *learning conversations* (Thomas and Harri-Augstein, 1985) which represent the process of *story telling* and as such contribute to the construction of knowledge in the participants and their constantly developing identity as teachers. It provides space for and ownership of the student voice and the means to articulate their developing theories of teaching physical education. The learning conversations complimented the repertory grid technique and provided details of the participants lived experience. This was an ongoing aspect of this study hence it helped maintain its contemporary nature of the responses by the participants. They were not always retrospective. The life history technique was used to delve into issues that remained stubbornly beyond the grid and the learning conversations. The life history technique then was used to explore attendant issues, experiences and personal key incidents for the individuals. From these life histories, there was an intention to uncover ‘mediating experiences’ that might lie outside of the grid technique.
Life history as a form of narrative has attracted much attention recently. In fact in one of the few studies in physical education that talks about constructed knowledge for physical education, the life history technique was used. The study by Schempp (1993) was a single subject case study of an experienced high school physical education teacher and how over a period of time he came to construct his knowledge deemed by himself to be necessary to teach physical education. Drawing from Woods (1987) work, Schempp indicated that teachers must have some ownership of their knowledge, and that knowledge is derived from an ongoing process whereby it must be identified, internalised, interpreted in a cyclical, reflective fashion. As Schempp argued:

In short, teachers construct their professional knowledge from the world in which they live... knowledge is derived from the given value in a crucible of social relations and functions. The construction of teachers' knowledge, therefore, is forged in the dialectic tension between teachers and the world around them. That is, teachers as individual bring to their workplace a set of ideas, propositions and ways of acting. (p.3)

Schempp acknowledged that the process is cyclical and dynamic and as such, and in keeping with this study, he focused on what he called 'knowledge sources' (p.5). It is important to note that Schempp made no wild claims of definitive answers. He also acknowledged that generalisations could not be made from single case studies. The important issue of generalisability is explored elsewhere. What was interesting in the study was the way the subject (participant) began to ask his own questions about professional practice, questions that perhaps he had not thought to ask prior to the study. It was acknowledged that the teacher's behaviour was being affected by the presence of a researcher but from an interesting perspective. It was not perceived as an intrusion. The improvement (if it can be referred to in this way), was brought about by the teacher challenging some of his previously held beliefs and taken-for-granted assumptions. In an attempt to foster and maintain co-ownership of and collegiality in the research, the teacher was asked to review interview transcripts and initial drafts of the report. Schempp found that there are a range of influences on the
construction of knowledge for teaching viz. the community, the school, the profession, and his own biography. Whilst the life history technique contributed significantly to this, it is fair to say that the ethnographic methods also employed perhaps revealed much more about the teacher's life within his own cultural parameters. It was also quite apparent that the teacher viewed experience as the prima fasciae source of knowledge and it took the form principally of managing the day to day pressures of teaching high school physical education. This is a phenomenon I have noticed in my own work (see Rossi and Nicholls, 1994) and in other areas of the curriculum also (see Barrow, 1990 and Hargreaves, 1984).

In keeping with Woods' (1987) and Carter's (1993) call for ownership, Goodson (1991) also urged that the notion of educational research is reconceptualised to assure the teacher's voice is heard. He argued that to talk of improving professional practice in teaching need not (indeed should not) focus solely on practice. A more valuable process he suggests is to consider the work of teachers in the context of teachers lives. Schempp's study above is exactly that but clearly, the findings may disturb some who view reflection and experimentation as essential for professional development. From Schempp's life history technique we are able to locate his participant's position over time, there was much description in Schempp's analysis but little in the way of interpretation or thick description. Much could be learned from this study (including some things about generalisability in spite of Schempp's disclaimers), but potentially there was more worth knowing that related to the construction of knowledge for teaching physical education.

Andrew Sparkes has used the life history technique extensively though predominantly with experienced teachers. However, in one study (1993), the potential of the technique was used to explore the possibilities of challenging the technocratic approach to physical education teacher education (PETE). Sparkes recognised that a technocratic approach to anything is 'means' rather than 'ends' driven in terms of efficiency, being economically rational, minimising resource allocation and
utilisation (particularly in education). Hence Sparkes sought to dismantle the 'one size fits all' approach to pedagogy and ask questions that had more to do with purpose rather than method. Drawing on Schencpp's (1989) study of the 'apprenticeship of observation' (see Lortie, 1975 for the original coining of the term), Sparkes (1993) recognised that it is highly desirable to use the students past life experiences in a PETE program. Schencpp (1989) argued that the apprenticeship of observation is a point of departure for aspirant physical education teachers and should be recognised as such. Sparkes (1993) supported such a view and argued:

Such a position suggests we adopt a view of teachers as both makers and breakers of culture, and that critical reflection is essential if the recycling of the dominant norms of teaching are to be interrupted and real changes are to take place in schools. Indeed, whatever position is adopted it would seem that teacher educators cannot afford to ignore the past experience that students bring with them into PETE programmes if they are to relate their courses to them in a meaningful and relevant way. An awareness of these past experiences would also appear essential for teacher educators who wish to promote reflective and informed practice in such a way that empowered and autonomous teachers are given the opportunity to develop. (p.111-112)

Sparkes also pointed out (as do others see, Goodson, 1992; Woods, 1987) that a life history technique helps to locate the self in a broader social vista. This may also contribute to a more expansive potential in the pedagogic possibilities of the students. However, it may also inform us of where entrenched views of schooling may have their origins, it may simply confirm the reluctance to change from a commonsensical pedagogy. Sparkes (1993) does not report a great initial success with the technique, indeed he labels the first attempt in this study as a disaster and as an example of 'pedagogic terrorism' (p.115). Although things improved for Sparkes, clearly the appetite for techniques of teaching within his group was often insatiable and the life history approach to learning to teach was seemed to be superfluous to the real business of teaching. However, the 'glimmers of hope' (p.116) that emerged from the study indicated that learning to become a teacher using the life history technique both as a research tool and a pedagogical encounter, do provide reason for optimism. At
least as far as Sparkes' quest to challenge the current hegemony in PETE is concerned.

In an earlier study Sparkes and Templin (1992) explored aspects of marginality in physical education teaching, an aspect which also comes to the fore in a study by Templin et al (1994). It is important to note that in both studies, the authors indicate that they are drawing from the traditions of symbolic interactionism which as Sparkes and Templin argued 'so often informs the life history approach' (p.121). They further argued:

Illuminating the insider perspective is of great importance in any attempt to explain why people act in certain ways rather than others. Indeed the ability to explore the subjective reality of individuals in a way that respects their uniqueness and allows them to speak for themselves is a major strength of life histories which cannot and should not be ignored. However, focussing too intently on the individual can result in a kind of blindness that divorces personal experience from the wider socioeconomic and political structures that shape them. This danger is particularly acute when we attempt to conceptualize a career in teaching. (p.121)

Templin et al (1994) indicated that the life history technique has experienced a recent resurgence in popularity in the field of educational research. Sparkes (1993) indicated that some of the resurgence has come about as a direct challenge to the dominance of more technocratic forms of research. Templin et al (1994) argued that '...The life history approach explores the subjective realities of individuals in a way that both respects their uniqueness and allows them to speak for themselves'(p.276). Moreover, they suggested that these subjectivities could be explored more critically, as they suggested:

In essence, life history method allows researchers to explore in a critical fashion the subjective dimension of teachers' lives and to seek answers to such questions as, do teachers or PE teachers in particular constitute a separate species of individual? It assists us to understand PE teachers sociologically and to produce teacher-centred professional knowledge
that may be linked to how other teachers think about their work and its meaning. (p.276)

Sparkes (1993) suggested that life history is in fact an umbrella term that includes a wide range of sources of data such as biographies, personal documents, life stories, interviews, case histories. We could add learning conversations, journals and diaries (as personal documents), essays, even poems and songs. As I indicated earlier, one researcher (psychotherapist) even included a case of mime. As Sparkes (1993) suggested ‘...There is no single life history method or technique but rather a range of strategies that can be used to focus upon individuals or groups from a variety of theoretical perspectives’ (p.110). Given this, data generated this way (i.e. from stories) are going to be interactionist in form. That is, it will be shaped by not only the lived experiences of the individual but by the semiotic relationships the individual has with their own everyday life and with the broader global community and ultimately with the researcher. It is likely therefore that there will be no pristine lifeworld experience in the laboratory sense. Hence, it is important that individuals encode their experiences. Forms of narrative can create the room for voice so that the symbolic interpretation of the world may take place. Schempp (1993) illustrated this with regard to teachers:

... knowledge is derived from and given value in a crucible of socializations and functions. The construction of teachers’ knowledge therefore is forged in the dialectic tension between the teachers and the world around them. That is, teachers as individuals bring to their workplace a set of ideas, propositions and ways of acting. The culture of the workplace has its own set of ideas, propositions and ways of acting, and the teacher is expected in varying degrees, to conform. The construction of teachers’ knowledge thus represents a synthesis between multiple views of teaching. (p.3)

What emerges from an analysis of the uses of narrative in exploring teaching is the emphasis on ownership of the knowledge. Woods (1987) argued that knowledge developed in this way must belong to its constructors and must be seen to belong, to its constructors. As researchers, we may wish to report on this, indeed elsewhere, I
have referred to the researchers role in such cases as that of *chronicler*. That is not to say it does not merit interpretation and analysis. I have already argued for the necessity to move beyond description. Indeed in discussing narrative, Sarup (1993) argued:

Narrative, just by being narrative, always demands interpretation, and so we must always be aware of the distinction between manifest meaning and latent content. Moreover, we should remember that every narrative simultaneously presents and represents a world, that is, simultaneously creates or makes up a reality and asserts that it stands independent of that same reality. In other words, narrative seems at once to reveal or illuminate a world and to hide or distort it. (p.178-179)

This does not imply of course that others should appropriate knowledge developed in this way. However, sharing such knowledge may lead us to a broader understanding of the teacher education process, as well as what might be considered as teacher education content, particularly, in this case, in physical education.

The storytelling as a research method, has become increasingly prevalent in educational research in recent years. Carter (1993) has emphasised, that teaching and teachers' lives are not precise, teaching is not a precise and ordered science. Neither is it (in spite of great efforts) quantifiable, reproducible or controllable. It happens in an environment that Hargreaves (1994) calls a moving mosaic, it is neither certain or rigid. McLaren, (1994) has labeled such a context as unruly. Hence a richer, more and more intimate understanding is desirable and story telling or teacher (or student teacher) generated text is one way we may become more closely associated with the actions of teachers so that we may come to understand the thinking behind teacher action. As Carter (1993) argued:

It is not altogether surprising, then, that this attraction to stories has evolved into an explicit attempt to use the literatures on "story" or "narrative" to define both the method and the object of inquiry in teaching and teacher education. Story has become, in other words, more than simply a rhetoric device for expressing sentiments about teachers or
candidates for the teaching profession. It is now, rather, a central focus for conducting research in the field. (p.5)

In drawing from the literary and aesthetic fields, researchers who embrace this form of research activity are accused of having no regard for the truth (a term seldom defined by the antagonists in their argument). Moreover they are accused scoffing at rigour and are content to use woolly and fuzzy criteria in the pursuit of evidence (see O'Dea, 1994). O'Dea argued that the much-vaunted criteria of reliability, validity and generalizability are simply not relevant to a research method which rather than eschewing subjectivity, actually openly and unashamedly endorses it. In the process such method (or the researchers at least) endeavour to give the practitioner in the field some stake in the research through his or her voice both in the literal and metaphorical sense.

Bruner (1991), in a lengthy article, described how the human act (or phenomenon) of coming to know had largely been researched from a logico-positivist approach. He described how Piagetian thought dominated popular convention about the acquisition of knowledge. As he says, the preferred view of children growing, for example, was to view them as little scientists or little logicians. Whilst this has a familiar ring to George Kelly’s work it should not be viewed as the same. As Bruner said ‘...These are typically Enlightenment-inspired studies. It is curious how little effort has gone into discovering how humans come to construct the social world and the things that transpire therein’ (p.4). Bruner continued that we have learned much about how to explain the world of nature (though we could of course argue that we are as far from universal truths as we have ever been). However, he felt that we know precious little about ‘how we go about constructing and representing the rich and messy domain of human interaction’ (p.4). Bruner recognised that narrative is the form in which humans organise experience and memory. He also acknowledges that narrative can really only achieve verisimilitude or a semblance of the truth. However, it is a reasonable argument to suggest that all forms of knowledge are but semblances of truth particularly within human science.
To continue with further Bruner, the major part of the paper is consists of what he called ten features of narrative. Those largely focus on the nature of narrative (its particularity, diachronicity, intentionality and referentiality) and its interpretation through symbolic power. The section on interpretation is the longest and is perhaps the most important. Bruner referred to this feature of narrative as hermeneutic composability. Clearly fraught with problems of rigour and integrity, Bruner argued that hermeneutic interpretation is required when rational methods of assuring the truth and empirical methods of determining the verifiability of the textual elements are not available. I feel Bruner's argument here is weak in so far as it depicts interpretation as a second best solution. This may not have been Bruner's intention but in the situations and examples that he uses, the case for interpretation is strong in its own right. Any interpretation, as Jameson (1981) argued cannot be dismissed as it may contribute to the overall meaning of a narrative. This is the intellectual challenge in hermeneutics and which many post modern scholars have both engaged and gone beyond by searching for the genealogy of meaning (see Miller's, 1993 account of Foucault's intellectual approach to meaning).

It is interesting to note that some researchers. (see Carter, 1993; Connelly and Clandinin, 1990) have been prepared to ascribe the label empirical to narrative, much perhaps as I argued above. In their view by interpreting narrative, it is not turned into fiction. Connelly and Clandinin (1990) made this point emphatically, aware as they were that much of the language of narrative inquiry is embedded in literary criticism. This is of little importance. In distinguishing between narrative as a phenomenon of experience, and as a method of inquiry into that experience, Connelly and Clandinin (1990) referred to the phenomenon as a story. This has broad support across the research community who engage in this type of research (see Carter 1993; Clandinin 1989; Patterson, Elbaz, 1991, Flecht and Duffie, 1994). In essence, Connelly and Clandinin (1990) argued that people (teachers and student teachers among them) lead storied lives. Narrative researchers attempt to capture the story or the essence of the
story and describe it or interpret it in a broader social framework. Given the range of sources, from which narrative may draw, the social framework within the narrative may be inherent. Connelly and Clandinin (1990) suggested that:

Data can be in the form of field notes of the shared experience, journal records, interview transcripts, other’s observations, story telling, letter writing, autobiographical writing, documents such as class plans and newsletters, and writing such as rules, principles metaphors and personal philosophies. ... The sense of the whole is built from a rich data source with a focus on the concrete particularities of life that create powerful narrative tellings. (p.5)

In researching teachers' lives, the enterprise is richer if it is a shared one. Carter (1993) underlined this by two threads in her work. She regarded the story as a mode of knowing and in teaching and teacher education ‘... story represents a way of knowing and thinking that is particularly suited to explicating the issues with which we deal’ (p.6). Moreover, she argued that knowledge that is represented in a story couldn't be reduced to abstract laws and rules and scientific explanations. As she said:

At one level, story is a mode of knowing that captures in a special fashion the richness and the nuances of meaning in human affairs. We come to understand sorrow or love or joy or indecision in particularly rich ways through the characters and incidents we become familiar with in novels and plays. This richness and nuance cannot be expressed in definitions, statements of fact or abstract propositions. It can only be evoked through story (p.6).

To this, Carter added the importance of teacher voice. For the most part, and in keeping with traditional research paradigms (and indeed those still dominant, particularly in physical education), the subject of research (the participant) has been largely disenfranchised from the research process. Carter regarded this as a crisis in the field though acknowledges two major problems which in her view must be confronted. The implication is that personal meaning of stories has significance only for the writer or teller. However, it should be understood that stories are both told and
acted out in a community (e.g., a school) and therefore storied knowledge has a far
greater range of significance. Secondly, Carter argued that endowing teachers’ voices
with excessive authenticity because of extreme views of teachers’ stories is
inappropriate. She argued that teachers’ stories are constructions not photographs or
videotapes of reality. It follows therefore that an understanding of how that reality is
constructed is of great importance. Personal Construct Theory as a lens for the
constructed reality of teachers or student teachers therefore should provide the point
at which we may begin to move toward such an understanding.

Clearly from an interactionist perspective, students who come into PETE programs
cannot help being influenced by what goes on around them. In a postmodern world
such effects are even more profound (see Hargreaves, 1994; Sarup, 1993). In both the
Sparkes and Templin (1992) study and the Templin et al (1994) study, the
conversational approach to interviewing was used. No questions were prepared in
advance and for the most part, the generation of data was ‘given over’ to the
participant in the project to facilitate a shared ownership. It would not be unfair to
suggest that neither of these studies produced earth-shattering new issues in physical
education. However, they did show the multi-faceted reasons for marginality,
personal experience in living on the margins, the dichotomy of low subject status but
high extra-curricular status, and sexism and other forms of prejudice. As with all the
studies discussed, a major drawback is not the data itself, but the lack of space
available in academic journals and conferences to do justice to the data. The process
of reduction to themes, streams of consciousness, constructs is an important one but
can sometimes force important items ‘out of the picture’ when it comes to the report
stage.

In arguing for a life history approach to research, Woods (1987) drew on the
predictable criticism that much that is produced in the name of research is regarded
for the most part by teachers as irrelevant. I, in common I suspect with most teacher
educators, have been accused of being out of touch myself with the real world of
teachers and schools (see Rossi and Nicholls, 1994). It is easy to see why Woods might report this well-worn theme. As was indicated before, teachers by and large are seldom considered part of the research community. Even studies that are under the auspices of action research seldom include teachers for the full distance (see Tinning 1992b). The life history method of research Woods (1987) argued is eminently suited to the 'compilation of teacher knowledge' (p.124) as it promotes the individual's uniqueness, casts a significant portion of the research load onto the individual and creates space for (in education at least) a voice from the field.

It cannot be denied that the life history method seeks to understand the teacher's world in the teacher's context in its broadest sense. For Woods, one of the greatest virtues of the life history method is its reinterpretation value. By this Woods meant 'their (life histories) ability to make sense in terms that help bring meaning to extant bodies of knowledge and disciplines that otherwise would be seen by teachers not only as irrelevant but alien, and help to promote interpretive learning' (p.125).

THIS STUDY AS A CASE

The research site
The research site was a regional university in the state of Queensland, Australia. The university is located in a town of approximately 85000 residents, best described as semi-rural. The town is located in one of the most productive agricultural areas in Australia. Many of the on-campus students at the university are from farming and small town communities. A much smaller proportion would be from large metropolitan areas. The participants in this study could be typically considered as representative of Faculty of Education students and possibly of the larger student body. All participants in this research, who were aged between 21 and 26, studied for a Bachelor of Education degree with a specialism in physical education during the period 1993-1996. They had been preparing for careers in teaching at the primary level. These students were part of the second cohort to be offered a four-year degree
program. However, they studied physical education under an old structure. In essence, this means that the *curriculum* units were studied before the discipline studies of the so-called 'movement sciences'. A detailed account of their program and where the research was located in their physical education program is provided in Table 1.

**Other non physical education course work**

As might be expected in any teacher education course aimed at the primary level, the participants in this study undertook units in the *Key Learning Areas* (KLAs) consistent with Board of Education (Queensland) (now called Education Queensland) requirements. These include mathematics, the study of society (SOSE), languages other than English (LOTE), art, language, science and computer technology. In addition, there was course work that focussed on the various disciplines of education namely sociology (predominantly functional sociology and the work of Talcott Parsons), and psychology, (mainly cognitive psychology and the work of the behaviourists). There was, remarkably, no work in philosophy.

The four year program also included work in curriculum studies where the focus was on Tylerian objectives driven curriculum models and work on pedagogy, informed by models of teaching develop in the fields of cognitive science. There was a minimal inclusion of critical pedagogy.

**Designing the research**

The research design in this study was directly related to the intention to reveal the many layers of pre-service teacher development. This was because questions about construction of knowledge were asked. By very definition, something which is constructed is done so over a period of time and with time *sediments* of knowledge are laid down which have a variety of origins. The central method was that of generative narrative and in the first instance this was done using the repertory grid technique.
Table 1: Course work undertaken by participants in physical education section of teacher education program

<table>
<thead>
<tr>
<th>Year of Course</th>
<th>Semester</th>
<th>Unit title undertaken</th>
<th>Descriptors</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>Psycho-social bases of play games and sport</td>
<td>Considers the various parameters of sport participation from a social and psychological perspective. A critical approach is taken.</td>
</tr>
<tr>
<td>1</td>
<td>2</td>
<td>Advanced Curriculum Studies in PE (I)</td>
<td>Deals with conventional approaches to teaching skills in physical education, lesson planning and curriculum planning.</td>
</tr>
<tr>
<td>2</td>
<td>1</td>
<td>Kinesiology</td>
<td>Functional anatomy and biomechanics</td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>Advanced Curriculum Studies in Physical Education (II)</td>
<td>A more critical approach to pedagogy and curriculum. Convention challenged injustices in PE considered. This year there was an in school requirement to this unit which was on an informal basis and was not assessed in any way. This required a collaborative approach with some local teachers.</td>
</tr>
<tr>
<td>3</td>
<td>2</td>
<td>Acquisition of Motor Skill</td>
<td>Motor learning theory. Information processing model based largely on the work of Richard Schmidt</td>
</tr>
<tr>
<td>4</td>
<td>1</td>
<td>Biological bases of human movement</td>
<td>Exercise physiology, dealing mostly with physiological and bio-chemical responses to training usually at the elite level</td>
</tr>
</tbody>
</table>

The participants of the study were introduced to the repertory grid technique in a pilot study. This technique was used to chart the process of physical education teacher development, and the development of identity through knowledge over a period of two and a half years. The participants were therefore involved with repertory grid for a considerable period of time. The life history technique was conducted in the final semester of the participants' course. The discussions were loosely structured interviews or more accurately conversations where the participants' school life, home life as it affected involvement in physical activity, and sport, which was a common feature among the participants. Learning conversations after each repertory grid were undertaken to get students to account for their grids.
<table>
<thead>
<tr>
<th>Unit name</th>
<th>Indicative content</th>
</tr>
</thead>
</table>
| Perceptual bases of play games and sport    | 1. Socialisation in sport – socialisation in and by sport  
2. Patterns of participation and persistence in children  
3. Motivation  
4. Readiness for participation  
5. Sport and politics  
6. Women in sport  
7. Sport and racism  
8. Sport, physical education and hegemony  
9. Funding for community and elite sport  
10. Sport, business and the media  
11. Drugs and sporting performance  
12. School physical education at the primary level and the articulation with sport in the Australian context |
| Advanced curriculum studies in physical education I | 1. Pedagogy in physical education including, Maslow's Spectrum of Learning Styles, Teaching Games for Understanding, Sport Education. These were taught in both theoretical and practical session, which included demonstration type sessions and microteaching.  
2. Lesson planning, program planning and development of schemes of work based on curriculum planning theory – largely objectives driven. Also alternative forms of planning based on human interest and community locations.  
3. Assessment in physical education and recording achievement. This included ways of monitoring performance and considerations of other learning outcomes in physical education. Physical work time in making judgments about physical performance based on a range of planning objectives |
| Kinesiology                                 | 1. Study of the musculo-skeletal system. This included types of muscle, structure and function of muscle, origins and insertions and reversals under contraction, types of contraction (eccentric and concentric), isotonic and isometric work. Use of certain muscles in bringing about certain motor actions. Study of types of bones and muscular attachment. Function of the skeleton, function of joints and various articulations.  
| Advanced curriculum studies in physical education II | 1. Ideology, education and physical education. This unit drew significantly from what was called by some the Deakin Perspective. The work of Timms, Kirk, Dero and Mackay (Australia), Helliwell (USA) and Evans (UK) were particular scholars that featured in the unit. From outside of physical education the work of Gellman, Apple and Shkov was featured.  
2. A critical pedagogy approach was taken in order to contrast with the behavioural aspects of the previous unit in curriculum studies in PE. Aspects of scientific pedagogy were critiqued and this included an analysis and critique of the ALT-PE research agenda from the 1980’s. There was an informal in-school experience with this unit |
| Acquisition of Motor Skill                  | 1. Information processing model based largely around the work of Richard Schmidt. This included work on setting up the model by which consideration was made of Reaction Time, Hick's Law, motor control processes, Adams' Closed Loop Theory, Open Loop Theory, Motor Programs, Schmidt's Schema Theory. Patt's Law and other classic experimental work were considered.  
2. The procedural variables represented the second half of the course and this included a full study of feedback, an analysis of practice and the transfer of training. A portfolio of mini-experiments was part of the requirement for this unit |
| Biological bases of human movement          | 1. This unit was based largely around material that has been previously called exercise physiology. The content of this unit involved study of the biochemistry of exercise and an understanding of physiology at both the systems and cellular level. There was detailed analysis of the energy systems of the human body and this included the cellular function of muscle contraction.  
2. There was also work done at the systems level and material covered the cardiovascular and cardio-respiratory systems. There was experiential work on max VO2, fatigue, and lactate acid build up. These were studied in terms of the effects of various training methods. There were comparisons between different athletes from different sports. |

I have noted elsewhere (Rossi, 1994) that such learning conversations are the essence of repertory grid technique and personal construct theory. In a sense it fulfils the therapeutic role of construct theory though clearly in a different way. Here we are not
seeking healing (an interesting thought in itself) but rather we are seeking understanding.

**Organisation of the Research**

*Timing of the Repertory Grid sessions and the learning conversations*

The grid sessions and learning conversations were distributed throughout the participants’ course work and coincided roughly with the conclusion of a unit of study. It wasn’t always this precise as other events took them off campus from time to time, most notably teaching practice. So there was a repertory grid sessions and conversations are shown in table three.

**Table 3: Timing of repertory grid and conversation sessions**

<table>
<thead>
<tr>
<th>Session</th>
<th>Point in course</th>
</tr>
</thead>
<tbody>
<tr>
<td>Session 1: Introductory session</td>
<td>Year 2 towards end of semester 1 (nearing end of kinesiology unit)</td>
</tr>
<tr>
<td>Session 2: Consolidation</td>
<td>Year 2 towards end of academic year. Curriculum unit almost finished – this has included a physical education in school experience</td>
</tr>
<tr>
<td>Session 3: Re-engagement</td>
<td>Year 3 towards middle of semester 2 during Acquisition of Motor Skill unit</td>
</tr>
<tr>
<td>Session 4: Final Grid</td>
<td>Towards end of academic year prior to going out on teaching practice</td>
</tr>
<tr>
<td>Review: Final conversation and life history discussions</td>
<td>Upon return from six week teaching experience based in rural and isolated communities</td>
</tr>
</tbody>
</table>

Session 1 was identified as early in the project, sessions 2 and 3 were the middle of the project and the final grid session and the final conversation and life history were altogether, considered the end of the study.

**The changing relationship**

I worked with this group of students for the first 18 months of their course. After this however I spent no further time with them in a teaching capacity during their last five semesters. I therefore had no influence over their grades or other forms of progress during this part of their course of study. This brought about a change in the relationship between the participants and myself. The power distribution within the context of relationship was probably uneven though it was shared (Foucault, 1980). For example, the students did have the power not to attend the research sessions, and
on occasions this happened. This was part of the agreement. Also, the participants had great power with regard to what they were prepared to share with me. In the early stages this was tentative but by the conclusion of the study, after mutual trust had built up, the students shared much of their lives including their concerns, their relationships and other intimate detail with me. Hence, the relationship was one that eventually came to be founded on trust and respect. It was necessary to be mindful of what Fine (1994) described when she talked about ventriloquy in research which, she suggested occurs when researchers start to speak for others. Though her argument is mostly related to the voice of women, it is none the less appropriate as a principle and therefore worthy of consideration. She suggested that when researchers attempt to make sense of participant voices within research it could result in academic violence i.e. the voices are violated. The attempts to develop trust were an effort to overcome this and to ensure that participant voice came through and was separated from and might possibly be different from the researcher voice. As Fine (1994) suggested:

The text itself is conceived and authored with a critical eye toward “what is,” attending seriously to local meanings, changes over time, dominant frames, and contextual contradictions. Within these texts, researchers carry a deep responsibility to assess critically and continually our own as well as informants’, changing position. (p.23)

Hence Fine urges us to denaturalise the ‘natural’ to position other possibilities from data that defy the conventional but retain plausibility. In other words she implores the researcher to use the data to tell different ‘tales’ that lie within the research and which are located within the selves of the participants.

**Validating the research**

The questions of validity and reliability necessarily have a different meaning in qualitative research but a meaning that is no less rigorous than that which might appear in the quantitative paradigm. George Kelly for example preferred to think of validity more as *usefulness*. In discussing construct validity Cherryholmes (1988) argued that ‘...Construct validity and research discourses are shaped, as are others, by
belief and commitments, explicit ideologies, tacit world views, linguistic and cultural systems, politics and economics and power arrangements' (p.106). Cherryholmes argued that construct validity must be viewed differently in alternative research. As he said ‘...An alternative conception of construct validity, even though this term is not used, is found in the qualitative traditions of phenomenology and interpretive research’ (p.108). He indicated how for example phenomenological concerns attend to how subjects make sense of the world and in ethnographic forms of research, the power of voice resides both within the subject and object of the research quite simply because they are inseparable.

Sparkes (1992b) indicated that one of the problems in research is that validity means different things to different researchers. This has developed primarily because researchers tend to attach themselves to one paradigm or another and in order to be considered as an acceptable scholar, the adherence to a paradigm is almost a prerequisite for seeing the world in a certain way. Moreover, Sparkes argued that how people see the world, structures the questions they ask about it. In discussing the interpretive paradigm, Sparkes (1992b) suggested:

... interpretivists adopt an idealist-internalist stance that takes reality to be mind dependent. They argue that there are multiple realities and that the mind plays a central role, via its determining categories, in shaping or constructing these. Consequently, there can be no separation of mind and object since they are inextricably linked together—the knower and the process of knowing cannot be separated from what is known (p.34).

Validity then, is more likely to have to do with the sensitivity and skill of the researcher than with the technical nuance of a tool. Validity is an interpersonal issue, aimed not at gaining an omnipotent view of the world but more at trustworthiness and social agreement. It may well be that more than one interpretation will be socially agreed upon. This is potentially a likely outcome in interpretive research. However, this is not a significant problem in that more than one interpretation often provides a richer view than stand alone interpretations. (Harris, 1983) Sparkes (1992b) has
reminded us ‘...Therefore, for interpretivists there are no absolute minimums to work out differences in interpretations since the hermeneutic process has no definite beginning or end and contains no specific procedures or established criteria to determine who has got it absolutely ‘right’ or true?’ (p.37).

Jacob (1988) supported such a view suggesting that qualitative research means different things to different people and hence there is no one approach. This, she argued, has been a source of much confusion within the research community. Her paper focused on what she refers to as the traditions of qualitative research of which many are listed. This, she argued, leads to differences in views of, for example, the subjective nature of human behaviour, this in turn leads to there being varying ideas on how best to come to know. To argue a case for validity is in many respects meaningless given the multiplicity of method. To suggest that any method of inquiry is valid because it is objective is, Smith (1988) argued, itself invalid. He argued that objectivism rests on the notion that reality is ‘out there’ and is independent of human action. Smith suggested that objectivism is an attempt at the apprehension of reality but it is impossible to apprehend reality as it is constructed by human activity that is capricious, uncertain and fallible. He hence argued that research must have a more relativist approach but notes the scepticism within the research community:

The basic argument is that fears often expressed in regard to relativism have force only if one assumes that social and educational inquirers can objectively ground their knowledge claims. Once one realises that objectivism is impossible, even for methodologically sophisticated approaches to inquiry, relativism can then be seen for what it actually is - the inevitable consequence of our hermeneutical mode of being in the world. (p.18)

Lather (1994), when talking about validity, suggested that within the mask of methodology, validity is about representation as representing what she referred to as the web of structure and the sign and play of social relations. She argued further that these:
... are concerns that decenter validity as being about epistemological guarantees. Such postepistemic concerns reframe validity as multiple, partial, endlessly deferred. They construct a site of development for a validity of transgression that runs counter to the validity of correspondence: a non-referential validity interested in how discourse does its work ... (p. 38).

Personal Construct Theory has had to endure criticism in the past, largely because the research tools that emerged from it were said to lack reliability and validity. Such claims can only command legitimacy from a positivist, empirico-logical construction of knowledge and the research process. In studies of this nature, such matters are of less importance. The aim of research such as this is to illuminate, portray, and to describe the specific or the individual in order to allow for the broader communication of idiosyncratic experiences and existences to a larger audience. The point is not to attempt to decipher, control and replicate but to explain and communicate the experiences of others in a way that contributes to a broadening of communal understanding.

Munby (1984) argued that knowledge generated in this way is particular, contextual and specific. It may well be that the knowledge is generalisable, but that is neither its explicit or implicit purpose. As indicated earlier, Kelly (1955) preferred to think of validity in terms of usefulness and understanding. In his view if a test (his word) provided a greater understanding of a phenomenon such as the mysteries of human subjectivity and was useful in uncovering such understanding then he viewed it as valid.

Fransella and Bannister (1977) further addressed the criticism about reliability particularly of the repertory grid technique by asserting that ‘... it makes no sense to talk of the reliability of the grid... because there is no such thing as the grid. Given the multiplicity of form, content and analysis for extant grids (and envisaging the many kinds of grid that have not yet been invented) it is clearly nonsense to talk of the reliability of the grid’ (p. 83).
Kelly himself described reliability as '... that characteristic of a test that makes it insensitive to change...' (Fransella and Bannister 1977, p.82), and it would seem that the only real sense in which reliability of the repertory grid technique emerges as an issue is, as Fransella and Bannister (1977) put it:

... to regard 'reliability' as the name for an area of inquiry into the way in which people maintain or alter their construing (of reality) and to estimate the value of the grid not in terms of whether it has "high" or "low" reliability but whether or not it is an instrument which enables us effectively to inquire into precisely this problem. (p.91)

Kelly (1955) argued, if you want to know what is wrong with someone, ask him/her. Not wishing to paraphrase Kelly too much and being mindful of the therapeutic context in which he was located, my question becomes, if you want to know something about the experience of becoming a physical education teacher, ask them. I would argue that useful information might be generated by such a question that may lead to a better understanding of physical education teacher education and possibly teacher education more broadly.

**Analysis of the data**

The data were analysed in several ways. There was no sequence and each part of the analysis developed with other parts. There was no lock step process. The grids were interpreted as partial stories and represented as text. They were also analysed by the participants and the shared analyses formed the basis of the post grid conversations. My interpretations of the grids as stories are included in the data.

**Reading Repertory Grids**

To the uninitiated, repertory grids can seem like a complicated jumble of lines and numbers. The complexity in repertory grids is really in their meaning that is something resolved between researcher/therapist and the participant. For the casual observer, reading a grid is relatively straightforward. The construction of a grid is explained in appendix A. from here, the reading of a grid is easy to follow. Basically
a grid is a series of poles brought about by the construction process. The pole is in fact bi-polar (it has two ends) which are labeled in a certain way. The labeling of this pole is the fabric of the construct. Between the two ends are strung the elements their rating (on a numerical scale of 1-5) indicates where the participant placed the element on the pole. An element with a rating of 1 will be closer to the left hand label and five closer to the right hand label. If shaded areas appear on the grid, these mean the elements were not rated either because the participant forgot this step in the process or more usually found it difficult to make up their mind. The reader should refer to the detailed description in the appendix related to grid construction and to the grids related to the study for attempts to read them (see appendix E).

A content analysis of the conversations was undertaken to identify constructions of knowledge and to develop categories or clusters of knowledge under which idiosyncratic examples of individually constructed knowledge could be included. This provided a picture of how knowledge for teaching physical education developed over time.

To analyse the data to address questions of identity, analytical categories were developed from the hybrid theory using Gergen’s (1991) notion of the saturated self, Giddens’ notions of agency and structure (1984, 1987) and self identity (1991). Using both theorists, notions of the dilemmas of the professional self were developed in conjunction with Billig’s work (1988). These are finally presented as a re-theorisation of physical education teacher education in the final chapter. The categories for identity analysis are included in the appendix (appendix B). Whilst all of the categories were used to ‘reduce’ the data, they are not all represented individually. Rather they are woven into a story where some of the categories are highlighted. This is because it seemed artificial to do so when many of the categories were inextricably linked to others.
One of the earliest analysis tasks (post data collection) was to identify four key informants and to use the data to construct four individual stories. The criteria for inclusion were simple:

1. They had to have participated in all or most of the grid sessions and post grid conversations.

2. They had to be willing for their whole stories to be included.

3. I arranged for there to be an even male/female division; and,

4. In my view they had to be representative of the whole group in terms of academic performance, commitment to lectures, tutorials and practical sessions and age.

Ultimately, the stories were not included in the data. The volume of data generated was simply too great to include in that format. Instead, I have drawn on these stories to inform the thematic analysis and the identity analysis. This has not been done to the exclusion of other voices; however, the reader will recognise their names as they appear regularly in the text.

*Overcoming reductionism*

As in most research, in this study the issue of reductionism is important particularly as the grid methodology has been criticised for such (see earlier in this chapter). Any methodology that attempts to create a story from a person’s life is likely to reduce it in some way. The repertory grid as it was used in this study attempted to minimise the impact of reductionism by facilitating independence in the grid sessions. In this sense ant reductionism was decided upon by the participants themselves within the parameters that I set (I set the research context). Other researchers have provided the elements for the participants. Indeed, Hopper’s (1996) study is an example. Researchers acknowledge this when studies are conducted in this way. Very often the
elements emerge out of other work, sometimes from existing literature, sometimes from group work with the participants themselves. There is perhaps no perfect way to overcome reducing data of the sort in this study; it can only be minimised. The control the participants of this study had in the grid sessions was such an attempt.

Kelly's repertory grids have attracted criticism in the past because of the reductionism associated with the grids and their numerical systems, a criticism to which I have already alluded. Indeed Gergen (1991) was particularly critical because he suggested that the repertory grid was a modernist approach to inquiry immersed in the rhetoric of control and experimentation. Other scholars have also argued that the reduction of human behaviour to numbers results in a loss (Shipman, 1997). However, whilst the rating system of the grid can provide useful data, it is a catalyst for other more inter-personal forms of data gathering. If the repertory grid were the only source of data then it would indeed lead to a reduction of people's lives. I do not feel this was the case in this study in that the conversations generated far more data that was drawn on for analysis purposes. One has to acknowledge however that the participants may well have reduced their own lives through the grid, particularly early on in the study when they were uncertain with the software and indeed uncertain with how much of themselves they were prepared to share with me. I have addressed this matter in a previous section where I have talked about establishing trust.
CHAPTER FIVE

KNOWLEDGE FOR TEACHING PHYSICAL EDUCATION: A
CHRONOLOGICAL GRID ANALYSIS

Introduction

For the purposes of representation, the data from the grids were divided to represent the stages of the study. The purpose of this was to indicate change and the evolving story of the group within the study. I decided against telling the individual grid stories as one piece. This was because as I have already indicated, all participants did not construct all of the grids for a variety of personal reasons. Therefore some grid stories are more complete than others are. However, where participants did complete a grid session, it contributed to the overall story of the study. Hence the representation of the data is organised along the lines of early, middle and late segments.

It is also important to point out that all grids constructed are not included in the text. Some are used to illustrate particular points. However, I considered that for all grids to appear in the text would have given a cluttered appearance. Hence all grids generated by the study are included in an appendix at the end of the study (see appendix E).

EARLY STUDY ANALYSIS: INDIVIDUAL CASES

Jeremy

Jeremy’s early grid was very lesson oriented. By this I mean it was very teaching focussed and the elements were not within the conventions that appear to have emerged from this study (it is important to establish whether these are conventions that have been identified by the studied or whether they have been generated by the study). What emerged as important in this grid is that the word ‘theory’ appears
regularly. It is the categorisation of theory that is important in that it is closely associated with the elements teaching styles, feedback, and surprisingly perhaps, a variety of sports. As to whether these are truly theoretical is another matter, for Jeremy they represented his theoretical thinking at the time. For Jeremy it is not clear whether in variety of sports he is referring to knowing about them or being able to perform them. Later in a discussion generated by this grid is was apparent that he was referring to the ability to be able to perform a variety of sports skills.

The notion of ‘attitude’ also figured strongly for Jeremy who includes a pole on one construct called ‘personal view’. Elements closely associated with attitude are; giving children confidence and winning is not everything. This places children centrally when developing his thinking about teaching physical education. Yet there are dilemmas, and these were related to knowledge that is perceived as ‘needed’. Perhaps as might be expected this early in the study, there was preponderance of what could be called ‘must have’ knowledge. What did emerge from this is that Jeremy identified knowledge, which he considered to be pertinent for conditions of what he called ‘pre-lesson’. Here he was referring to ‘being aware of children’s needs’, and ensuring that there is an understanding that ‘winning is not everything’.

From the Focus Grid it could be said that the central themes were:

1. How the knowledge of the teachers is related to the activities and other events that occur in the lesson.

2. The relationship between teaching and the children being taught.

Jenny
On Jenny’s early grid there were interrelated themes that were located around the three broad foci of the grid. These were represented by:
1. Potential of an individual;
2. People; and
Knowledge of sports skills (which as her interview concurred) referred to the ability to actually perform physical skills which are related to sport. It seemed that performance (if not performance pedagogy) was a significant factor of the grid. What was perhaps more important about the knowledge of sports was that is seemed to be separate from sports theory which sets up an interesting dualism in that according to the grid at least, one is not informed by the other. This may be unfair as the literature in PCT does suggest that the poles of a construct should not be regarded as opposites. However, in terms of how the elements are aligned, this seemed to be the case in terms of how these poles were identified.

The Focus Grid indicates three major areas of influence:

1. Involvement in physical activity - people centred;
2. Sport – people; and

It is easy to see that a commitment to people was deep within Jenny’s thinking. It is important to consider an important methodological point here. This may give a false impression as it may simply reflect how many times the element socialisation came up in the triads. However, the fact that socialisation was identified as an element in the first place is a mediating factor.

Natalie
For Natalie there was predominance of the notion what children need in terms of skills, rules of games, knowledge of sports etc and the match of such needs with teacher knowledge. Teacher knowledge therefore was a reflection of pupil need and this was best captured in construct 5: what subject area is to be taught - what
children need to know. There was support for this in the focus grid, which indicated that there was a relationship within the elements that pointed to the importance of curriculum. Hence it appears that it is the curriculum that governs what children appear to need to know. This could be regarded as non-risk strategy. The curriculum then appears to be something of a regulatory discourse (Bernstein, 1996). This indicated suggestions about Natalie's professional identity.

Figure 1: Natalie - Focus Grid 1

Denis
The elements of the first grid were difficult to categorise under the system I had identified. Since many sat outside of the conventions and protocol I had established, the range of constructs were also likely to be diverse (from the group). This was so, yet in spite of this, there was great commonality among his own constructs and the cluster analysis both in picture form and in the correlation. See Fig. 2

The importance that Denis attached to Common-sense Teaching cannot be overstated and it had a profound impact on the construction of the grid. This was particularly so when it was paired with Principles and Philosophy (element 8) as this had the effect of indicating a 'matter of factness' about teaching.
The influence of some of the biophysical science was apparent, but not overwhelming. Denis did indicate an importance for understanding children and going through the grid this appeared to relate to physical growth and development which is perhaps more implied but certainly present. Again it is important to note that no such course work existed in his physical education course.

What was also important however, is the proximity (rated 4 or above) of the notion of Own Theories and Beliefs to Knowledge of Children (element 7), Principles and Philosophies (element 8), and Common-sense Teaching (element 9). This suggested
that they were seen as being very closely related, and this is shown on the cluster analysis.

The cluster analysis for the grid suggested four main clusters and these could be described as:

1. How children’s bodies work, mechanics of movement;
2. Understanding children;
3. The relationship of children and physical education; and
4. The relationship between teaching physical education and children’s understanding of it.

The cluster analysis se suggested two overarching areas with might be seen as meta-constructs:

\[
\begin{align*}
\text{Practice Related} & \quad \text{Theory Related} \\
\text{Teaching of Sport} & \quad \text{Body Functions}
\end{align*}
\]

Sarah

It is interesting that even though this grid was created early in the study it had a very strong managerial influence, a feature of Sarah’s involvement with the study. The elements for this first grid show that there were two that allude directly to this element 7, \textit{Need to design suitable lessons} and element 6, \textit{Need for planning}, the influence of this aspect became obvious. Others did allude to this but not to be this early on and without such a commitment. The cluster grid identified three clusters, two of which include planning. Two also included children or a knowledge of children that again is a common feature of the study. Two also included movement or an understanding of movement. Again this was common in the study. So the clusters that could be formed around some meta-construct relationships were:
Fig. 3. Sarah’s First Grid Meta-Constructs

<table>
<thead>
<tr>
<th>Knowledge of Children</th>
<th>-----</th>
<th>Understanding Movement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knowledge of Children</td>
<td>-----</td>
<td>Lesson Planning</td>
</tr>
<tr>
<td>Understanding Movement</td>
<td>-----</td>
<td>Issues Related to Planning</td>
</tr>
</tbody>
</table>

What is important to note is that as the focus grid showed, understanding the mechanics of movement was quite isolated as an element. However, it managed to exert considerable influence in how Sarah put together the constructs.

Tricia

Tricia’s first grid was heavily influenced by one element. This was *Understanding of Human Movement*. From the focus grid (see appendix E) it was apparent just what an impact one element had. However, we cannot dismiss the influence. Elsewhere, biomechanics has been referred to as ‘flavour of the month’ but the influence on Tricia at the time was significant. This was consistent with the whole group and since the starting point of this study coincided with the group studying kinesiology, this importance of this cannot be overstated. However, it is interesting that in Tricia’s case by the time of the interview there had been another mediating experience in her life. As part of another unit of study in the physical education major, she had been reading Michael Apple’s work and the technocratic forms of educative practice (in this case physical education) were being questioned. For this grid however, not only was it overwhelmed by a scientific discourse, but it was also imbued with a sense of efficiency. It can be seen that this stays with Tricia to greater extent in terms of time and importance than does biomechanics.

The grid was also influenced by something Tricia calls ‘opportunity’, which was explored in the grid and was influenced, by the element *Maximise physical education opportunities for children* (element 3). This similarly had a powerful impact on the grid. It shows really, that in spite of the technocratic nuances on this grid, Tricia is
another who places children (rather than subject matter) close to the centre of her thinking about teaching physical education. In some ways this was a tempering influence. Again, practical knowledge was absent completely.

**Carrie**

Carrie was another to place emphasis on the developmental aspects of children, even in the absence of such course work. Grid number one for Carrie was void of any mention of human movement science. Also, and just as importantly, neither was physical competence or practical knowledge mentioned. Children were at the heart of this grid a theme which as it transpired, was to dominate Carrie’s thinking throughout the project. The issue manifested itself in this grid as a relationship, a relationship with teachers. There was a catch however, and this relates to the element *Variety of background knowledge* (element 1). This was full of ambiguity but seemed to relate to the knowledge said to underpin teaching in physical education. There could be two reasons for this. Either she did not recognise such knowledge as important in its own right or she was uncertain of such knowledge and she disguised this by lumping all the so-called discipline knowledge under a nondescript pseudonym. The effect that this particular element had on the grid is interesting in that it was placed within poles that are identified as ‘teachers’ knowledge’. Importantly, at a later time in a post grid conversation, she was curious about knowledge that I was interested in (as a researcher) given that she felt she possessed none of it. It is important to note that it is possible that the reason for disguising discipline knowledge under such a broad banner might was to conceal her fear about, in her view, not knowing any of it. Alternatively it might just have been perceived as unimportant and hence claimed no special treatment or privilege. This is not what came across in the conversation.

**Paula**

For Paula, the main clusters of elements on the grid were as follows:

1. Human movement/biophysical knowledge;
2. Administrative competencies/knowledge; 
3. Pedagogy; and 
4. Psychological knowledge.

All of these might legitimately be considered as pedagogical content knowledge. However, there seemed to be no pattern to the knowledge that was identified. In other words, the importance of biomechanics was identified as a way of analysing and qualitatively describing movement. However, it did not seem to be considered as pedagogical knowledge for teaching physical education. Anatomy was identified as important knowledge as it appeared to underpin biomechanics. Again this is not unreasonable but from a point of view of knowledge construction, it appeared to contribute little to knowledge for teaching physical education. For Paula, knowledge for teaching physical education was separated from the knowledge of physical education and though they are not opposites in the literal sense, they were placed at opposite poles on the grid. However, they do not come together in any meaningful way. The separation of knowledge in Paula's case (the case of this early grid), occurs along the lines of the how questions within physical education (e.g. how to perform certain physical activities, or how to teach the performance of physical activities). This was set against discipline knowledge within physical education but only within the limitations of anatomy and biomechanics.

Conspicuous by its absence was philosophy and/or curriculum. There is no mention of either curriculum theory, or knowledge of the curriculum (read syllabus) and it did not come into the grids at all nor do they appear in the grid conversations. The researcher did not introduce these matters. However, it was noticeable that other members of the group had expressed such concerns at this stage.
MID STUDY ANALYSIS: INDIVIDUAL CASES

Natalie

Most of Natalie's second grid centred upon the notion of *stages of readiness*, as many of the elements were related to stages of development. There was great similarity between constructs where the element *Understanding of a range of perceptions of PE* was one of the poles.

However, teacher knowledge within this grid was more about developmental stages of children. This was related to moments of readiness for skills teaching. The curriculum was more implied in this grid. Teachers' knowledge seemed more closely associated with what skill to teach and when. This was therefore closely associated with performance pedagogy (Tinning, 1991). The perceptions of PE were related to structural constraints like type of school, type of community and expectations on teachers to produce certain things and to teach certain things.

On the focus grid it was clear that there was a strong relationship between many of the constructs. There were two possible reasons for this:

1. The element *Perceptions of PE* skewed the data or;
2. The social constructions of these perceptions are powerful and every time they emerged in the triad, there was an acknowledgment of the political aspects of how physical education might be perceived.

The elements were largely to do with physical growth and development. This is important as they occurred significantly within all grids and yet, as I have already indicated, within physical education there was no formal course work related to this area. The main thrust then was when certain skills and knowledge of them can be developed but also how such skills are governed by the rules of games.
Denis

By grid two Denis was using more sophisticated language and again the grid was very closely clustered suggesting that there were consistent lines in Denis's thinking about physical education. Knowledge of body and knowledge of children remained prevalent. This was useful in that it does portray certain thought processes. What emerged is that mechanics as a source of knowledge is about the body. In this sense, Denis separated it from knowledge for teaching physical education, and yet in construct 21 (see Appendix E) he associated it much more closely with teaching physical education. This tendency for Denis to set up dualisms was consistent with his thinking throughout the study. This is not to suggest that it was in any way blurred, but the process of the repertory grid certainly made Denis revise his thinking frequently. Elsewhere I have described this phenomenon as the RepGrid providing a reflective space (see Rossi, 1997). What was important, was to see if these are the consequences of the double hermeneutic and the dualities of structure or simply whether the technology of the self-facilitated through the repertory grid in fact induces dualist thinking.

Denis further suggested through the constructs, that understanding children was best brought about, by being able to recognise change. From this there was an explanation that coming to understand children also brought about changes in personal philosophy. There is something of a double reflexivity here. Moreover the attachment of these suggested an understanding of growth and development and yet this was not couched in biomechanical terms but in developmental terms again alluding to academic work that is not part of the course work undertaken for the specialisation in physical education. The configuration analysis shows that the clustering was not as tight but much of the clustering which does exist, focuses on personal philosophies (see Goodman, 1988).

The major thrusts of Grid 2 then can be seen in figure 4.
Fig. 4 Major Theme Configuration from Denis’s Second Grid

{ understanding children }
{ }
{ Philosophy | }
{ Teaching | Knowledge of sport & }
{ Physical Education | Rules }
{ | }
{ Biomechanics }

Sarah
At the mid-point of the study, Sarah had developed a far more sophisticated set of elements and they were far more extensive as well. It would be reasonable too, to suggest that they had many of the influences from the previous grid. However, a new dimension had emerged in Sarah’s thinking. This was related to the community. In this regard, Sarah was mindful of what she considered to be an important source of knowledge, which was really the perception of physical education, held by the community at large. The elements gave a good indication of this (refer to appendix E)

It also emerged from this grid that teacher education is in fact not a low impact endeavour but has in fact had a significant influence. What is necessary to note however, is that the elements most closely associated with teacher education on the grid were Teaching strategies, Movement analysis, Content of lessons and how to teach it, planning – sequencing, and resources - management and control - effectiveness. This suggested a somewhat technocratic interpretation of teacher education. In this respect it was evidence of resistance to other ways of thinking about physical education. Certainly it was consistent with how Sarah had constructed her experiences at university contrary to being offered courses which critiqued
technocratic forms of education (including physical education). However, it appeared that it was this aspect of teacher education that has had a low impact.

So planning and managerial tasks were central to Sarah’s thinking, as was some form of appeasement of the community. Looking at the focus grid, the emphasis on children had receded into the background.

**Tricia**

In Tricia’s second grid, management was still a strong feature and this emerged through the emphasis on efficiency, which similarly was repeated from the first grid. Perhaps a distinguishing feature was that by this stage management was referred to more frequently as ‘effective’. This adds a more human touch and is more consistent with Tricia’s commitment to children. This was manifest in her element *maximise learning experiences for students*. This also emerged in the constructs under the general theme of the acquisition of skill. This was not mentioned as part of her course work even though it was. It was more a case that if all the resources in the learning situation are well managed, then the learning experiences will be enhanced and there will be more skill learning that can be facilitated. The focus grid in fact showed this better. What was curious about this part of Tricia’s story was that in the first conversation, Tricia was aghast at the level of technocratic rationality in which her first grid was submerged. It is also important to note from the focus grid that *background factors* appeared to include *Diverse stages of development* (element 7), and *Maximising learning experiences for students* (element 6). What also emerged onto this grid was the notion of hidden learning and this was confined to the constructs rather than the elements indicating that it was within her thinking about teaching in physical education.

**Carrie**

The focus grid showed a very close clustering of the construct and the elements. The grid itself was far more extensive and demonstrated a far greater depth of thinking.
The content knowledge of the physical education teacher was in greater evidence within the practical competence and practical knowledge areas on this grid. The child however continued to be central to the whole grid indicating that it did indeed occupy an important place in Carrie’s thinking. Again however, there was some, what I have called disguise, to this grid. The actual element that suggested this was element 5; Teachers need some knowledge of theory of PE. Again, this represented a catch all term, which could mean anything that perhaps works conveniently for Carrie.

Construct 11 is worthy of detailed attention. It had the quality of personal construction about it, i.e. a contextually framed interpretation of what is at the other end (pole) of the construct (content based knowledge).

However, construct 20 was required attitude - caring attitude. At the required end, there were elements that might be regarded as being about ‘content’ it suggested that these lie within an expected construct.

Importantly, children again were at the core of this grid, but this grid perhaps offered a more defined aspect and really it was about the effect of PE on children. This was perhaps more easily seen on the focus grid. This was far more tightly clustered than grid one.

Paula

For this turn at the computer, Paula generated a more highly developed grid but with an emphasis on administrative competence making a much stronger appearance in the elements. This represented an increase in the level of managerialism of pedagogy and this was certainly the case with Paula. In keeping with a managerialist pedagogy, effectiveness emerged as a key concept. Paula felt able to suggest that effectiveness could fall on the same construct (i.e. on the pole) as Awareness of physical and anatomical structures - Not directly involved with lesson procedures.
Figure 5: Carrie’s Focus Grid 2

FOCUS NUMBER 2:  Construct 10, Range 2 to 5, Concept: knowledge for teaching physical education.
Construct two was interesting in so far as the students (i.e. pupils) appear, according to Paula to affect lesson content. Yet she suggested through the construct, that whilst enjoyment is important, it is not a factor in the determination of the content. There was something of a contradiction here and enjoyment was couched in humanist terms though clearly its impact of what should be taught was negligible.

The general foci of this grid was:

Pedagogy---------Discipline Knowledge--------Administration/Management

LATE STUDY ANALYSIS: INDIVIDUAL CASES

Jeremy
Jeremy's later grid showed a dramatic change. Children were still clearly important and were represented significantly within the grid, and elements 2, 4, and 5 play a big part here (Catering for children's needs and learning styles, Giving children confidence, and Promoting physical education as a valuable part of children's lives). What emerged was the overwhelming influence of syllabus documents and so-called curriculum requirements. It was clear that Jeremy was setting great store by what he saw in his elements at this time as fulfilling the requirements of the Department (element three). The influence of this element on the grid was significant and it was reflected in later conversations. In this sense the structures of the Department appeared have something of a surveillance (or panoptic) influence.

The focus grid for this can be interpreted as indicating the complex relationship between, child centred education/pedagogy, the perceived requirements of departments of education as manifest in curriculum and syllabus documents and the long and short term pedagogical goals a teacher might set him/herself.
Jenny

There was a significant difference that emerged in this grid. There was far greater synergy between what she regarded as theory and practice and this was particularly noticeable in constructs 1, 4, 5, 11, 15, 17 (and implicitly others - see Fig. 6). Another important change that emerged was brought about by the addition of a new element, knowledge of and ability to use syllabus documents. In this sense, did not see herself as a curriculum constructor, rather as a curriculum implementer and this resonates with Giroux’s (1985/88) notion of the teacher as technician. Since most curriculum documents (in Queensland) are attempting to move away from such a dictatorial stance (e.g. the trial syllabus for Physical and Health Education, 1-10), she may be constraining herself by such faith in structural edifices.

Figure 6: Jenny’s Second Grid
Where the syllabus issue governed a pole descriptor, it was seen as the theory base for teaching (construct 15), and the theoretical bases for practice (constructs 13, 11, 9 and 4).

It is important to note that children and people maintained importance on the grid. The knowledge of skills (as in physical skills) had largely disappeared to be replaced by what might loosely be called *professional skills* (such as organisation etc) or the managerial aspects of pedagogy. Even so, the advent of managerialism onto this grid was undertaken with the best outcomes for children firmly in mind.

**Natalie**

The bulk of the elements on Natalie's final grid related to programmatic factors. This was an increasing trend over the later stages of the project. The persistent elements were still couched in *developmental* terms. What emerged strongly in this grid (perhaps in terms of a meta-construct) was the notion of *children - program*. The programmatic emphasis tied in closely with the previous grid where the perception of physical education was very much seen in terms of what should be taught and how.

On this particular grid, there appeared to be little relationship between the constructs. This arose as Natalie this time generated a large number of elements. This perhaps tells us as much about how she is thinking about physical education as the constructs. Even though they fell within similar categories of knowledge (see appendix C).

The construct *Professional Obligation - Personal Attribute* is an interesting construct to pursue further, in terms of what it might mean. The notion of being professional was much more apparent within this grid consistent with the rest of the group. The issue of *being* a professional assumed greater importance and certainly greater urgency.

**Denis**

Denis's final grid was conducted under reluctant conditions. He felt he had a lot to do as it was close to the point where he was about to leave for his rural teaching practice
which was a considerable distance from the university. Even so many constructs were generated. However, there was little difference between the two later grids. There are some points worthy of particular note. In construct 16 (see appendix E), the emergent pole (on the left hand side of the picture) was identified as *Knowing what to teach and effectively*. The ratings of the elements showed that this pole description was assigned to the element *Knowledge of Sports/Activities* in the triad. The suggestion here is that teaching effectiveness was closely associated with knowing about sports and how to perform them and is in many respects reflective of the traditions of physical education teacher education. This was not how the course was designed or taught. This in turn suggested that for Denis, PETE has been a low impact experience since these views were consistent throughout his participation in the project. However, data from the interviews suggested that PETE has had a far greater impact than the grid suggests. For Denis then, the grid perhaps generated a counter narrative in this respect. In construct 22, this was disputed in that the configuration shows how biomechanics is still closely associated with knowledge of sport and physical education. It is significantly the only human movement science that persisted through the study for Denis (in fact it is the only one that has made an appearance). What should be noted is that physical growth and development was now mentioned explicitly and the notion of curriculum also emerged in the formal sense, replicating what has happened for most of the other participants. Again, the notion of curriculum did seem something of a regulatory discourse. In common with the other participants, the emphasis was on how it provides information on *what* to teach, and therefore represented knowledge about *the* curriculum (or more accurately syllabus) rather than knowledge of curriculum theory.

**Sarah**

For the third time, physical activity, sport and physical education are conspicuous by their absence. Overwhelmingly, the greatest store was set by management tasks, planning and organisational issues particularly related to notions of program. Again this is consistent with the general trend within the project and seems to reflect some
anxiety about being in the field as a paid professional and having to be able to program physical education. Pedagogy emerged more clearly defined but it is clearly regarded with a lower level of importance rather than being part of the same thing. Aspects of practical knowledge (that is of physical activity) had something of a taken for granted quality about it. The overwhelming influences with regard to a meta-construct were:

Community interests - Planning and organisation

For Sarah the power of the community remained steadfast but it is the relationship to her planning as a teacher that made it more interesting and this emerged in the later discussions.

Mechanics of movement was reduced very much to a 'matter of fact' part of teachers' knowledge. This can be viewed in two ways. First it could be seen that it lacks importance and has been placed into the background. However, secondly it could be seen as an implicit awareness of the mechanics of movement, subsumed into the complexity of physical educators' teacher knowledge without special privilege.

There was close clustering of the constructs that showed an emphasis in Sarah's thinking which relates to issues of community, planning and management.

Tricia
For this final grid which was close to graduation new elements emerged and consistent with the general trend of the study these related to what might loosely termed professional issues. Hence within the elements could be seen Awareness of current trends in physical education (element 6), Awareness of professional responsibilities and roles (element 7) and an awareness of the hidden curriculum (indicated by element 3). These all became formalised (rather than implied through the constructs). These were in addition to many elements that have been
Figure 7: Sarah's Focus Grid Three

[Diagram showing a grid with various elements and their relationships]
retained and this gave rise to a new grid and therefore new set of constructs. So the major issue that emerged as important was that knowledge for teaching physical education seemed to relate to the notion of being, or at least becoming a professional. There was evidence which points to obligation in teaching being of both a moral and a professional nature. These ideas were manifested by the notion of the acquisition of motor skill being commensurate with physical growth and development. Again this pointed to child development as being an important area of teacher knowledge for teaching physical education.

**Carrie**

The third grid was nothing like as developed and was conducted at a time of high drama and some stress. It was final teaching practice looming, and the impending graduation. Carrie was also getting married which was something else for her to think about. Even though there were more elements, the grid was not as tight and the focus grid is similarly dispersed. It was apparent that sensitivity to children remained paramount to her thinking. This fits with how she saw herself as a role model. This is further explored in the conversations based text.

**Paula**

The elements could be grouped as follows: pedagogy, psychology, and admin and management. The humanist element of enjoyment was removed. This may however have been more to do with a level of professionalism moving into the thinking and the place for enjoyment perhaps being taken for granted and not being made explicit in professional issues.

The newer aspect to the grid was the psychology and it appeared in the form of motivating students and in developing an understanding of children's cognitive abilities. Feedback also appeared as an element. Whilst this might be a psychological construct it could also be regarded as pedagogical knowledge. Pedagogy made a
bigger impact and this was in line with the interview data in terms of the sequence of interviews.

Jill

It is important to note that Jill was the only person to put Socially Critical on the list of her elements. The effect that this had on the grid is marked in two places; Construct 3 (Curriculum components - Curriculum delivery) and construct 6 (Focus on curriculum delivery - Focus on the learner). There was also an effect on construct 10, Cognitive emphasis - Sociological emphasis. There are two important aspects to this. The first is that the pole curriculum delivery was identified in both a sociological perspective and a technocratic perspective as can be seen in constructs 3 and 6. This was not to Jill’s detriment. Rather, it shows Jill was able to see a necessity of being effective in curriculum delivery but at the same time see that process is a sociological one. The second important point is that Jill was prepared to identify there being cognitive aspects to teachers’ work as well as sociological. Whether her Cognitive emphasis (construct 10) as she called it is a social construct requires more analysis.

Jill did relate sporting ability (one of her elements) to the teacher’s physical ability. In the subsequent conversation for this grid, she was unsure of this arguing to begin with, that the teacher should be able to perform all of the tasks. She tempered this view subsequently. Interestingly, Jill appeared to be far more oriented to the subject than other participants and children did not get such an emphasis as was seen elsewhere in the project. She was also the only participant to make reference (albeit implicit) to the subject matter knowledge of exercise physiology (see element 4). It was however, identified as teachers’ ability as a pole to a construct. The focus grid showed that the principal themes of the grid are curriculum and its delivery and teachers’ ability.
CHAPTER SIX

KNOWLEDGE FOR TEACHING PHYSICAL EDUCATION: 
A CONTENT ANALYSIS OF THE THEMES FROM THE INTERVIEW DATA

MAJOR THEMES AT THE BEGINNING OF THE STUDY

Human movement knowledge
In this early part of the study, the grids and some of the conversations were replete with the virtues of human movement knowledge in the form of biomechanics (as a particular strand of the kinesiology course that the students had studied). It is perhaps important to indicate at this point that biomechanics in particular was a persistent strand of knowledge throughout the study. It does beg the question why? This is not to suggest that it is an unimportant facet of discipline knowledge for students of movement. The question is really why was it more persistent than any other form of human knowledge that the students would have encountered? The answer seems to lie within the language it provided for movement analysis. It is the analogy of a ‘tool’ that perhaps captures the importance it retained throughout the study. It was more of a tool in terms of teaching than any other sub-disciplines. This early in the study however, its major impact was that it had been studied fairly recently and therefore appeared to have great significance and appeared with regular consistency across all of the early grids.

There is some discrepancy however between the presence of biomechanics on the grids and how it emerged in the conversations. This is attributable to the time lag between the grid construction by the participants and the post grid conversations for some of the students. However, the residual effect of biomechanics in the conversations (and as I have indicated throughout the study) is highly noticeable. Jenny suggested (albeit much later), that the early presence of biomechanics was
because it was being studied at the time. However, she was prepared to argue at this early stage that an understanding of movement is essential for being able to provide children the means to do it (physical activity) and secondly from doing it, being able to enjoy it. So for Jenny, the enjoyment of physical activity (as it appears on a school curriculum) emerged through the successful performance of it and that further enjoyment comes from improved performance. In many respects this placed Jenny within the realms of a performance pedagogy as described by Tinning (1991). While this was apparently so, Jenny, like many of the participants in the study embraced this form of knowledge seemingly not for elitist reasons but because it provided a way for them as teachers to make the curriculum movement activities more meaningful and therefore more enjoyable. In a way then, the mechanics of movement assumed essentialist qualities and in this sense the essentiality of biomechanics takes on something of a regulative discourse (Bornstein, 1996).

Jenny's notions of what she called sport theory also fell into a similar category. It was a narrow construct that emerged, and was in fact framed within biomechanics. The narrowness of this frame may have something to do with her narrow experience at this time or safety in the construal, her ontological security if you will. Interestingly, sport theory did not appear to include socio-cultural aspects of sport and physical activity that had also been undertaken early in the teacher education course. This security may not be in the knowledge itself (that is she actually knows the biomechanical aspects of human movement) but rather in identifying what knowledge stands for sports theory. Clearly however, for Jenny at this time, sport theory and human movement sciences (in the form of biomechanics) appeared to mean the same thing.

In terms of constructing knowledge, biomechanics was obviously important and seen as essential. This rested largely on the contribution it makes to knowing how in terms of the performance of physical activity. In other words an understanding of mechanics of movement facilitates not merely being able to do but knowing how to
do which is commensurate with Arnold’s (1988) notion of knowing how in the strong sense. The importance of biomechanics for Jenny did not appear to be a social construction. It represents a subordinate personal construction of the learner/performer as a social being.

Jenny: I think if you understand how something is done then you are going to be able to do it better...

Tony: And so are you saying that ... that it was appropriate and important that we covered some of the material in biomechanics during the course here?

Jenny: I think it was very important, basically if you don't know how it's done, you are not going to be able to do it well and therefore no-one's going to enjoy it if it's not done properly.

Interestingly by applying Gergen’s (1991) analysis to the whole group, then one might find that they do represent a community of agreement when it comes to biomechanics. Certainly this was the case in all of the early grids and conversations. However, this may be more a function of the timing of the commencement of this study (shortly after the conclusion of the Kinesiology unit) a phenomenon which was alluded to by some of the participants. However, as I have already indicated, biomechanics was persistent throughout the study and possibly for the reasons alluded to; it appears to provide some tangible language for physical educators to use about movement patterns and their accuracy or discrepancy. In terms of a personal construction of knowledge it does make for a particularly narrow construction of what is important in terms of knowledge.

The importance of biomechanics emerged in the discussion with Sarah (and from the grid). She did however, while on one hand acknowledging the value of such
discipline study, argue that everyday practice in physical education enables a teacher to know what areas of help a pupil might need. For Sarah however, the biomechanics knowledge she suggested does serve as what she called 'back up' and perhaps is more representative of a subordinate construct.

Tony: OK, let's move away from that now and talk about something that you have got here which is *Understanding of movement*, now you have indicated in your elements that this would be an important aspect of knowledge for teaching physical education ... how do you see that - the understanding of movement, and by that I am assuming you mean something to do with mechanics

Sarah: Um ... you know if kids are having problems ... throwing a ball or whatever, you can explain to them that they are holding the ball wrong or their arm is in the wrong position um ... and you can bring it down to a ... you know, you have got the knowledge of it to bring it to a basic level to explain to the kids.

Tony: How would you ... I'll just dip back into what we were talking about just now, how would you put those two together, you had a unit on kinesiology - how useful/important was that against the possibilities of say working with kids on a more extensive basis ... would you have gained more from that do you think, than you did from trying to learn about kinesiology which included biomechanics?

Sarah: To a certain degree they were [*complementary i.e. the informal prac and the study of biomechanics*] I'm not sure we needed to know the names of the bones etc but I can see the purpose of
them but you do actually know where things are situated and how they work so yeah it was good to do that first and then move on to the biomechanics to see how things work.

Tony: And do you think that it contributes more to your knowledge as a physical educator than say working with kids on a regular basis to start to form some of your own ideas about movement. How powerful in other words was the study of biomechanics?

Sarah: Um ... I think if you are working with kids all the time in PE you get to know why they are having problems because quite often it is a common problem but when you get to kids that are doing something that you can't ... you know why are they doing this wrong you've got the biomechanics to come back on, so it does help to have the basis there. On a practical scale it is probably not used as much as working with kids.

Indeed she argued that in her own coaching (of softball) knowledge of biomechanics made no difference to what she did as a coach. This perhaps represents something of a challenge to human movement knowledge as imperative. It does pose, however, two problems. The first is that there is an affiliation with what Sarah referred to and which might be called on the job knowledge. That is the strange mixture of intuitive pedagogical practice and the professional knowledge that is learned from that day to day practice. In some respects this becomes habitual and I will discuss this at a later time. The second problem that is thrown up is that at this stage of the study biomechanics was perceived as being important, and yet it was clear that such knowledge was not being applied to the practical situations of motor instruction (in the form of coaching) at all. One wonders then why such knowledge was afforded such importance. It may well be to do with the status of science (see Macdonald,
1992; Swan 1993; Tinning 1991) and the perceived degree of difficulty such sub-disciplines are considered to have (i.e. to pass).

Management
At the beginning of the study management was importantly seen as a learning tool rather than an organisational structure and disciplinary measure. For Sarah, the first sign of her attachment to the notion of management emerged at this stage of the study. It would be fair to say however that it was a consistent and persistent theme throughout the whole study. It was not manifested as a fear or anxiety (even if it was), rather it was viewed as a source of must have knowledge. Similarly, it was common in all of the participants that as graduation time drew closer, management took on a greater level of importance. At this stage of the study however, it was apparent that governance in the indirect sense through informal surveillance will play a part in what Sarah for example saw as important. This included the management tasks of preparation and planning. Mainly this is because of the lesson/program content that is assumed to be appropriate within the local context that one finds oneself. The importance of management appeared to be related to effectiveness in the technocratic sense rather than in the children's learning sense. So even though it was perceived as a learning tool, it was very much a technocratic tool. Paula expressed a view though that effectiveness in teaching is about relationships between the teacher and the learner. What was not clear in the discussion with Paula or from her early grids was whether this means the quality of relationship or the power differential that traditionally exists within it.

Sport
There was a general vagueness that increased when discussing the notion of sport. Clearly everyday conventional assumptions about sport abound, that is, that it is a highly competitive, serious sort of endeavour. This was the sense, for example, in which Jenny indicated she had always thought of sport, suggesting that social constructions of sport are indeed powerful. Interestingly in Jenny's case, that was
reflective of other positions in the group, she didn’t necessarily see the teacher has having the broad expertise in the whole field of sport. The question about whether surfing was a sport confirmed her position and this indicated her narrow conception of sport through socially constructed conventions. It is important to note that sport as a social construction and as a mediating effect has been a powerful influence for Jenny.

It is apparent that for Paula, the sport model is the model of physical education. However, her self-identity was forming through the construction of knowledge. The major dilemma for Paula was that she was possibly prepared to court risk (having implied she has a no-risk strategy by her constructions of physical education as sport) by defining her role construction. However, there was a lack of confidence inherent within this. Her mediated experience on the practicum and through recall of life history, informed her of an ethical way to proceed, which therefore helps to form her professional self-identity and a temporizing of the umbilical attachment to sport. However, even though the umbilical was stretched and tested, it was never severed and sport itself becomes something of a regulative discourse.

MAJOR THEMES IN THE MIDDLE OF THE STUDY

Human Movement Knowledge

Carrie had a view that the human movement study material was important as it provided some, what she called, ‘background knowledge.’ She singled out kinesiology in particular which she argued is helpful for identifying and correcting movement error. She claimed that such knowledge gives you a ‘better foundation.’ She also argued too though, that it is important to be practising in this particular aspect of physical education teaching for it to really make some sense. What is also important to note is that she brought into the hierarchy the notion of issues (and the very unit where this study began) to argue that they too have a position in the knowledge hierarchy. Her analysis of bodily function (an element drawn from the
grid) allocated such knowledge within the realm of safety. She saw this as part of the knowledge for teaching physical education. She also linked this though to the notion of expectation. In other words, what can be expected of certain youngsters and she argued that an understanding of this makes for a more sympathetic physical education teacher.

Denis expressed the importance attributed to the knowledge of sports/games and the knowledge of physical education that appears to be dominated by biomechanical understandings. He did however see this as part of his professional knowledge and for Denis this knowledge appeared to contribute to his professional practice:

Tony: OK and did … you have clearly identified mechanics as something which you would regard an element of knowledge of physical education you for example left out lets say anatomy or whatever … do you feel that some mechanical understanding of movement is, of these sciences that you have done so far, the most important?

Denis: No I don’t think anything we have done is any less important … I think they have all had their place … I don’t think that any of them is above another … but that’s just what I think.

Tony: Do you feel that the mechanics then, because it was identified as an element, has contributed to say your teaching side of it?

Denis: Oh yeah, it makes you more aware to be honest, perhaps you would see a kid slouching over bowling in cricket and you’d think, ‘gee that doesn’t look that good, how can
I fix that '... knowing a bit more about mechanical stuff, you can see "yeah right oh OK son straighten you back up open up and look through the window" ... to that extent -yeah it certainly does [help teaching].

Tony: Have you, in your own practice been able to apply say... a mechanical principle or what you know about mechanics too... have you been able to translate that to some of your own teaching language or teaching points so that when you say something to a kid it's going to actually have the effect of the mechanical outcome that your after?

Denis: Um ... not directly no, maybe inadvertently yes so er... I haven't really been totally aware ... I have at some stage but probably through mistakes rather than.

Management
Management remained important for most of the group, (which supports some of my work elsewhere - see Rossi, 1996). Tricia regarded it as a form of knowledge that is important for teaching physical education. However, for her it does only represent a tool that facilitates teaching and no more. In other words, Tricia sees it as something that is necessary but not to the extent that it should overtake the essence of teaching which she sees as creating positive learning experiences in physical education. Moreover, Tricia consistently referred to management as meaning 'maximising learning experiences'. Which in turn she suggested, had to do with motivating children through positive learning experiences.

For Tricia, the emphasis on management does recur repeatedly (in all the conversations and grids). She pointed to efficiency not perhaps in a technocratic
sense though certainly this is how it comes across and the cult of managerialism seems very real. Tricia's explanations however pointed to these skills being vital to ensure that the need for management does not impede teaching (in the sense of take it over or stand for it).

Paula separated the organisation for teaching from the actual teaching. It may be a falsehood, but at the stage of moving towards the end of her university course, she had not yet integrated what is taught with how it is taught. As I have indicated, Lusted (1986) and Shulman (1986/87) argued that they couldn't be separated. Moreover, the notion of hidden learning was brought into sharp focus by Paula's position. For Paula, there was security gained through managerial skills. This does privilege a certain form of knowledge or competence. This is not to decry such knowledge (I have argued for it myself elsewhere, see Rossi, 1996). However, it does beg the questions as to whether such importance is a social construct, that is, which knowledge is most important. The importance given to management systems is a social construct of the late modernity. In Paula's case it may render her (self) as de-centred.

Sarah added strength to the evidence that management is important knowledge for teaching. But the self did emerge as relational because the knowledge itself was contextual. For her, planning again emerged as being very important. It is not just the mechanical aspects of planning that she talked about, though she did appear to refer to the use of management activities as a tool so that the teaching part of the lesson can go well. She didn't make the artificial separation of the management and learning but it was seen as subordinate to the teaching/learning. As she said:

Tony: Over here you have talked about planning, you have talked about management, and you have talked about planning there ... what do you see in those areas ... what knowledge do you think you have got at the moment about

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management, about structuring classroom practice and what do you think you might want to know about it in the future?

Sarah: Um I think one of the biggest things with planning is developing a sequential plan not just at the lesson plan level but into the curriculum plans so that the kids are actually moving through a sequence so that they are actually building on what they know so that they can develop further rather than jump from one thing to another... um... I think the management and the planning you can have a fairly large influence on how well your lesson or your unit goes because if you haven’t got your management skills in place the kids will do basically whatever they like.

Tony: So management is ... I suppose we could say it is simply a tool. It’s a bit like if you want to build something you use a spanner um ... if you want to structure a lesson you have some management skills (Sarah: Yeah). So whilst they are important could you perceive then as being.......... could you describe them as knowledge for teaching... well not could you but would you describe them a knowledge?

Sarah: Um ...yeah I guess you would um... because it is knowledge that a teacher needs, you know ... more so in different skills and strategies to go about implementing your management.
Sport

Sport continued to be a broad theme into the middle of the study. However, it came up in many guises though mostly as a form of knowledge. In other words, whilst not accepted in totality by the group, sport remained a powerful image of representation for physical education and as such it carries with it the currency of knowledge. The constructions of this knowledge however were complicated. These perhaps emerged more clearly in the themes drawn from the final phase of the project. However, even within the post grid conversations elements of conflict emerged which may be attributable to two things, a re-ordering of narrative through discursive means which points to the second which is the possibilities of personal construct theory in the therapeutic sense. Jeremy for example believed (as many of the participants did) that teachers of physical education should be able to provide pupils with a wide range of motor experiences. He did however couch this in the language of sport and found it difficult to move away from this as the core knowledge of the physical educator. He did feel that it was important to contextualised the curriculum which perhaps shows sport as knowledge in a slightly different possibly more reflexive light. However, again he contextualises it along sporting lines and regional differences rather than what might be educationally defensible within physical education.

Denis similarly felt a degree of re-knowledging was desirable from his first grid and conversation. He did though have profound difficulties in perceiving PE as anything else but sport. He acknowledged that competitive team games were not the only vehicle available but simply lapsed into the notion that individual sports are the answer to the question of sport as the dominant discourse within physical education.

... team games in PE are fairly extensive really but there are also the individual ones where we are not ........ (long pause), I think yeah it's ... (physical education) is certainly adaptable obviously
if you have got children that don’t like the team atmosphere you can work around that and get into the individual stuff.

So for Denis, broader knowledge within physical education appeared to mean simply offering different sports. Data from Denis’s life history discussion showed that he was an avid games player. So even sports that are outside of this domain would be considered new knowledge.

Whilst this was a dominant discourse at this point in the study. There were dissenting voices. Tricia for example felt that PE conceptualised as sport was a bankrupt concept:

I think PE at school is sport or PE was sport whereas now I suppose it’s not geared towards sport it’s geared towards maximising … just trying to promote learning experiences or trying to give learning experiences to students in a positive way that will aid in their acquisition of just motor skills, general motor skills but yeah when I was at school it was just PE was sport … you went out for a PE lesson and it was just a game but yeah certainly when I go out to teach it will be different.

**Knowledge as being personal**

For Carrie, her ideas of sensitivity (to pupil performance and its relative quality) were subsumed into her knowledge of PE (or at least for teaching PE). Both of these have at their heart a *socially critical* understanding and application of the notion of somatotype in that she did not see it as a process of screening but rather something that might inform her pedagogical work.

For Denis, there were times when he was not overwhelmingly confident with his knowledge. However, as a part of teacher knowledge he indicated the need to be able to differentiate in his teaching to cater for all children. There is something of a
paradox here though and it relates to how the interview changes at this point from lack of confidence in the nature of personal knowledge to recognising that he may be unique among the students in the study:

So it may not work for me but it might do for someone else ... So I'm a lot different to other people in almost every respect um ... so yeah ... maybe it's because I am older too a lot of the people doing PE here at the moment ... that'd cause them to have some difficulties so maybe in five years time they might have the same philosophy that I have now whereas at er ... 'yeah that didn't work for me let's change that' if they are not doing it already and use the same sort of method that I am doing.

He appeared to be able to take this stance because at that particular stage of his practicum work he had a very laid back relationship with his supervising teacher:

It's a big gamble, the way I do it um... but I mean I think it depends on how well you get on with your teacher too, to be honest with you um ... I have had a great working relationship with al the teachers that I have worked with so I haven't had ... they like the way I do it um... it's not totaly by the book all the time but I've never been a person to do it by the book in the first place.

Clearly knowledge is related to biography. Denis saw his knowledge of physical education to be directly related to the things that he is good at (e.g. sport[s]). He acknowledged that his shortage areas were the ones that he did not do at school. However, felt that he had built up a repertoire of sports now such that he was well placed to be a PE teacher.

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Sarah argued that grids one and two differ because there was more knowledge. This emerged from the practicum experience. It was apparent that this had served as a fateful moment. The experience in the classroom (the practical consciousness) is extolled as a form of truth in pedagogy.

**Knowledge of the curriculum**

Curriculum as a central theme at this part of the study is problematic (it continued to be so). The reason is that it was referred to in two senses, curriculum theory and the curriculum. That is the structural edifice, which in Queensland names and frames (see Bernstein, 1971, in Young, 1971) school knowledge. Even this did not really capture how the participants referred to curriculum. They framed theoretical tenets of curriculum as programming. In other words, how a physical education curriculum is constructed in a technical and mechanistic way. In others words the how to do it of program writing. For others however, the power of the curriculum as a structure was unremitting. Jeremy set great store by the notion of 'the curriculum' - he saw this as representing knowledge because the education department knows what is best. Not only this, but it appeared to be a point of great security for him, in common with others in the group. This of course suggested a range of insecurities, and these emerged later in the research. This emerged out of his discussion about what it is important for children to know because they are at the centre of (for Jeremy) the teaching processes:

Tony: OK lets move up to these constructs then - it is a nice compact grid it is not too extensive um ... pretty well focused and lets draw on some of that now, um you clearly, as you have moved to a point of being ready to go out (i.e. near graduation) you have clearly got a good understanding in your mind what the department requirements are ... why has that developed do you think?
Jeremy: Well, they ... I think that comes down to the children again ... knowing what they should know ... well, the education department knows sort of what’s best and what they should know, so knowing that I think is important because you can then focus your attention on that but with your expertise you can sort of expand on that (Tony: OK) and provide a wider range.

Tony: So what is it then, that the department provides a kind of (Jeremy: a basis) or a model a benchmark (Jeremy: Yeah) and you can work on ... so that is you ‘at least model’ you take kids at least to there but then you think “OK it is up to me to take them beyond”?

Jeremy: Yeah ... I think that is the very minimum that there should be and even using some of their requirements to further advance them (the students) (Tony: OK, yeah), ... just work with them and from them.

Tony: And, clearly you have attached to that “must achieve these following the PE syllabus, the necessity to follow guidelines and so on- to what extent do you think that is going to guide your teaching, I mean is it going to be restrictive on your teaching or?

Jeremy: Depends on what approach you take, like we must as teachers be accountable for actually what the children receive from us but yeah um ... if you are just narrow minded and you just go down a small focus and just follow
them you will limit the children, but you just have to be conscious of avoiding that sort of thing.

Moreover, Jeremy expressed real concern and anxiety with not just the practical knowledge (about which he does have concerns) but the whole thing of planning, and implementing physical education curricula.

Carrie emerged as more of a theoretician. She regarded the content of physical education in school to be narrow and she was constructing this as certain hierarchies that she regarded as limited i.e. major games and sports that have the cultural capital and therefore exert a powerful influence on the PE curriculum. Moreover her argument was founded on the basis that her interests in dance are not represented. In doing so she acknowledged that there are multiple views of the curriculum which compete for dominance but it is the role of the teacher who needs to be open minded about what stands for subject knowledge in the physical education curriculum:

I Think ... I mean you see ... you go out into schools and you see programs run where the phys ed teacher teaches ... softball, netball, football, cricket and that's all that gets taught ... mainly with the older kids, the younger ones they get to play with beans bags and do that sort of thing but ... and kids kind of grow up I guess learning... oh athletics too that's usually part of it, that they grow up sort of learning that that's all there is to phys ed ... it's a really narrow aspect that's portrayed I think its more important to try to give them um ... a lots of schools don't do movement ed or gymnastics and its like all the different sports or games or physical whatever you want to call them they've all got their importance and its important for you (as a teacher was meant here) once again coming back to values not to day that this is more important than this and then you do your whole teaching plan
for the year or whatever, on what you think is, (Tony: OK) its got to be what you think is going to benefit the students best.

The importance of children
Highlighting the importance of children to physical education teaching may at first seem rather odd in so far as one might take this as taken for granted. However, there is a general agreement that in physical education teaching it is very easy for teachers of PE to be there for themselves. This perhaps makes this theme a little clearer in that many authors have suggested that the major reasons for getting into physical education (see Graber, 1989) is because persons are good at sport. The idea then that the child is made important in the work (knowledge of pre-service) physical educators is significant. For some though, it was still not an easy scenario to develop. Denis’s focus really seemed to revolve around bringing about change in pupils’ motor behaviour. He did not appear to mean change to the level of high performer. I think Denis had such a joy from sport in the most general of terms that he truly wanted other children to benefit form such joy. He still none the less had problems seeing that some children will not just dislike sport (at least Denis’s conceptualisation of it), they will despise it. He seemed to believe that PE is a helpful medium in which children can change as persons though this did not get as well developed as his ideas about changes in motor behaviour. For the most part, Denis was in search of enjoyment for the pupils. In this way he argued there was greater potential for a lifelong involvement in physical activity. It is in this way that he saw the child as being important. It perhaps should be asked though whether with Denis, it simply rests on hope that this is in fact what will happen.

Knowledge of Children
Knowledge of children rather than knowledge of the children was regarded as important. Again the interpretations of this were varied. For some it meant developing an understanding of paediatric growth and development. For Jeremy, it was captured by the teacher’s role in developing a long-term interest in physical
activity. For this to happen, he felt he must have an understanding of children. As laudable as this is, what did not emerge from Jeremy’s perspective is the changing nature of childhood. It came across as something almost static that once known it is always known. Jeremy was not the only person to couch knowledge of children in these terms.

Tricia took a slightly different position that was more reflexive. She argued that knowledge of children’s background is also important for teaching physical education. It might actually be important more broadly but Tricia felt that in physical education it is particularly important. However, it was clear from her responses that she considered background to include the environmental factors and in this sense she was talking about structure as unchanging but not in the rules and resources sense. Her own philosophy seemed to be to want to court risk and challenge the taken for granted and not let environmental factors impede her teaching within the subject area. In other words, she had identified this knowledge in two ways. First she felt it is important to know something about children more generally as people, and secondly she suggested that there was a need to know about children with whom one is in contact with on a day to day basis. Knowing about the structures which frame children’s lives then is important because they may come to affect pedagogical work undertaken by the teacher. This made Tricia’s theoretical position far more reflexive. Sarah’s view was supportive of Tricia’s position, arguing that getting to know the (actual) children is undeniably part of teacher’s knowledge. In connection with this, the importance of children also emerged as a major theme.

**Practical Knowledge**

By the mid-part of the study practical knowledge assumed greater importance to the group. It is important to note that the theme of sport was linked very closely to forms of practical knowledge. However, it was also important to develop the theme of sport within the study that can be found elsewhere. Caution is necessary here because some participants chose to speak of practical knowledge as the practical skills of teaching.
For others, it was the practical ability to perform the skills that they felt they would include in their teaching. So Jeremy for example felt that teachers should be able to do the activities and that PE teachers should have advanced practical knowledge. This seemed to fall along the lines of Arnold’s (1988) ideas again but there was no commensurate mention of being able to articulate how skills were performed. Rather it was implied within the practical knowledge, i.e. the being able to do. So pronounced is this within the group that it was quite apparent that many activities will be left out of a rounded physical education program as they are uncomfortable from a performance perspective when this group finally joins the profession. Most obvious of these is gymnastics. The following conversation extract with Jeremy may serve to underline the issue:

Tony: What about that in terms of being a teacher of phys Ed, should teachers simply be able to... should they simply know about the activities and the sports well enough to be able to teach them or do you think their knowledge should include being able to do them as well... I mean are there things where you think ‘I’m not very good at that but I think I could teach it OK’?

Jeremy: I think they should have a good sound knowledge base of their teaching or else...

Tony: Does that include being able to do the things or simply knowing how to do them?

Jeremy: For me personally I believe that ... I would like to be able to do the things to teach them, but I know out there most teachers wouldn’t be able to, but yeaah I think as a PE specialist you should be able to do it to be able to teach it.
Tony: So in that particular example then, the variety of sports, you would be talking about not only knowing about the activities/sports but being able to perform them as well?

Jeremy: Basically yeah.

Paula supported of such a view but she also provided an example of how this thing called practical knowledge could be perceived as the practical application of generic teaching skills. Within our discussion, the notion of how to teach came across strongly. There was a heavy emphasis on the practical elements of teaching as having sovereignty over any theoretical positions. This helped in Paula positioning herself and provides more evidence of a non-risk strategy, and connects her to the previous theme.

A certain amount of habitual rule evidence also emerged and seemed related through Paula’s experiences in dance/ballet and informal coaching. Her argument was that it has provided her with some basic understanding of teaching but only through being able to perform the activities (in her view) rather than perhaps understanding them. This appeared to provide for Paula relative security:

Paula: Yeah I think so and I had experience even if it wasn’t very formal teaching physical activities but not really in the classroom.

Tony: Was that in coaching activities?

Paula: Yep and just like ballet- I’ve taught that.
Tony: Yeah OK so even that - very similar ... teaching dance it has that same ... there is a lack of formality about it, (Paula: Yeah) you know... where kids sit and in lines and there is a bigger space ... so just drawing on that experience did you feel that it was a good contributor to how you came to know about teaching physical activities ... that ballet experience and some of those other things?

Paula: Yeah they would have helped but I wasn’t really aware at the time like of the processes which I have now been made aware of.

Tony: So it was something that you just did and you did it to the best?

Paula: It was just that I knew ballet that I did it ... I didn’t really think of it in terms of the teaching thing... it was more... well I don’t know I didn’t think about it in the way I think about teaching now with all the different kinds of processes going on that you need to think about it as well.

There is an irony to be told here later which is that Paula opted not to teach physical education as she felt she did not have the level of confidence.

Practical performative skills then, are confirmed as a dominant discourse. This, together with previous material suggested that Paula’s model of pedagogy was that of the performance pedagogue (see Tinning, 1991). She clearly endorses Arnold’s (1988) ideas about knowledge in the strong sense.
MAJOR THEMES AT THE END OF THE STUDY

Human Movement Knowledge

Natalie felt that it was appropriate to question the value of human movement knowledge and indicated that the best swim coach that she'd had would have been unlikely to have finished school, never mind have a degree in movement science. It captures rather nicely, the notion of a hierarchy of knowledge but in a different way, in that whilst there is a general recognition that such knowledge is important, knowledge of the body and the attendant biophysical fixation does not appear that strong amongst this group. Even so there are some insecurities in terms of using such knowledge. Natalie felt that these could probably be overcome with experience, time and a reflexive approach to teaching. So like many others, Natalie did question the necessity of such knowledge. At the same time, she did feel that as a professional, she will draw on such knowledge, though not consciously like the more tangible kinds of knowledge that might be needed for transmission purposes (e.g. rules of games, sports techniques etc).

In a similar vein, there was some indication that Denis was building praxis knowledge because he suggested that such discipline knowledge is used intentionally but perhaps in an intuitive way. So it may well be that this is non-conscious performance (see Goffman, 1959) rather than unconscious. It is this that Giddens describes as practical consciousness - that day to day performance that we just go on with. Denis suggested that in his cricket coaching he was thinking more about the knowledge that supports his coaching decisions. I wonder if teachers of physical education have to form praxis/praxis knowledge. By this I mean praxis of the praxis knowledge that teachers are allegedly meant to develop. In other words there is meant to be a fusion or coalition between subject knowledge and pedagogical knowledge producing pedagogical content knowledge. However, the subject content in physical education has always been problematic. So the PE teacher must create a praxis of the knowledge that underpins movement whereupon
there must be an integration with the practical movement knowledge which in turn must be integrated with the pedagogical knowledge. Certainly as Denis said, he ‘feels that it becomes instinct after a while’.

Jill indicated that it is part of the mission of physical education. That is to educate children to want to be involved in physical activity and this is underpinned by Jill’s belief system. What this does, is raise the importance of the exercise physiology (which she says she really developed an interest in through her own sport) as a source of information which assists individuals in making choices about exercise and not in terms of corporeal objectification. This knowledge then contributes to overall pedagogical content knowledge. In this regard, organic fitness emerged as being important for Jill and again this was through a mediating experience of working at the same time with her hockey coach on aspects of fitness for competitive hockey. This emphasises the voices of the other participants who argued that the exercise physiology course was only relevant in part, as it did not deal with paediatric fitness. For Jill then, meaning had been created by its relevance to her personally. Jill talked about the knowledge within the sub-discipline of exercise physiology as something that will help her understand how fitness might be developed in youngsters - she felt this is an issue as she feels that she has noticed how poor levels of fitness were amongst children. She felt her knowledge would help her develop positive attitudes towards appropriate levels of exercise. She remained rather ambivalent as to whether it really enhances her ability as a physical educator:

Jill:  I don’t know whether it has enhanced my ability as a physical educator but I feel … well I guess it has because I feel that I know about that background and I can relate that to situations but when you have only got half an hour of PE with a class per week, I mean you can express your attitudes to what they could be doing outside school but you are not going to do too much in an hour … you can get them to understand ho important it is, it
just develop in them positive attitudes towards activity then it
might be more beneficial.

Management
As the end of the teacher education course drew ever closer, many of the students, perhaps exemplified by Sarah had maintained and perhaps even strengthened their commitment to forms of management. This was a major construct and subordinate constructs had emerged such as planning, resource management and management of children to mention a few. Sarah’s major concern with these seemed to be an overarching focus on time management:

Sarah: ... well at this stage I'd say like there are things that take a lot of
time and need a lot of thought, even in terms of you know some
of the other things that I identified there like your class
groupings- you have got to know the individuals so... I just think
that those things are going to take a lot of time and thought...

It did appear though from the tenor of the discussion, that the time issue is one that
can get in the way of actual pedagogy. Also she included within this broad
framework, aspects of knowledge of individual children, so her ideas about
management were not necessarily bound by the technocratic nuance as efficiency and
Tylerian objectives, though as will be seen later, this is questionable. Her knowledge
structures for teaching physical education were perhaps far more seamless. She
further argued that teaching physical education is no more complicated than teaching
anything else from a planning perspective perhaps with the exception of the
managing resources within physical education lessons. In other words she argued that
the content, once it is there is simply reduced by planning.

It was clearer later in the conversation that Sarah is in fact guided by Tylerian
philosophy and the Fordist approach to rational planning. When she talked about
programs and evaluating, it became apparent that her ideas were dominated by technocratic, functionalist approaches to planning and the rationalist model emerged from our conversation:

Tony: OK lets move away from there, there are a few things that at the top of that list - the highest numbers, numbers 10 and 11 [This refers to the elements] I am interested to know about … about knowledge of evaluating programs, what was it that prompted you to put that down?

Sue: Um, well that was basically looking back on some of the PE teaching that I have done that type of thing, … a lot of the time I’d go through a program or a lesson and I’d think “oh yeah that went well” and do it again without looking specifically at aims and objectives um … when I found that when I looked back at my aims and objectives some of them were pretty ‘iffy’ as to whether they were achieved or not.

Tony: So were they simply not identified accurately enough or were they not attainable by the kids?

Sue: I think more a case of not identified clearly enough and um, also not having appropriate activities to allow kids to achieve the objectives.

Tony: So does that go back to some of the stuff that you talked about earlier- the sequencing … you just didn’t have that right?

Sue: Yeah.
Tony: So what did you learn from that experience when that happened to you ... what did it prompt you to do or think about?

Sue: Um ... more consideration of the objectives that I had written and whether they were concise to what I wanted to do and um whether actual strategies and activities that I had written were going to allow the kids to achieve.

Aspects about planning (read programming) were clearly of concern for Sarah. She claimed that she (likes others) was sick of doing lesson plans and remained really insecure about program planning. This reflected a level of saturation and in Giddens' terms a high level of existential anxiety. She attributed this to being a weakness of her course of study.

Sport

Carrie had some interesting views on what constitutes sport, arguing that for example that swimming is not a sport but is turned into one by carnivals and competition. Moreover, she also argued that this is what happens to dance and (more broadly conceived-movement) in the shape of Eisteddfods that she suggested are just the same as a sporting carnival. For Denis, on his final teaching practice (in isolated far NorthWest Queensland) he was aghast to find that sport and physical education (such as it was) was only done for fun. What perturbed Denis was that it was done only for fun with no commitment to further skills and/or understanding. His offer of swim coaching was rejected and in this regard it conflicted with Denis’s notions of school physical education. However, it may be symptomatic of Queensland rural communities. Denis’ perceptions of this were clear:

... their ideals are a little bit funny from what we are used to I think. I don’t know whether that is part of the rural community or not um......
their ideas of teaching are different from what I am used to ….. as far as they were concerned they had to do so many hours /sessions of PE and it was just covered in sport and a bit of swimming ….. there is no PE major up there at all so they rely just on the classroom teacher and that is it.

Clearly the lack of competitive sport was something that Denis found hard to contemplate, not just in the school but in the town and more broadly the region:

Shock was the first thing (both laugh) I suppose just being so competitive and being so used to having sport on the weekend … again it was a real culture shock and there was no cricket, no Aussie rules no rugby league-I suppose there would have been in the winter I suppose … yeah so there was just no sport … swimming pool and that was it on a Saturday or a Sunday.

The focus on physical activity in this environment at this time of the year was that the pool was used extensively as an escape from the heat. This has clearly had an effect on Denis’s understandings and may have disrupted his security about sport. It certainly represented a challenge to his understanding and interpretation of sport.

Denis indicated that his approach to teaching physical education would be through the basics but importantly, he felt he could not include gymnastic skills, as he wouldn’t feel comfortable teaching them. This served to underline that Denis has not really moved too far in his conceptualisation of physical education over the four years. Beyond games (read sport) there would be some disruption of security. Whilst he may have a broader understanding of knowledge of physical education. His view of what it stands for has not moved much perhaps since the very powerful influences
of his high school experience. Indeed later in the conversation he indicated that he wanted to move ‘up’ to secondary.

Knowledge as being personal

It was apparent that Carrie saw knowledge as having a personal dimension. Moreover, she was working out a personal pedagogy, which appeared to be developing through her becoming what Tinning, Kirk and Evans (1993) called an educational craftsperson. It was apparent to her for example, that she has to use her voice in certain ways, she has to use her physical presence in certain ways, and that she has her own way of dealing with, for example, behaviour management. She was also of a view that not only does a teacher have to work at new pedagogy - but so do children. Therefore, she saw it as part of her pedagogical practice to educate the students in alternative ways of working so that different pedagogies can prevail in her teaching environment. Mosston and Ashworth (1986) allude to this in the spectrum of teaching styles. In other words, the educative process in physical education is as much about learning to work in different ways as it is learning the subject content. What was interesting and important was that she argued: ‘I mean, I have learnt that and it is only through experience that I have done so….’ Ordinarily, Carrie was not one to dismiss theoretical work in the university setting but here she emphasised the need to try things out akin to the extended professional (see Tinning, Kirk and Evans, 1993 who draw from Stenhouse, 1975):

Carrie: So you have got all those different strategies and I think you need to develop … you learn what is good for you … one strategy that you know might work really well for someone won’t work for someone else, I was at Bridge Street [a local school] for one of my pracs and I was really worried because we had 53 kids in the class there grades 3,4, 5 and there were physically impaired children in there too, and I was thinking … all these children had been ascertained as being at certain levels
it was really scary and I though what am I going to do and I tried one thing and then something else until I found something suitable for those kids in that context that I could do and I am not saying that I used the same thing but (means all the time) you need to develop and it is only through experience that you can what things work for you and what things don’t work for you … like I know even behaviour management things… I can’t shout over kids because my voice isn’t loud enough … I mean I have learnt that and it is only through experience that I have done so … if I am outside in the wind and the kids go stupid there is nothing I can do to yell at them, I have to use some other method and those are things that you learn through experience what works for you but it is also what works for the kids … kids have to be trained on how to do group work— you can’t just put them in groups and expect them to work…

Tony: OK so they have to have an understanding of what their role is?

Carrie: Yeah, like I know at the end of the year at the prac I have got grades 1-7 now that’s a bit scary having to teach all these children all at once at their level and … but I guess it is only going to be through experience that we are going to learn how to do, it is not something that you can read in a book and yes we have been provided with the knowledge here … different styles that are available and different ways of doing things but you have got that knowledge but you need to experience to find out …

Tony: And would you say that… I mean you have talked about some of your experiences so far would you say that by a process of
experimentation that you are beginning to distil the stuff down into something that you would say this is Carrie's teaching style?

Carrie: I think so, I think that there are still things that I want to try but when we are in prac it is always bit of a false situation you have basically got to fit in with how that teacher teaches because we are only there for a week and... it is something that once you are in your own classroom I think you develop ... you have that opportunity to develop your style or whatever you want to call it, and you will have that chance to do that, but at the moment it is just you have tries this in this context but really the teachers already have it set up ... it is like a PE teacher, if they have got a whistle and you try to do something different so if the kids are used to listening for a whistle something else doesn't work ...whatever you want to use, you have really got to teach the kids what their role is ...

**Knowledge of the curriculum**

The aspect of *program* that makes it so important, is the impending necessity to be able to write one and in this sense Natalie indicated that she is likely to be regulated by notions of *program*. It appeared to be something of a daunting prospect and therefore causing some anxiety. By the same token however, she feels that as a result of seeing one constructed (in a school, in a regional town of Queensland), she might be more comfortable developing something in physical education than any other area. This was the case for another participant and it seemed important that a written program can be both seen, and be seen to be enacted. In terms of curriculum, Natalie shared the view that aspects of curriculum should be a reflection of community thinking, this is consistent with Macdonald and Kirk's (1996) findings. The community again represents a regulatory function for curriculum and therefore, it is
likely to be a controlling agent of pedagogy. In many respects such thinking was consistent with all the theoretical cornerstones guiding this study. For example, Natalie was personally constructing something that is bounded by truth as a function of a coalition of subjectivities, and it represented a practice, which perpetuates the very conditions in which the practice will recur. This is therefore representative of Giddens (1984, 1990) notion of the duality of structure. Interestingly, though there is an acknowledgment (perhaps mediated by the therapeutic qualities of this process) that some of the decisions under these circumstances might not be professional even though she will become a professional in a professional environment and will become a member of a profession:

Nat: You’d have to look at what the community perceives as being the right thing to teach and that would be included in what has done before, but I think initially it will just be what I think and I don’t know, I don’t think that is the right thing to do...

Tony: Why not?

Nat: Well ... [lengthy pause]

Tony: You will qualify, graduate from here and be seen as having some discipline study so you will know some discipline knowledge and you will be professionally qualified too ... so why shouldn’t you make those professional decisions?

Nat: Because of what they may be based on ... might not be professional, it might be personal or (Tony: OK) it might be um ... the swimming carnival is in first term so that is what we will do ... I’m not sure that is a professional decision, that is just what they do.
Tony: So it is time honoured practice?

Nat: Yeah and I think if you went to um … Tysonville [a pseudonym] and said well we are not doing swimming first term just because the swimming carnival is on I think you would get tarred and feathered (both laugh) I don’t think that it would work very well … so maybe … and in a rural community you would have to look at doing rugby league and netball and softball for the girls … it is still a boys and girls.

Tony: Is it?

Nat: Oh yeah, although I don’t know… from what I have observed, they try to involve the girls, … the teachers try and include girls in the teams but unless they are really good they still get left out so my personal feeling is that you are better off providing a separate sport or team.

Jenny was one of the members of the group who at this stage of her career has opted to focus on classroom teaching. This was not so much to give up physical education but to let it take a back seat. Now though, the structural edifice of the curriculum emerged as a source of power with which Jenny must contend. However, this might be indicative of some of the things that have come to affect her thinking about teaching physical education:

Jenny: Things like how they learn, the best ways to group them so that they learn properly and the types of things that affect their learning, I suppose the curriculum documents which tell them what they are supposed to do.
In this sense, the personal construction of knowledge for teaching physical education were being framed by curriculum documents and the structure of curriculum. From this perspective, Jenny's professional self is becoming a relation self in that it appears to formed of several selves that accommodate varying perspectives on her intended day to day action.

Further anxiety manifested itself in the degree to which faith is placed in curriculum documents and yet this structure is oddly vague almost non-tangible, even mystical. Jenny indicated that they might be seen simply as guidelines but acknowledges she will remain fairly close to them (the 'guidelines') in the early stages of her career:

Well at the moment they are like things that you have to follow, I don't know that they are though, I think they are just guidelines for what you teach ... I think next year they will be things that I have to do so I will stick to them fairly closely, but I think that down the track I will just use them as guidelines because I will have some idea as to what comes after and so on.

Moreover, she saw curriculum documents as a 'life line' (her words) and as such it provides a degree of ontological security. It is important to note that in her view, the teachers that she encountered on the practicum were like this too - experienced teachers who perhaps acted in the words of Giroux and McLaren (1987) as 'pedagogical clerks':

I think that is the view of a lot of people... well I know that from prac, that's what the prac teachers refer you to ... if you are doing maths or social studies, a lot of those lessons just come straight from the syllabus document ... and I don't know that many of the teachers we have had are our supervisors
would follow as we have to … so I think that is where we get
the idea that is what we need to follow to start with.

This would appear to resonate of a regulatory discourse and whilst she saw the
potential for teaching to become an habitual process, she argued that it is up to the
individual to ensure this does not happen.

The notion of curriculum seemed to be a catch all term that refers to a teacher’s
‘entire knowledge base’. On a practical note, Jill has had experience of putting one
together when helping out a friend (a secondary teacher). Whilst Jill saw the necessity
of understanding curriculum theory, she was very much interested in what she saw as
the structure of the curriculum for utilitarian purposes. It does pose interesting
questions about the relational self and the authentic self as receding, as the might of
the bureaucratic structural discourses takes hold. In Giddens’ terms, this structure will
be reproduced (knowingly) by actors’ agency within that structure. In this sense the
regulatory functions of rules hold. In Gergen’s terms it adds evidence to his idea of
the self as a pastiche. In Kellyan terms Jill has personally constructed the notion of
curriculum as a given and is complicit in its reproduction and the pedagogical
practice perhaps that might lie within it.

The importance of children
Carrie argued that knowledge of children in fact comes before knowledge of anything
else. To this end she made children the focus of her grids (rather than discipline or
professional knowledge within physical education). She underlined here that she
refers to both knowledge about children (or of children) as being important, as well as
knowledge about individual children. In the teaching environment, she suggested
knowledge of individual children, which is local knowledge and particularistic is a
crucial aspect of knowledge for teaching physical education. By this Carrie meant
that teacher knowledge must accommodate and acknowledge that each child will be
different.
Discerning Knowledge

What emerged as important in the final part of the study is the way in which the participants discerned between different types of knowledge, though at the same time acknowledged that it represents part of the teachers’ whole knowledge (though not necessarily identified as complete knowledge). There was a general shift away from some aspects of knowledge in favour of others. This shift was towards what might loosely be termed professional knowledge. The notion of professional knowledge was captured by Jenny’s shift in emphasis that is consistent within the group. She argued that her interests in knowledge are moving towards what she described as ‘what it is to be a professional teacher’. She also argued that the things that she had done in her course work have affected how the grid was constructed. This indicated that the course, broadly conceived has in fact been a mediating factor in the development of her beliefs and teacher knowledge. Moreover, she indicated that the most powerful thing that will exert an influence on her is the last thing that she does and this will be the final teaching practice:

I think it will be, the other things will be there, but that will be the last thing that I will recall at university and because it will have such a big relationship with what I do next year it probably will be what I call on...

Whilst all of what teachers do should be informed by professional knowledge, such a label provides a way to show the directional development of these participants. As a group they were now more concerned with life in schools and what it meant to be a teacher first, than necessarily and exclusively being knowledgeable about physical education. Indeed sport and knowledge of physical activity seemed to be less important the closer to graduation they became. This is not to say that it disappeared altogether. Under the heading of practical knowledge one was able to see some persistent concerns about teaching physical activity. However, the notion of practical
knowledge seemed at this stage, to have a different emphasis and perhaps is closer to Arnold's (1988) ideas about knowledge in the strong sense. Both Jill and Natalie for example captured the essence of this new thinking. Interestingly whilst both argued that it is not absolutely vital to be able to perform a particular activity, both take comfort (and perhaps have some security) in the fact that they can perform a broad range of skills. Such an issue may yield different responses from persons not preparing to be physical education specialists. The discussion with Natalie revealed her thinking on this matter:

Tony: Let's stay with that for a bit, in terms of that knowledge of the skills rather than how to teach the skills, do you perceive it as being important that as a PE teacher you should be able to perform them?

Nat: No... I don't.

Tony: OK, well tell me why that is then.

Nat: Well because I can't play Aussie Rules and I am not a skilled gymnast but I think that with the knowledge of the sports that I do play and have played you can sort of find out the skills that have to be taught and try different things and different teaching cues, different techniques of teaching and then see how they go so I don't think you have to be able to do it but you have to be able to understand what is involved.

There was an emphasis on knowledge in the strong sense. She hinted at some anxiety however when she said that if the activities are not your sports then you have to work
much harder to come to know about it. In many respects she is talking about transferability in movement understanding.

The conversation moved towards understanding movement rather than ability to perform movement. In this sense, it is close to Tinning's (1992a) reconceptualisation of Arnold's ideas. What is important is that there was recognition of the limitations of her own physical prowess but does not see why that should hinder her as a PE teacher. It emerged however, that some of the group did not share such confidence.

Jill identified practical knowledge and sporting ability as important. She was quick to point out, that although she had indicated that practical ability was important, it did not really mean expertise in the true sense. However, she felt that it should mean being able to perform to a reasonable level and it was this that she saw as important aspects of practical knowledge. Interestingly, and possibly due to the therapeutic qualities of PCT she tempered her analysis to some degree in terms of suggesting that it was communicating the movement quality rather than necessarily demonstrating it that was important. This might demonstrate aspects of a re-ordered narrative within a short space of time but also does indicate position and perhaps knowledgeability:

Tony: I'd like to spend a little bit of time first of all talking about these things called elements, which you wrote down right at the beginning of the session OK and I'd like to go to No. 5 first which you have called sporting ability, and I am interested to know what you mean by this -is it sporting expertise or...?

Jill: No not really sporting expertise but an ability to actually perform to some kind of level um... effectively, but probably because that will just allow students to see that you are not a fake and that you can actually do it and you are not just standing there saying 'Oh yeah... do this, do that' (Tony: Yeah OK) but I think you
need to be able to effectively communicate... well if you can't actually do something if you can effectively communicate how to do it.

Tony: So that would be part of sporting ability... a knowledge of both being able to do it and if that is not always possible then knowing how to be able to do it?

Jill: Yeah, how to effectively communicate it.

Tony: Well what I was going to ask whether it is important to be able to do, and I have underlined here all of the activities that you teach?

Jill: No I don't think it is essential um... but yeah it is essential to know how to effectively communicate it.

**Teacher knowledge in physical education**

In connection with performative knowledge, an important issue that emerged was the notion of knowing about how to teach (PE) and knowing about teaching (PE). Natalie for example argued that these are quite separate and that knowing about teaching does not make you a good teacher (or a teacher at all in fact). Since she drew the distinction, she was asked how this translated in to the practicum. She felt that her practicum experience had not provided this and that most of her practicum learning had been from a negative experience. In this regard she was approaching some kind of anxiety as she believes that she was uncertain about planning for physical education including when to progress from one skill to the next, how much of one activity to do etc. It was not the actual teaching skills which were troubling her, but rather the programmatic planning for what to do when and this is why there is likely to be some reliance on structures already in place (and therefore reproducible) that
was the cause of the anxiety. There was some security drawn from the teaching skill ability. Many of these teaching skills she argued have come from her experience as a learn to swim teacher (possibly rather than her teacher education course) and she suggested that these are easily transportable to other activities. This was consistent with what Paula said about her dance teaching experiences.

Carrie was one who felt that she did not have enough knowledge of sports and games which she saw as the genuine subject matter content for physical education, consistent with what Tinning, Kirk and Evans (1993) say about primary school physical education. Moreover she argued that there is a demarcation of knowledge in physical education and that knowledge of games and sport is the knowledge she needed to teach physical education and the knowledge appropriated elsewhere, for example, kinesiology, is purely for her own benefit. She argued though, that such knowledge had helped her develop professionally thereby indicating that it does have some value with regard to teaching physical education. However, she admits to being disappointed in some of the so-called discipline knowledge. Her main reasons for this were that for the most part, the knowledge tends to be relevant for high level for performance rather than novice learners of developing children or pre-adolescent learners. She came to regard exercise physiology particularly in this way and argued that the usefulness of such a course would have been more profound had the course been about paediatric exercise, fitness and health emphasising the views of others which I accounted for earlier. Oddly however, Carrie supported the idea that PE teachers have specialist needs when it comes to knowledge, though there may be some internal contradictions here because Carrie has already made a case that relates to the marginal necessity of the support knowledge. I sensed this itself represented some form of anxiety linked to aspects of knowledge for teaching physical education.

Carrie was prepared to dismiss some knowledge, not because it is seen as irrelevant, rather its relevance cannot be detected. In other words she had a view that it must be of some relevance and importance but for her, it simply couldn’t be detected.
However, there is an interesting turn to this and that is that some of the knowledge (particularly that of Motor Skill Acquisition) is seen as coaching knowledge. In other words, such knowledge was seen to have greater importance within coaching. In many ways this is curious since many of the students actually draw upon their coaching experience to inform their teaching. This suggests that these two instructional activities may in fact be unrelated. I am convinced however that none of them would truly believe this. It does make for interesting speculation however, and it does force the question as to whether there is a separation between the two because there are different ends for them? Such a separation would of course be artificial, particularly for a group that, only at the end of this project, was able to see beyond performance as an outcome of physical education pedagogy. Carrie did feel that much of her knowledge (at this stage of her university career) is stored (perhaps as a deep structure) and is only brought to the fore intuitively. Such knowledge as described, might also be considered to be tacit and from this point of view it might be considered as recursive (i.e. as a social practice) or that it is recursive as an underpinning of professional practice.

The practical knowledge of sports and games was very closely attached to personal knowledge. So if a PETE student has actually played a sport then it seems this is assimilated into professional knowledge really easily as indeed the lack of practical experience in certain areas. For example Carrie said:

... I think that the ones that I did feel most comfortable with are the ones I did at school myself, it is like I played netball all through primary school and all through high school and I’d be quite happy to go out and teach netball whereas something like... I can think of football and not soccer so much because I used to play it at school, but things like football (rugby league) which I have never had anything to do with ... to me is like what do I do, how do I teach it, would I be better off having someone who does know what they are doing and
teach that rather than me... I did an Aussie rules level O coaching certificate a couple of weeks ago and after doing that course I think ... I really don’t know where to start and like you couldn’t possibly begin to try to teach all the sports but how do other PE teachers do that they know...

And later:

Well like even now if I had to teach high jump and even though we did some of that ... and that is like I was saying... I don’t know like I have just finished saying that the theory s important and necessary, but I guess you’d come across PE majors that would say if we hadn’t done all that theory, we could have learned more about the games and sports and so that we could teach them and that is going back again to that the subject matter is just sports and we don’t worry about anything else, I know it shouldn’t be like that but I think a lot of people feel like if I am asked to teach rugby league next year then what do I do ... I’m supposed to be a PE teacher, I mean if I say I can’t do it, I don’t know what to do... you sort of feel really inadequate like it is your fault like you don’t ... I suppose it could happen with anything ... I’ve either done it or I haven’t and I am not saying that I am not willing to learn once I get out I don’t expect to finish here and that’s it , you know I don’t want to learn anything ever again (in terms of professional development or study is meant here) but almost like there is an expectation that because you are a PE teacher you get out and you should be able to teach ...

She also felt that knowledge is something that is a constant. In other words everybody more or less acquires the same knowledge - for example in a course such as this group had just completed. However, the knowledge is interpreted through the lens of
belief (which for example might be a socially constructed perspective). As Carric argued:

I think that when I was doing that what I was looking at was the things with the knowledge base, the things that fitted into like knowledge and theory etc. were things that were the same for everybody no matter whether it was me or Joe Blow down the road that knowledge base wasn’t going to change whereas when looking at the belief that is a really personal thing ... whereas I might believe something to be really important like being sensitive to students needs like one of my priorities... but someone else it might be winning the game is the main thing so the personal belief ... like the main things was that it would be different for every singled person you interview what they really believe. I guess it is something that are experienced... things that happened to you at school, things that you might not have considered and that is something that is still going to continue even when you get out and start teaching whereas that knowledge base is pretty well stable - it is the same for everyone.

**Pedagogical Content Knowledge**

By using such terminology, there is a tendency to believe that the group breaks up the pedagogical act or *balkanises* (Hargreaves, 1994) it. However, this view was countered at different points of the various conversations. This group tended to see pedagogical content knowledge as both the indivisible knowledge of the teacher but also as classroom performance. So for Sarah, she perceived it as teaching strategies or styles. Even at this late stage, her notions of teaching strategies were simplistic. It could be argued that it is only her language that was simplistic and therefore caution might be appropriate. However, her moral obligation as a teacher seemed to be that children should be involved in the learning - not just as recipients but perhaps as constructors of knowledge. Whilst Sarah did not use such language, the inference was
there. However, it is also important to note that her ideas about pedagogy also conformed to what Lusted (1986), says about the indivisibility of the important components of teaching knowledge.

For Jill, when asked just what it is that she knew about teaching (not necessarily physical education), elements of her professional identity come through strongly. There was evidence of personal constructivism (a la Kelly):

Tony: Now when you say background knowledge do you mean ... the actual content itself, (Jill: Yeah)... what about your forms of communication, have you thought about those in terms of ability or is it something that you acquire, will you be directive, will you teach by inquiry, will you teach by asking questions or by telling?

Jill: Ah well I believe that knowledge is constructed so I think a lot of activities should be directed by student activity so the teacher is an aide (Tony: a resource- yeah), someone who provides both opportunities but it is the student themselves who get the opportunity to perform so that they can experience... I really think that that is essential and so that would cut out things like telling but I think there are opportunities and times when those things happen but I would hope those times occur they are negotiated and try and get students to develop some kind of ownership over what they are doing because if you are telling I think ... if I said to somebody um do this... then they are really only going to do it if they want to please me (Tony: That’s right), not because it is an intrinsic thing, so to develop that intrinsic motivation they have to take decisions for
themselves and be responsible for themselves and I don’t really know how I am going to do that.
CHAPTER SEVEN
AN ANALYSIS OF IDENTITY

PART A: THE SELF, SATURATION AND SOCIAL CONSTRUCTIONISM

What emerged from an analysis from Gergen’s perspective is that all of the participants experience a level of social saturation of one level or another. This may be tantamount to claiming who is buried in Lenin’s tomb, in other words, a statement of the obvious. However, it is perhaps the nature of the saturation that is important. The students were neither saturated to the same degree or by the same things. However, by using Gergen’s theory of the saturated self to frame and code the study, all participants can be identified as having been affected to different degrees by the main facets of the theoretical construct.

Assemblage of Images

There is evidence that early in the study, the assemblage of various images of self were in fact brought about by resistance, that is resistance to what was referred to as tradition. By this the participants were referring to didactic forms of pedagogy possibly reminiscent of Shirl Hoffman’s (1971) description of traditional pedagogy. When probed further on this it was clear that the participants’ descriptions of traditional pedagogy meant teacher centred command oriented teaching. For some in the group, they were driven by what might be termed a social justice agenda. Interestingly, social justice would be considered a normal component to teacher education. Indeed in Queensland, when this group of students started their course there would have been in place a Government charter confirming its commitment to a social justice agenda. Significantly, for this group of students, they appear to have regarded physical education as not being particularly socially just (or just at all for that matter). Importantly, it should be noted that not all the students in the study indicated such a strong inclination. This is not to suggest that they had no
commitment to social justice, rather they were overwhelmed by other images and therefore social justice represented a smaller component if you will, of their pastiche.

Sarah for instance argued that *tradition*, by which she means traditional pedagogy, demonstrated a lack of involvement in the children. She did not mean in the physical activity sense, rather in the sense that there is a detachment and the detachment is forged through the notion of a *delivery pedagogy*, which seems to have been a feature of the school experiences of most of this group. Towards the end of the study, she was pushing this further and suggested that her pedagogy would be teaching against the conventional grain. However, we will see elsewhere how Sarah along with other members of the group came to be very heavily influenced by the structures of curriculum and this was another perhaps more dominant way the various selves as pastiches developed.

Jill also argued against traditional pedagogy and as was evident throughout the study, Jill was the one who was most openly prepared to engage in what she described as a ‘socially critical’ approach to pedagogy. She preferred to talk about *diversity* in children and in doing so created an argument loosely based on the notion of there being no one size fits all pedagogy. In doing so, she elevated the notion of fairness as an inextricable part of her pedagogy:

... you have to be consistent in what you are saying and like your practices need to reflect that ... what I was going to say before when I first started uni I guess, I didn’t really have an understanding of diversity and importance ... I didn’t recognise the importance of difference, but I think through being exposed to that and recognising the importance of that, now I think it is really important and I often have fights with my mum about things like gender stereotyping and now I question a lot and you are constantly thinking about things more ... why is that
happening, whether I think its right and constructing those kind of things ... and I guess when you are teaching too you have got to be careful that you don't express your feelings ... if you present a range of things you can choose from this.

Carrie talked more in terms of teachers as having more than one image. She too was driven by a social agenda and again preferred to talk in terms of fairness. Certainly she saw knowledge as being personal and that was likely to bring about different perspectives based on belief. Her reasons for this became more developed by the mid stage of the study when she argued that she was uncertain about the degree to which she would draw on the sources of knowledge she had encountered in her coursework. For Carrie, it was apparent that there would be some kind of selection process so that her pedagogy would, according to her, be best informed. This was widespread and of course meant that in establishing an educational discourse, the establishment of professional identity or identities was also taking place. Carrie, perhaps throughout the duration of the study, emphasised the complexity of being a PE teacher. She felt that part of becoming a PE teacher required her to select knowledge best suited for the professional position she wanted to take (Giddens, 1991). However, she also felt that in terms of physical activities, it was necessary to select those too because she claimed that it was impossible to 'know them all'. Hence this appears to be closely associated with who you are as a teacher, the games player; the gymnast; the swimmer; and in Carrie's case, the dancer which by her own admission is a marginalised area of the curriculum as far as physical education is concerned. As Carrie argued, it becomes necessary to broaden one's expertise and in doing so it would appear to contribute to professional identity. So, though she had been a games player (soccer and netball), in other areas she regarded herself as a novice. Hence her professional position being established:

... I think that the ones that I did feel most comfortable with are the ones I did at school myself, it is like I played netball all
through primary school and all through high school and I’d be quite happy to go out and teach netball whereas something like... I can think of football and not soccer so much because I used to play it at school, but things like football (rugby league) which I have never had anything to do with... to me is like what do I do, how do I teach it, would I be better off having someone who does know what they are doing and teach that rather than me... I did an Aussie rules level O coaching certificate a couple of weeks ago and after doing that course I think... I really don’t know where to start and like you couldn’t possibly begin to try to teach all the sports but how do other PE teachers do that?

And later:

Well like even now if I had to teach high jump and even though we did some of that... and that is like I was saying, I don’t know like I have just finished saying that the theory is important and necessary, but I guess you’d come across PE majors that would say if we hadn’t done all that theory, we could have learned more about the games and sports and so that we could teach them and that is going back again to that the subject matter is just sports and we don’t worry about anything else. I know it shouldn’t be like that but I think a lot of people feel like if I am asked to teach rugby league next year then what do I do... I’m supposed to be a PE teacher, I mean if I say I can’t do it, I don’t know what to do... you sort of feel really inadequate like it is your fault like you don’t... I suppose it could happen with anything... I’ve either done it or I haven’t and I am not saying that I am not willing to learn once I get out I don’t expect to finish here and that’s it, you know I don’t want to learn anything ever again [in terms of professional
development or study is meant here] but almost like there is an expectation that because you are a PE teacher you get out and you should be able to teach.

For both Paula and Sally, the notion of physical education as being enjoyable was the overriding. They did not appear to mean this in the guise of 'busy, happy and good' (Placek, 1983). They both preferred to think how physical education might be made more learnable by a greater number of pupils, and that enjoyable physical activity might be one way of doing this. However, Paula pointed to what she considered to be a problem (or a dilemma). Given the responsibility to develop the whole child, she felt it was a constant struggle to come up with how this could be achieved. Sally had similar struggles especially as she suggested that not all children would like the diet of physical education offered by schools. This constant struggle again appeared to be creating a pastiche. So complicated is teaching physical education (let alone the rest of the curriculum for primary teachers), that a multiple self is almost inevitable.

For Denis and Jeremy, there was an acknowledgment of just how much is needed to be known in order to teach physical education and both of them indicated signs of saturation. However, both of them were, at the same time, governed by certain structures, and these would be common to all the participants in varying degrees. For Jeremy, the power of the curriculum was absolute and saw it as governing his practice, yet at the same time believing that children should have choice and be creative within a curriculum. For Denis, in common with other members of the group, he felt that the PE teacher had to be flexible in order to be able to change to suit local communities or different schools. As Denis said:

That depends on your environment um ... and what's around you, it might be a traditional school - I think that is what I am trying to say there ... if it is a traditional school, you have to teach in a traditional way and not much vary from that, but when you get out
further you might actually find that ... you have to change your philosophies altogether to suit the nature of the school.

There were further dilemmas (though like here, possibly not seen as dilemmas) for Denis later in the study when he questioned the sources of knowledge for teaching physical education. He argued that the apprenticeship model had a lot going for it and likened learning to teach to learning the electrical or plumbing trade. These were some of the learning to teach traditions that had been experienced by other members of the group. Denis felt that the specialist knowledge should go on at university but felt that it was out in the field where as he put it ‘... real learning occurs’. Moreover, he also felt that he remained heavily influenced by his own physical education experiences at school where he was a privileged member of the school community because of his sporting prowess. This had a powerful influence on his identity but clearly was developing into a pastiche since much of what he had done as a schoolboy had been challenged as part of his course of teacher education.

The Relational Self

Drawing from what has just been said about assemblage of images and the notion of the person as a pastiche, it follows that if this is so the selves are likely to be relational. That is, selves will be multiple in order to go about the day to day practice in which they as individuals are involved. Perhaps as one might expect, becoming a relational self is almost an inevitable outcome of learning to teach and in particular learning to teach physical education. So for Denis, in one of his earliest experiences in schools he realised that he was just going to have to do as Giddens (1991) suggests, and just ‘go on with’ things. This was a common experience. It was not the only experience that the students gained in the field. Perhaps it is this that was most confusing and led to the necessity to be a relational self. Of their teaching experiences, they commented that they were different each time. This coupled with the competing claims of knowledge discussed under the thematic analysis meant that in order to go on with things (or what Goffman, 1959 would call their performance),
they had to do so under relational conditions. For Carrie, she felt the constant need to overcome what she saw as oppressive structures, but which were largely regarded as conventional or traditionally didactic pedagogical practice:

I mean teachers have to put their own ideals and prejudices aside (Tony: all right) and try and 'cos I mean you yourself know that you'd much rather work with kids that are good you'd much rather, you know get them achieving really really high levels of performances and leave the others as they are wasting my time but you've got to make sure as a good teacher, you've got to be able to put that aside because if you're ... it's like um ... placing your sort of values I guess on the students and its you that is then um ... sort of holding them back from performing in a sense

What was more apparent for Carrie was that during her final practicum, she had perhaps her worst experience in four years of teacher education, not because she taught poorly (in her view) but because she found the ways of her supervising teacher so difficult to deal with. It emerged from this that not only do student teachers have to behave relationally to in each different context, in the practicum context they have to behave relationally to the process of appraisal conducted by supervising teachers:

Well when I read my report I was a bit disappointed because the reports have a never demonstrated-always demonstrated continuum and on all my other prac I have always been close to the always demonstrated end whereas she told me the very first day that she refused to give a fourth year student always demonstrated because that means that you are perfect ... it was like a speech that she had repaired and all of my ratings were between the two ... I guess that is fine but compared to what I normally get I wasn't happy with it but the comments were quite
good ... one thing was she said I should boss the teacher aides around and ... they were both older than me and it was hard telling them what to do and she [the teacher] said ... no you just tell them what you want and... I don't know she has a good working relationship with one of the teacher aides and with the other I would say that she hasn't ... in fact I would say that they don't get along very well at all and it could be the way she treats her.

For Sally, the roles of teacher and coach were confusing. In their own way all of the students referred to this. In Sally's case, she identified the competing forms of knowledge that informed both of these roles. For Sally, (as for others) because she was an active sports-person (and the investment that this requires) encouraged her to think of the predominant subject matter in PE (i.e. sport) in a certain way. However, she suggested that as a teacher of movement in a class setting she sees sport rather differently, and her role as a teacher of movement has different requirements. In a sense this is not only a matter of developing a relational self, it appears to be a source of professional dilemmas for Sally:

Physical education is educating children ... its for that (fittest/ best etc) in competitive sport arenas and all that sort of thing... at school it's a learning experience for all children (Tony: OK) whereas... I mean I think its great - competition ... I love it but I know some kids don't and I don't think you should place all kids under that situation, and the kids that love it are out there doing it.

The Decentred Self

Aspects of the decentred self are connected to notions of the relational self. However, it is important to pursue Gergen's ideas here about how the self become decentred. He argues that the self becomes less important because of bureaucratic structures. For many of the students, the self is decentred in some way or the potential for the self to
be de-centred exists. For the most part there are three major structures that appear to de-centre the self in this study. They are; the curriculum, induction/socialisation in to the professional through teaching practice; and the local community. Not all of these affected all students in the same way, but they appeared to affect all of the students in some way.

So for example, as has been seen, several of the students were affected by the nature of their practicum experience. It wasn’t so much that the experience was bad in the horror story sense but the experience was bad in so far as the students found themselves teaching in ways that they ordinarily would not have chosen to have done. This of course links with the notions of the relational selves spoken about earlier. For Sarah it was the notion of surveillance in almost everything that she did, even down to the type of chalk that she used, that created the feeling of being de-centred.

For others, the dominance of some of the course work also exacerbated this feeling. For instance the importance that Tricia attached to management was typical of the group and for the most part conforms to the literature. However, this group had engaged in some of the literature that critiques managerialism and the teacher as technician approach to pedagogy within their physical education course work. As a consequence they were mindful of the importance of being well organised but found that the emphasis on management was more overwhelming than they anticipated. They found that management was about showing discipline and having control hence the likelihood of the self being de-centred and becoming relational was as much strategic as it was sociologically constructed. To draw from Giddens for a moment, the problem emerged for many of the group when such pedagogical conduct was endorsed even applauded by their supervisors in the metaphorical sense. This meant that by going on with such ‘day to day practice’ created the conditions for the practices to be recursively reproduced because of the implicit and sometimes very explicit approval. There was evidence however that the students (if not all, then
some) were able to discursively account for this, however, whether they reflexively monitored such practice with a view to changing was unclear.

For Tricia, she acknowledged the structural edifices which come in the shape of the Education Department and felt that even though they can be identified as what Giddens might call the ‘rules and resources’ of a structure, she believed them to be a powerful shaper of professional practice:

Tricia: Well, I think why I put those was because now that we are starting to moving from student to next year actually being a teacher and I think now we are starting to think about ... just your accountability in a way ... just a few prac's that I have been on with PE teachers ... you have to consult this document and this document and make sure you know all this so I think it's just an awareness of ... yes you want to go out and do all these things with the children but you have got to be aware of your boundaries ... the responsibilities that you um are accountable for I suppose.

Tony: And do you see those as adding to your professionalism or do you see them as constraining them?

Tricia: I think in a way, I don't think you should let them rule your life um ... you know whether you totally ... you always think well this is what it says so I have got to do this and do this all the time. I don't think it should be like that you have to be aware of them but I don't think ... because if you were really conscious of them ... it would just control your whole teaching whereas I suppose what
I meant there was an awareness of just knowing that they are there and um ... just teach the kids basically for their benefit not the Department's benefit, ... just to agree with their guidelines because if you did you wouldn't be teaching ... it wouldn't be you teaching ... so in way yeah I think it would be constraining ... but I definitely think you have to be aware of your responsibilities especially accountability.

Perhaps an important phenomenon to note, is that as the emphasis through the study moved away from the discipline knowledge and practical knowledge (of physical activities), and come to embrace what it is to be a professional physical educator, Tricia, unwittingly perhaps, moved further towards the bureaucracy. Elsewhere, she indicated considerable propensity for risk taking. However, she is lulled by bureaucratic power (in the guise of curriculum writers and peddlers). In this way her self became increasing decentered because the importance suddenly becomes attached to the Department.

I wonder if students are not placed in situations where the self is de-centred anyway. The evidence from Tricia and others (see below) would seem to indicate that this is so. This is significant because far from helping them grow into professional teachers, we in fact lure them first into the discourse of teacher education. The result is that they become saturated by theoretical standpoints. They are further de-centred (to perhaps a more severe degree) when the bureaucratised nature of teaching takes effect first during a teaching practice and then when they become socialised into the profession at the point of actually entering it.

Paula and Jill are also governed by structures of management either explicitly in the form of the curriculum in the case of Jill or by the managerial approach to pedagogy as in the case of Paula. For Paula the management and organisation of lessons is
paramount and seemingly regarded as very important knowledge for teaching, particularly teaching physical education:

Paula: I think both as well you organise stuff and then you can think about things that could happen then you might organise what you would do if they did happen and if you go into the actual process of delivery and you are just taking in feedback all the time and relating it to how you organised ... bit that beforehand organisation I found ... I really need to do that ... yeah I have found that my lessons have been really good when I have been clear in my mind about what is going to happen.

Tony: And is that ... is the planning, when you go through it that way for you is it simply that it increases your level of confidence in what you are doing or is it just that you know what you are doing ... do you see the difference between the two ... or is it the fact that you know what you are going to be doing that gives you the confidence in the first place?

Paula: I think just knowing what you are going to be doing ... what do you mean ... is it that I have put in the time and I have organised it and now I should be OK. (Tony: yeah) No ... well you can out in time and still not be really clear about what is going to happen ... it is just that feeling that you have thought it through and you are ready.

For Jill, there was something of a paradox. An opportunity to work on a curriculum document with a friend who was already teaching was in some ways a decentering
experience. Jill found herself following time honoured traditions related to content and timing of content, the examples being, fitting the curriculum to carnival dates, certain sports at certain times of the year and so on. The intriguing part about this was that as Jill described the experience, for which she was grateful, and to which she believed she contributed well, she found herself unable to agree with what she had created.

**Authentic Self Receding from View**

Gergen talks about how when the authentic self recedes from view, the self becomes what he calls ‘unintelligible’. For Denis this appeared to be the case virtually throughout the project. He frequently talked about *picking up* knowledge as opposed to constructing it. He is what could be called a *collector* of knowledge and as he moved from point to point in his teacher education program so he gathered more and more knowledge or possibly more accurately he simply gathered information. In many respects this phenomenon was experienced by all of the students but to varying (usually lesser) degrees. For Denis the use of the repertory grid and the grid conversations indicated that he was constructing his knowledge in this guise. There seemed to be little of a ‘core self’ (see Butt, Burr and Epting, 1997), rather his constructions seemed to be something of a self-discovery, but they were shrouded by the socially constructed world in which he exists. So Denis experienced some discomfort in the conversations as these constructions were tested for their authenticity. This rendered him something of a pastiche. The very process of conducting this study may well have had the same effect on me and I discuss this elsewhere in the thesis. For Denis however, the powerful social constructions that profoundly affect the discourses of pedagogy, had a similar effect on his educational discourse. Perhaps this was his authentic self. However one got the impression that he resisted risk even if it did *de-authenticate* his own discourses.
Carrie experienced different discourses during a teaching practice in which she was placed with two different teachers. Carrie’s description of the experience demonstrates how easily any kind of authentic self can recede from view:

Like in this last semester [semester 1, 1995] I had two teachers because one had resigned and just going from one class to another of similar age just seeing the way two different teachers handled the different students was an eye opener. Like the first teacher, you walked in to the classroom and it was just a happy atmosphere everyone respected everyone else, ... even the room reflected - the room was tidy everyone sort of looked after everyone else. The second class I went to there was always yelling and noisy and there was stuff all over the room there was fighting and pushing ... it was just a different and I think the teacher has a lot to do with that sort of atmosphere, I mean yes it depends, you might have a terrible student or but even in the other class all the students weren’t perfect but the teacher had worked out ways to interact with them that was really effective.

Carrie had to try desperately to weigh up what was true, and what was right as far as a pedagogical discourse was concerned. The tension she experienced between these two examples meant that her ranges of selves were suppressed in terms of how she was attempting to construct knowledge for teaching. By the time of our next conversation, Carrie’s confidence in her knowledge was very shaky. She felt that she knew very little about physical education as a school subject, that is the different activities that traditionally make up the curriculum, and the pedagogy of such activities. This was typical of the whole group. It is important to acknowledge that such a position taken by this group may well represent a less than complimentary audit of the program in which they were engaged. However, it might also be indicative of the uneven and often unruly experiences within teacher education. For
Carrie, this came to a head towards the end of her teacher education course. She indicated that she was reluctant to go into physical education on the basis of her knowledge:

Tony: What about, we will just stay with this for a minute and then we will finally get to the grid, what about PE is that something that you are still interested in doing in terms of teaching or are you not overly worried if you don’t get a PE job?

Carrie: Um I don’t know... it is something I have been thinking a lot about myself lately, especially talking to other PE people and seeing you know, how many of them have applied for PE jobs first or whether they have put them down the list ... I don’t know myself, I didn’t apply for a PE job myself first only because probably that is an area that I am not all that confident with. I feel more confident teaching in front of a classroom I think than teaching PE.

Tony: And why is that?

Carrie: I don’t know whether that is because of the lack of practical experience that we... I know we had one little go.

In spite of this Carrie felt that she had constructed an educational discourse more generally that was able to guide her in what she considered good educational practice. However, shortly after this conversation she went out for her final teaching practice. This provided a powerful reminder of how one’s position can be challenged by the saturatedness of monitored professional practice:
Carrie: Not so much the worst as in the most challenging or anything like that … I think I have had more challenging prac … it was just worst in regard to how I got on with my teacher … and how I was teaching myself … I wasn’t happy with what I was doing but I guess that was because I was trying to fit in with what she taught and how she did it.

And later:

Carrie: Yes… um the very first report which were halfway through and she said that I was too nice and that I should shout more and learn to punish the kids more and get them to buckle down so she made it clear that the way I was teaching didn’t really fit in with her.

Tony: And she clearly has pinpointed something of discipline … was that something that she indicated needed work on … did she say…?

Carrie: I guess that was the thing that annoyed me really there was no reason for why I need to be like that, she said the kids will always try it on and they will try to see how far they can go and I guess they did that initially but I think I didn’t respond by shouting at them … they learnt that I had a different response and I think they respected that and they went along with that but … I think it was more a case that she didn’t like it … I mean she could see that her style of teaching was working for her and she probably thought I should try it as it might help me too but I didn’t see it like that.
PART B: STRUCTURATION, KNOWLEDGE AND IDENTITY: CONTEXTS OF RISK

In this section there emerged three sub-divisions which within the Giddens’ framework used for this study, seemed to contribute to identity most powerfully. The first is what Giddens described as the trajectory of the self. This focuses largely on risk and the path that these students both found themselves on and made decisions about based on what Giddens (1991) called ‘fateful moments’. These played a large part in the development of their professional selves.

Secondly, there is a sub-section that I have called aspects of the self. These aspects are linked to the trajectory of the self but are more closely associated with how the students were able to account for how they went on with things. In this regard the degree with which they could account for their action contributed to whether they took refuge in a protective cocoon, or were prepared to step outside of it and encounter degrees of anxiety. For the most part all participants encountered anxiety, some sought shelter from it others embraced the inherent degree of risk involved.

Finally, the last sub-section is the link between knowledge and identity that can be made within the framework of structuration theory. The duality of structure clearly had a profound effect on how the students engaged Giddens’ ideas about rules of structures, how this affected their perceived role and the intellectual positions they took. All of this was structured through the narratives that were shared with me as the researcher and were therefore formed through a double hermeneutic where practicos and narratives were re-ordered.

The trajectory of the self
This aspect of the analysis focuses mostly on the aspect of risk. Perhaps what can be said in the first instance is that on the face of it there is little evidence of risk in this
study. For the most part the participants avoided notions of risk by constructing their knowledge for teaching physical education in particular ways. However, this is not the full picture. There is evidence that suggests that some of the participants will take limited risks, and only about certain things. Some were adventurous about their pedagogy in discursive terms at least, but were mindful of the necessity to just ‘go on with things’ in the harsh reality of the teaching world. It is also noticeable that risk had the potential to come and go within the study. It will come as no surprise that most risk or potential risk emerged towards the end of the study when the participants were more comfortable with the language of education and teacher education and of the world of schools. There is a paradox here though, and that is that even though the discursive risk appeared at this stage, the experience of the major practicum in their program (at the end of their final year) also appeared to have had a tempering effect on risk-taking. There were some other paradoxes that are worthy of note and these perhaps manifested themselves as dilemmas, which will be further discussed later.

There are some loose linkages that are worth making with regard to pedagogy and educational discourses and constructions of knowledge for teaching physical education. It was evident that the language of critical pedagogy was not widely used by these participants. It was apparent that those who were prepared to take greater risk or as Giddens would say were cultivating risk, were those whose descriptions of their ‘preferred pedagogy’ was removed from performance and was closer to a humanistic concern for children through the pedagogy of physical activity. These persons were closer perhaps to Ira Shor’s (1987) descriptions of critical pedagogues, and Rovegno and Kirk’s (1995) ideas related to socially critical pedagogy which emphasise the notion of care.

**Cultivating Risk**

The approach to teaching physical education of those who cultivate risk would not win them friends in the staffroom of schools. I have talked elsewhere of Jill’s ‘socially critical approach’ *(her words)* to pedagogy would not be the norm:
Jill: I think just allowing each individual to progress at their own rate and to be an individual, and I think socially critical in my mind not just in physical education critically analysing socially constructed norms and challenging them, things like disability come to mind and um having expectations that don’t limit students because of what you think they possibly can do, um and allowing them to do as much as they can.

Tony: Do you see there being, do you see physical education for example as being an important area to be socially critical is it an area where there is potential for great oppression or problems of expectation for example?

Jill: I think there is because especially in competition and that sort of thing, in schools the kids that have got natural ability are perceived differently to the little fat kid that can’t run, and I think that if they are treated like that then that goes over into the person’s life and affects their self confidence so if you treat students even though they do have differing abilities, and you do have to recognise that, but if you emphasis that and make a big deal out of it and do in fact treat that little fat kid as a little fat kid who can’t run and not have expectations then I don’t think that you are exercising socially critical pedagogy, you are not being fair to all the students.

The theme of fairness ran through Jill’s ideas and it was closely associated with her ideas about socially critical pedagogy. The idea of being fair and even democratic with children is often seen as a thin veneer to physical education pedagogy. However, the practical consciousness in which most people engage in going about their day to
day practice (perhaps including these students) tends to mean that the dominant discourse of performance pedagogy becomes prevalent in day to day practice. An *unintentional* outcome of performance pedagogy is in fact unfairness though it is often difficult to see.

Tricia was another who was prepared to cultivate risk. For her, teaching was about experimentation, finding out new things, testing out ideas. Tricia attempted to overcome the sovereignty and hierarchy of knowledge within teacher education by suggesting that no one type of knowledge is more important in shaping her professional knowledge for teaching physical education. However, at the same time she displayed an understanding of the technocratic nature of PETE knowledge:

... all your life, I mean into university you have to have all of these prerequisites and it is all very technocratic but being exposed to I suppose PE in a different way it was very appealing ... of course when we were doing kinesiology it was "this is important, this is important" but then when you get the other side of the story I mean it is important but in the way that ... I mean you don't go up to the child and say "this is a lever" but it is important for you I suppose to get that information ... but still it is important in a way but not like all these things, it is important knowledge about PE but I suppose you communicate in different ways to students but this sort of thing ... it is getting behind the reasons for it all.

And later:

Tony: And what about ... do you think PE is a better medium than other subjects for those other forms of growth that you have talked about?
Tricia: I think so ... I think um... it can be fostered in all curriculum areas but I think with PE there is just so much variety and so much um more that you can experiment with and I think you have got to take risks ... as in a teacher to try and experiment and explore as many varieties as possible and I think with PE you can do that more ... I don’t know whether it is because it is not confined by the classroom ...

For Carrie, there was little evidence of risk in the early stages of the study. In fact she was almost apologetic about ‘not really having any knowledge’ (a paraphrasing of her words). By grid and conversation three however, she began to challenge what she saw as some of the time-honoured conventions of teaching physical education. It ties closely with how she placed children at the centre of her knowledge focus, particularly towards the end of the study. She argued that far from being interested in school teams and records etc she was more interested in physical education actually being a meaningful experience for children and ensuring that physical education success is available to all children with whom she would be working:

You asked earlier about the *Acquisition of Motor Skill* and I said a lot of it was straightforward like practice and so on and I said I probably wouldn’t use it unless I think I said I was coaching something like basketball and I think whereas Kines (kinesiology) is something that I would use in my everyday teaching, to me getting to coach the top basketball team in the school is not an important thing for me whereas for a lot of people to coach teams for a lot of teachers that is great and to get their team to the... [finals/premiership - intended but not said]. I’m not saying that I would get a buzz out of it but if that never happens then it never
happens, it is not something that I will be disappointed about … I’d be more concerned about letting each child, like every child in my class have some level of success rather than letting that team go off and (saying to others) you can just sit down and watch … I think my aim is to just to ensure that like you can’t ever expect little Freddie who is 2 metres shorter than everybody else is going to be a great basketball player … you just can’t do that and of course some people are going to better than others at things but he still needs to experience the things and not be shown to be a failure … and I mean it will be a totally different level but he needs that … and that is a belief it is not a knowledge thing, and that is a decision that if I had to make that’s what I’d do, is make sure that … he might not have the knowledge and skills that others have but he needs that … because then you get into all the self esteem things and in PE it is something that can really shape that.

What is interesting about the level of risk shown by Carrie both in this quotation and elsewhere, is that it had become very strong within her. However, by the end of the final practicum has almost been washed out (Zeichner, 1983) by the very arduous experience she had in her final practicum.

The remainder of the students seemed to employ what could be called a non-risk strategy with regard to their own development as teachers and constructions of knowledge for teaching physical education. Jeremy was something of a paradox that is worth reporting on and though he is not typical, he is representative of how some of the remaining participants felt about different things and at different times. The following extract perhaps demonstrates the non-risk scenario:

Jeremy: I don’t know, like year 7 have fairly er … like high school stuff … not really just prepare them for high school, high
school from what I experienced is just games and there are only skills taught to those doing HPE so provide all kids not just the PE (sporty?) ones with all those skills, like have all of them up to some sort of standard so that the teacher, like what I say I want them to do have them all ... well ... you certainly can't have all of them up but just try for 80% or something.

Tony: And so that they can what ... participate in a range of activities of their choosing, provide therewith some choice about physical activities that they might want to pursue?

Jeremy: I would sort of cover all the skills that are needed like things in athletics and swimming and stuff like that and do all those things and then after that ... I consider games more as sport so PE ... and like you can integrate them but that is sort of different too like sport you don't take them out ... because if I am a PE teacher somewhere I will be running the sport too so you know what they are doing so I would integrate skills so that they are learning to ... hand eye coordination ... have them like subbed on in tennis - some doing badminton and some other sports so that they can apply these skill sand then maybe by the end of the sport program they would have some idea of what games they like the most and towards the end you could set up ... I've seen this done before ... you write the names of some sports on a list and they sign up for what they would like to do next week.
However, in the same conversation seconds later, the paradox emerged in that he came to challenge the whole notion of what he had just been talking about, and cast this paradox as a dilemma of the professional self:

Jeremy: Well I am saying sport in like this area is just like school and sport like I wouldn’t be afraid to … oh I don’t know - play with the … the big image of a schools soccer team or something … like I am a person who wouldn’t throw in all the best players I like to give everyone who wants it a go so … things like that … maybe if it is inter school you would but if it is just in school then I would split groups up and teams up so that everyone would get a fair go to avoid the same ones dominating all the time.

And later, towards the end of the same conversation:

Jeremy: No I think I would like to stay in there like have that contact with kids but I think they need more people to get us away from all this traditional PE and stuff… we can make better programs than that I think and I don’t know if there are positions in the department for things like that going around to different schools talking to PE teachers I think that would be good - to affect all schools not just your school.

Aspects of the Self

I have indicated elsewhere that one of the problems experienced by the participants in this study was the oscillation between ontological security and existential anxiety - the disruption of the protective cocoon if you will. This seems to have been brought about by the nature of the study itself and the power of the grid.
**Ontological Security and Existential Anxiety**

For a variety of reasons, the students in the study displayed far more in the way of existential anxiety than they do ontological security. In part this might be because of the methods of the research itself. This was intentional. Part of the purpose of the research was to stir PETE students involved in the project out of the protective cocoon of secure belief structures in teaching physical education. The degree of success of the strategy is less certain. What did emerge was that even though there are 'pockets' of security, these were easily disrupted by what might be termed professional questions or perhaps better still professional probing. Given that the focus of the study was constructed knowledge for teaching physical education, it is the challenge to both knowledge and therefore belief that rocks the protective cocoon.

**Ontological Security**

This manifested itself early on as a form of *taken for grantedness* in what it is that the participants understand about teaching physical education. There are some exceptions. As I have already noted, Carrie couldn't help but wonder what it was that I could possibly want with knowledge that she felt she did not have in the first place. Paula provided a similar example. Her account of physical education pedagogy was regarded by her as appropriate and fitted the description I have given here. But that is the notion of a protective cocoon, it provides the basis of what is to be done day to day. By the time of the second interview there was an increased level of confidence that seemed to have emerged from an informal practicum experience:

... um I think that the practical experience is important and it is good that we did have some (in PE) but as well I also feel confident in that although I haven't had that much of it, I know what to do and I know how to evaluate how I am using those things.
However, what appeared to cement this degree of security is the faith placed in the structures of curriculum which confirmed her understanding of what was important knowledge in physical education (i.e. the knowledge contained within the curriculum) plus the notion of performance:

um that's why it's probably good in a way that things are already set like this in primary schools there are like basic things that you do ... there is not always different things coming in like they do in ... they do soccer and they do those kind of things and that kind of narrows it down a bit but if you are going to specialise or have a child with special talents then I think you have just got to be ready to sit down and find out about it and work.

For Jeremy, his ontological security came right at the end of the project after a couple of years of being very uncertain in his own mind about the conflicting nature and methods of physical education. His fateful moment came when on his final practicum he worked with an itinerant physical education specialist and was shown how to do things in the real world:

Tony: Now ... so what is it then, what has been the information that you have gained ... is it seeing it in action or is it knowing that you do have the knowledge to undertake such a position?

Jeremy: Well beforehand I probably did have the knowledge but I just didn’t know how to use it but when I saw this PE specialist and his program- it was really simple- he had it all set out in this big folder you'd open it up and find this semester and see what was planned for this week and the night before he would have written out his little lesson
plan and a few notes and he would keep those in an envelope in the folder.

This suggested that there is security in teacher resources and they tend to act as a technocratic fix to pedagogical problems. He continued later:

Yeah um ... well his arrangement of the class sometimes wasn't as good as it could be but just the activities he had like he could teach what he was leading to, he knew what he was talking about and did a lot of activities with year ones with plastic racquets and tennis ball, just for hand-eye coordination - but all these little fun activities that kids wouldn't realise what they were doing they were just out there having fun and he just leads from one progression to another yeah, I just think he knew a lot about it and I think he could integrate that using skills with the kids and he was not only friendly but he had control ... some of them mucked around and he would sit them out, they would see that everyone else was having fun and want to come back in.

For Jeremy this confirmed what the essence of good physical education pedagogy was all about, good control, firm discipline, lots of activity and lots of support resources.

Existential Anxiety

An analysis of existential anxiety does reveal a range of paradoxes within the group in that their security and anxiety are not clear-cut. Rather they are irregular and have changed over the course of the study (and therefore their time in teacher education). For the most part, the anxieties that these students have experienced are to do with knowledge, that is whether they have enough, or closer towards the end of the study, the impending entry into the profession. I argue that both of these had a profound
effect on the choices the group made with regard to teaching; either to join as a physical educator or classroom teacher or in some cases whether to join the profession at all.

As a risk taker, Jill perhaps did not fit the bill with regard to identifying existential anxiety, though she struggled with the notion of being a critical educator. However, she perhaps embodied the fears of the whole group that relate to the prospect of actually becoming teachers. This seemed to be the case for the students irrespective of their position on education, pedagogy or physical education. The protective cocoon that was about to be disrupted was the cocoon of teacher education. In large measure this was linked with the perceived lack of knowledge almost all of the group believe themselves to have. It perhaps would come as no surprise that the lack of practical experience was identified as one of the problems. The degree to which this is true is uncertain. Again Paula was typical of the group when she claimed that they have not been taught ‘... how to look at how we are teaching ....’ Indeed, Paula, in common with others, felt that she wouldn’t know where to begin to analyse say a child throwing the javelin who was having problems. Others in the group expressed similar concern. This is one of the paradoxes given the importance attached to biomechanics throughout the study by the students. Given that, these views were consistent across the group very close to their graduation it posed something of a more general concern which begged the question of when teacher education students are actually ready to be come teachers. For PETE students this seems to be exacerbated by the degree of practical knowledge (i.e. of games and sports and how to perform them) that they regard as necessary.

Jeremy exemplified this. He also argued that he did not have enough knowledge to be a PE teacher, and did so right up to his final practicum experience. This in and of itself warrants further discussion later, but as an example:
Jeremy: Oh yeah, but one thing I would be worried about is maybe the PE part of it I mightn't just know enough ... of the more advanced stuff like basically, I know a basic structure of how PE ... which could get me through but to be more successful and more professional I need to know ... yeah just um ... more advanced.

Tony: What do you mean, what particular things in PE at an advanced level ... do you mean the actual activities or the skills or simply how to plan a program to take it to?

Jeremy: Yeah I think planning programs like... being ... if you ... I know even from talking to people who have been doing PE with me saying next year they wouldn’t really like a PE job because they are just not sure about planning a whole program for a school, like getting ... it is such big role for a first year that we are not prepared for I just don’t think we are sure just what to put in, how much to put in ... like this much swimming and this much such and such yeah... that's more what I think ... and P-10 maybe in some of those upper grades I think I just don’t know enough ...like anatomy all the movements and so on.

The idea of being an agent of social change was also daunting for Jeremy. It is not the case for all, but for those who have difficulty in seeing this role, again it tends to relate to the possibility of having to step outside of the conventions of what they have come to know about teaching. This is perhaps the product of a conservative teacher education course where practicum experience has been gained in a highly conservative school region. The anxiety displayed by Jeremy, which incidentally is in
the same conversation as above, is again consistent in that it reveals a discourse imbedded with a sense of structure and the structure of socially constructed conventions. As he said: ‘You can’t go there changing it too much ... I’m sure they (a school) wouldn’t like it too much if you arrived there and...’ (started to change things was inferred here).

What is interesting about Jeremy is that all of this anxiety was overcome in one go by his experiences on his final practicum, which is accounted for above as an example of ontological security. Pedagogical problems, as he saw them (that related to his perceived lack of knowledge), can be solved with a technocratic fix.

For Tricia a similar pattern can be seen. In early discussions she showed great anxiety in her concerns for the hidden curriculum and oppressive practices that unintentionally exist within physical education. This itself was a disruption even though she embraced the discourse and ideology of challenge to convention. However, as she moved towards the conclusion of her course, her language became imbued with a sense of structure. Her concerns switched from a critical agenda to how (or whether) she could fulfil her professional obligations as she began to see them. Of course this was more in terms of departmental requirements.

Tony: Mmm, I suppose it is riskier to begin with because the environment is far more open. Alright, let’s move on a little bit ... we’ll stay with the elements - on number 7 (awareness of professional responsibilities and roles) now given that our context was "knowledge for teaching physical education"... my question to you is what do you see as your professional responsibilities and role-can you describe?
Tricia: Well, I think why I put those was because now that we are starting to moving from student to next year actually being a teacher and I think now we are starting to think about ... just your accountability in a way ... just a few pracs that I have been on with PE teachers ... you have to consult this document and this document and make sure you know all this so I think it's just an awareness of ... yes you want to go out and do all these things with the children but you have got to be aware of your boundaries ... the responsibilities that you um are accountable for I suppose.

Again, this is something of a paradox since in the same conversation there was evidence to suggest that Tricia was a risk taker. This perhaps represents one of Tricia's dilemmas of the professional self. Taking a position on issues are dealt a severe challenge by the conventions of normality.

Whilst not a risk taker, Sarah exhibited similar behaviour with regard to her perceptions of her knowledge and the looming entry into the professional ranks. Sally experienced something similar (and she would be identified as a risk taker) and like others attributed the concern to the lack of a formal physical education practicum.

For Denis there is a slightly different story. Early on in the research, Denis's existential anxiety was brought about by the nature of the research itself. The grids plus the conversations meant that Denis was made to confront how he saw knowledge for teaching physical education. Indeed the whole group faced this. This was unashamedly one of the purposes of the research. For Denis however, it appeared to be far more unsettling because it became apparent to him that he was quite uncertain about knowledge for teaching physical education. This was an abrupt disruption given that at the outset, he framed everything by what he called 'common
sense'. For example, he found it hard to account for how changes in children’s skill could be brought about. Was it just a growth and development thing or was it teacher intervention? If the latter, what knowledge had the teacher drawn upon to bring about such change?

Later in the discussion he attempted to distinguish between sport and physical education because one of the elements on the grid; knowledge of PE, seemed ambiguous:

Er ... knowledge of sports activities in a sense is separated from physical education ... now sports activities is obviously a knowledge of how to play the sports, the games the activities whatever... knowledge of physical education in another sense also ties in with the mechanics, knowing all about the broader context of PE -not so much just the games and activities but you know, it involves mechanics and theory ... that's cr... what I think I meant by knowledge of physical education.

He continued to struggle when asked whether he could create knowledge. He suggested that he could not and that knowledge was simply out there to be appropriated. In other words he struggled to see himself as a theory builder, and yet the very act of not seeing himself as a theory builder was contributing to his theory of teaching physical education.

Towards the end of the study, Denis’s existential anxiety was much more about how he perceived his emerging role as a teacher. Again it was paradoxical. On one hand he exuded great confidence within himself to become a great teacher, and yet he continued to believe that he just might not be knowledgeable enough to fulfil what might be expected of him. This was a professional dilemma for Denis and was common across the group. The problems of both knowledge and role contributed
enormously to the dilemmas of the group to a point for some where they opted not to teach physical education but to go into the classroom by preference. What is important about this is that it is highly likely that the nature of the research may well have contributed to these decisions.

For Carrie the problems were similar to that of Denis’s, at least early in the research. She felt that she was uncertain of the knowledge needed to teach physical education and acknowledged that it was very complicated. Towards the end of the study, the disruption was, like for many, to the security and comfort of teacher education and she moved ever closer to entering the profession:

I think yes more confident um … Like I think next year I am really looking forward to it - it is a bit scary to think I am going to be there by myself with no teacher there to say whether this is right or wrong but at the same time, you get given a class and it doesn’t matter whether they are a good class or a terrible class I mean you find these in every class and you just have to work with them and you can’t say they are too hard for me because next year what happens then … do you say sorry I can’t do this?

She revealed in the course of our discussions that early anxiety in the course was related to simply surviving: the work demands (as being different from high school), understanding the knowledge requirements and so on. She suggested that children were not something she thought widely about, indeed this would be common for all of the students in the early part of the study. As she moved through the course, children became central to her thinking. This can be seen within the knowledge themes. However, this brought about her next set of concerns, whether she is knowledgeable enough as a teacher in particular as a PE teacher:
Um I don’t know... it is something I have been thinking a lot about myself lately especially talking to other PE people and seeing you know, how many of them have applied for PE jobs first or whether they have put them down the list... I don’t know myself, I didn’t apply for a PE job myself first only because probably that is an area that I am not all that confident with, I feel more confident teaching in front of a classroom I think than teaching PE.

... like I said before at first you just got through it whereas now you start to try other things but with PE I am perhaps still back there ... I don’t know ... my supervisor last year he said “coming out for PE?” and I was more worried about that than some of the other lessons ... I guess it is experience with the teaching... I mean you teach maths everyday on teaching practice whereas PE you might get to do once in the prac (Tony: Yeah, if you are lucky)

And later:

   Well like even now if I had to teach high jump and even though we did some of that ... and that is like I was saying... I don’t know like I have just finished saying that the theory is important and necessary, but I guess you’d come across PE majors that would say if we hadn’t done all that theory, we could have learned more about the games and sports and so that we could teach them and that is going back again to that the subject matter is just sports and we don’t worry about anything else, I know it shouldn’t be like that but I think a lot of people feel like if I am asked to teach rugby league next year then what do I do ... I’m supposed to be a
PE teacher, I mean if I say I can't do it, I don't know what to do... you sort of feel really inadequate like it is your fault like you don't... I suppose it could happen with anything... I've either done it or I haven't and I am not saying that I am not willing to learn once I get out I don't expect to finish here and that's it, you know I don't want to learn anything ever again (in terms of professional development or study if meant here) but almost like there is an expectation that because you are a PE teacher you get out and you should be able to teach.

By conversation four, Carrie had found her professional integrity severely tested in the practicum context and her notions of teaching were at odds with the conventions of her supervising teacher. This manifested itself in practicum reports that she regarded as inappropriate. In terms of learning to teach, this was part of Carrie’s learning from a negative result and its contribution to her knowledge development was from a negative perspective.

**Practical and Discursive Consciousness**

Giddens (1991) tends to separate these two almost by virtue of the degree of reflection (rather than reflexivity) involved in them. He argues that as actors we do reflexively re-order our practices. However, the degree to which we do this is contingent upon whether we are acting reflexively upon practices that we just go on with and can account for in a normalised fashion, or upon practices about which we articulate at a deeper and possibly more significant level. One of the limitations of this research is that by using the methods of personal construct theory, the participants were by virtue of such methods engaging in an analysis not of their practical consciousness but more of their discursive consciousness. However, it is possible to see that in being discursive about their practices, the day to day commonsensical language tended to indicate that constructions of knowledge were within the realm of practical consciousness or what Goffman (1959) called...
performance. Given this, there was something of a blurring of these two terms largely brought about by the nature and methods of the research.

In this sense it could be argued that the discursive consciousness of students was in fact their practical consciousness, in other words the way they went on with things during the learning to teach physical education process. This does warrant further discussion, as there is a suggestion that in fact the methods for personal construct psychology are relatively weak in doing the things that might be claimed for them. This will be explored later and I will argue a case against this view given the evidence within the study.

**Practical Consciousness**

The conflating of the terms through the evidence of this study can be seen as being embodied by Jeremy. For him notions of pedagogy became a technocratic fix as we have already discovered. This is perhaps captured in the following extracts:

> Not really, we did learn about teaching some more but the thing was... it was just things that when I was teaching... you do something and five minutes after you think yeah I remember that from Uni things like that... like when I was teaching volleyball I set up a few stations... just organisation and I remember thinking oh I remember doing that in the pavilion... it was just applying the learnt skills was what I though was good and like some might be successful and some mightn't but that is part of the learning process, you make decisions from there... that was what I liked - you did learn but I had all that knowledge but I learned how to use it more I think.

And later:
Jeremy: Well yeah … like the top of it was there but I couldn’t remember everything so I would go back to my notes though really the only notes that I referred back to were my PE ones … like I wouldn’t refer back to any of the others from the units that I have done at Uni but the practical PE ones, they were so helpful most teachers say you can chuck your Uni notes but I found the PE notes useful.

Tony: Was that content or teaching method?

Jeremy: Yeah, like teaching methods and strategies and all the little things that you can do. Remember those things on gymnastics and we used to write them down … things like that - like if I taught gymnastics I would go back and look at that and use a few of those things … they are really practical things like that.

This is representative of Jeremy’s approach to just going on with things or perhaps what might be called ‘habitual rules’ and in this regard, such an approach provides considerable ontological security and as Giddens suggests recreate the conditions for this practice to be recursively reproduced.

In many respects, it was this regularity of pedagogy that captured the practical consciousness in the students. Those who challenged such positions within their own professional development were the risk takers and found that their discursive consciousness created for them levels of existential anxiety.
Discursive Consciousness

For Denis, evidence for this emerged in terms of change represented by his position elucidated through the repertory grid. This warrants inclusion as it perhaps demonstrates how really getting at a personal truth beyond that which is socially constructed might be possible. This is contentious and again warrants further discussion, particularly as it may appear that there is contradiction with what has been written elsewhere in this thesis. Denis seemed able to articulate a change in position from grid to grid. However, if one looks at his text, it can be seen that social constructions were indeed powerful throughout the study and exerted some considerable influence on how he saw the world of teaching physical education. In this regard, there was some confusion, which continued into conversation three and it can be recalled that this confusion was the cause for his existential anxiety. By conversation three there was confusion but his constructions avoided risk strategies and the source of his knowledge was deeply embedded in the practical in terms of his own performance and in terms of performed pedagogy. So this underpins what I argued earlier, that discursive consciousness in fact can manifest itself as practical consciousness.

For Sally, her unwrapping of what she called inclusive teaching lead her to argue the position that much of physical education is exclusive by its nature. This fits with her social justice agenda and contributed to her acknowledgment that children have different experiences of physical education which in turns affects how they feel about physical education:

Yeah, I think that there as I said before that some kids have got positive attitudes and some have got negative attitudes and I think that is developed because of previous experience and that sort of thing … you’ve got to consider that so some kids are going to need more encouragement, a bit more self confidence building activities and that sort of thing.
Early in the study there were two lines of evidence that indicate how Carrie was not just going on with things in teacher education. This evidence also showed that she was able to expose how she was thinking about and coming to understand how human movement knowledge fits into her broader professional knowledge for teaching physical education. Furthermore, she made several attempts to describe what she saw as her role as a physical educator, and this indicates the relatedness of knowledge and role in terms of professional identity. For example, her analysis of how physical education is frequently reduced to various forms of competition rather than other educative outcomes (remember she talked in particular about dance) illustrated both how her discursive consciousness was helping her define her role as an educator and to 'construct' what knowledge was most meaningful. In doing so, as I indicated earlier, she cultivates risk because this kind of thinking breaks free of the socially constructed conventions and the generally communally agreed upon facets of a PE teacher's role.

**Multiples selves, core selves or de-authenticated selves**

In the postmodern era the notion of a core self or authentic self is simply not valid. I have already drawn from a range of authors who argue as much. However, I believe it warrants a further discussion as the evidence here suggests not necessarily a core self in the stable psychological trait sense. But certainly notions of self are within these data that suggest something of a process which both de Peuter (1998) and Butt Burr and Epting (1997) describe. The process of becoming for these students really meant that through the personal construct activities, there was a search for what it meant to be a teacher of physical education. The positions that the students variously took within the discourses that surround physical education were acknowledged as always being under threat. So for some the retreat into the protective cocoon could for some, can be seen as a core self, as transitory as this might have been. If Jeremy's case is reviewed, it is seen that he was greatly relieved when he was able to work with a PE specialist. The self he assumed was in the guise of his mentor on that
particular practicum experience. This is not to say that Jeremy will not become ever
more saturated with time, but that one experience alone allowed him the luxury of
thinking he had found what teaching physical education was all about.

For others, a core or authentic self was unlikely even in the transitory sense. The de-
centredness some of them experienced as a direct result of the degree of surveillance
under which they found themselves meant that they would become relational selves
almost as a survival mechanism. This was so because they found themselves within
competing regimes of truth. For Jeremy, whilst he experienced an alternative regime
its power was such that he was prepared to abandon any prior notions of what
teaching physical education was about. In this sense, whilst he may have many selves
to deal with the many contexts he will find himself within, there might be some that
lie closer to his core self than do others.

For others in the study that I have called the *risk takers*, whilst they may have had no
discernable core self, the focus of their professional life (at the time) was to teach
against the conventional grain. That they found this difficult was disruptive to their
sense of becoming. They did not seek any kind of solace in a protective cocoon but
did find themselves ‘just going on with things’ (to paraphrase Goffman) in order to
get through practicum situations. For this particular group, de-authentication occurred
in this way. Any authentic self that this group might have had was again not a stable
ontology but a moving construct. It was representative however, of a professional
commitment and orientation and though perhaps part of a fragmentary self, it did
indicate a direction of the selfhood process. These students, to use the words of de
Pcuter (1998) sought order and coherence ‘... within and between the textual
interplays of dialogic voices’ (p.45).

AN END NOTE TO CHAPTERS 5, 6 AND 7

In the next chapter I reflect on the data and attempt to re-theorise physical
education teacher education along the hybrid theory lines. What I think these
chapters have shown is that the nature of self is the binding agent of the study. By using George Kelly’s ideas of personal constructions, I was able to provide opportunities for the participants to articulate their views, constructions or theories about teaching physical education. It was quite apparent that they were, in accordance with the individuality corollary, personal. This provided a canvas upon which together, we the (participants and myself) could interrogate this thing called teaching physical education. The theories of identity upon which I drew provided for me, additional analytical tools which have allowed me to see how constructions of knowledge both shape identity which itself shapes the constructions. The perceptions that the students had of themselves as PE teachers were, to use Giddens (1991), reflexively re-ordered in light of new experience. The degree of re-ordering is clearly different within the group. In my view, this is reflective of the level of risk that individuals were prepared to take in order to think and act outside of convention. It can be seen, using Gergen’s (1991) analysis, just how powerful the social construction of convention is as a structural edifice. I feel the theoretical framework used to analyse the data provide a language to re-theorise PETE. I attempt this in chapter eight.
CHAPTER EIGHT

REFLECTIONS ON THE DATA AND AN ATTEMPT TO RE-THEORISE PHYSICAL EDUCATION TEACHER EDUCATION

I have written elsewhere (Rossi, 1997) that part of the purpose of this research was to attempt to get the participants of this research to 'see things differently'. In some cases this was highly successful. In other cases, it was less so but a fundamental feature of the research was change. It is important to emphasise that Kelly's theory had at its core the central theme of how people make meaning of their world and it is this which underpins the philosophical tenet of the theory which as has been described, Kelly called 'constructive alternativism'. Just to review, this meant that there are a number of ways an individual may construe an event. This 'construction' is the basis for how future predictions of similar events will be made. However, when this prediction fails, there is an alternative view. It is known that liberating this alternative is sometimes difficult and may even require another person for example a psychotherapist or, in the case of teachers, a critical colleague. Kelly felt that it was important to emphasise that constructive alternativism was in direct contrast to what he termed 'accumulative fragmentalism' (see Kelly, 1970) or the notion that the truth was something that was collected bit by bit.

The emphasis for Kelly then is not so much that additional facts or information necessarily increase our knowledge or understanding of the world, rather it is how we construe the world that is of greater importance. This is made clear in Kelly's (1955) original work, '...constructs are not to be confounded with the factual material of which they are personalised versions; they are interpretations of those facts' (p.94).

Consequently, I argue that in this study, the repertory grid, far from just chronicling change, was a significant factor in bringing it about. However, the resistance shown by some of the students to consider notions of teaching, pedagogy, knowledge for
teaching physical education in other ways was strong and for some such resistance
gained strength the closer the students got to graduating and actually entering the
Teaching profession. This may be akin to Zeichner’s (1983) ideas about washout, now
some 16 years old, but it was more complicated than this. The stories contained
within the broader story of the thesis reveal a convoluted path that these students and
possibly all students take to becoming a teacher. It is a pathway where risk will be
encountered, chances taken and challenges made ... but not for all. Such routes ways
are disruptive and challenge us to emerge from the protective cocoon that Giddens
(1991) talks about. Should students not take such risk, in other words engage in what
I have called a non-risk strategy through their teacher education experience, then they
are likely to construct knowledge sympathetic to social constructions of knowledge.
As a result they are likely become immersed in regulative discourses which will
profoundly shape both their day to day practice and thereby their professional
identity. In this sense such students will, as I have already suggested buy into the
community of agreement which is normalised by its representation as a dominant
discourse. I would argue that this is present in the data.

For some, this was clearly not their chosen path and such persons can be identified as
certain players in the preceding drama. Those who have been prepared to take risks
have been the ones who were prepared to engage in a critical discourse. They did this
in the way they constructed a (rather than the) knowledge for teaching physical
education. It was these participants that cultivated risk (Giddens, 1991) by
challenging both what they saw (for example in the school experience context) and
what they once believed to be true. The very process is indicative of what Giddens
(1991) calls discursive consciousness and by engaging in such a process encountered
a level of existential anxiety that was difficult to overcome. The easy way to have
overcome such anxiety would have been to retreat to the habitual, just to have gone
on with things, or as Goffman (1959) suggests, to have engaged in a day to day
performance. That they did not was both courageous and perhaps dangerous. As
Tinning has suggested (1990), to see things in different ways runs the risk of being
seen as a crank or charlatan. For these students, this was the foundation of their dilemma of professional identity, they could see the counter tendency of common sense (Billig, 1988) but were aware of the regulative powers of commonsensical pedagogy and the ease with which one could be governed by it. It is in this sense that the necessity to become a relational self emerged. For some, the slipping into multiple discourses was easy in that it was a sign of compliance and a support of the various communities of agreement. For risk takers among the group however, it was almost strategic subterfuge. They had to demonstrate that they were worthy of being part of the profession and in doing so it was sometimes necessary to present a veneer of approval for what they experienced, saw and indeed on occasions, acted out.

Commonalities

In a story made up of eleven other stories including my own, there are some constants or perhaps commonalities. These are not necessarily exactly the same examples of commonality. In some cases commonality as seen through the commonality corollary can be detected but other examples are of phenomenological trend. In other words, students experienced the same trend but different examples of it. In other cases, the commonality was in the reporting of an experience or in the construction of knowledge and it is important to explore the articulation with social constructions here.

It sounds trite to say it but the only thing that was constant throughout the study was change. As I indicated earlier, one of the purposes of the research was to get the participants to see things differently. I was not concerned that they should see things as I do, in fact I regard this as unhelpful in their development as teachers. However, it seemed to me that the resistance to see things in other ways was well-documented (Gore, 1990; Macdonald and Brook, 1993; Macdonald and Tinning, 1995). Moreover, Tinning's (1990) argument that to view what is seemingly the obvious and commonsensical in other ways, is generally regarded with great suspicion encouraged a research process that was immersed in the dialogical (Bahktin, 1986).
To clarify further, to view conventional practice as problematic can seem to be going against the *professional grain*, potentially leading towards existential anxiety Giddens (1991) which in such cases can manifest itself as professional insecurity. The outcome then is one where the teaching of physical education is shrouded in the nuance of movement and exercise science, is anchored by the body-as-machine metaphor, and lauds competition as a taken-for-granted self evident good. In other words this dominant discourse is difficult to see in other ways unless it can be done in a non-threatening shared manner. This was what personal construct psychology seemed to offer. Elsewhere (Rossi, 1997) I called it a reflective space and this was always a central purpose of the study. To provide a way that students could begin to articulate their ideas through their constructed knowledge about teaching physical education.

Previous attempts to encourage PETE students to look at physical education in different ways have had success mixed with failure in equitable measure. It was for this prime reason that some of the traditions and methods of personal construct psychology guided me. It seemed that it would provide both a way of coming to understand how student teachers construct knowledge for teaching physical education and at the same time, the reflective space of which I spoke earlier. I would argue that this study demonstrates that both appear to have genuine possibilities for PETE.

**Change**

It is appropriate to ask two significant questions, what was the degree of change and how much of that change can be attributed to personal construct psychology? This might be speculative but I can only report on how the students regarded the process. Almost all of them suggested that the process, to use the voice of Carrie, ‘... kept bringing us back to what we are here for’ (conversation three). This was not necessarily an approval. Rather it was an acknowledgment that the process *forced* them to confront their own thinking about the very core business of why they were at
university, in teacher education, specialising in physical education. Perhaps what can be attributed to the process is the direction of change for some of the students. For those willing to be risk takers, the change was significant. These students positioned themselves as critical educators, some using the language of the critical educator (like Jill for example) and others doing so in the absence of a tangible language but still moved in that general direction (see the stories of Carrie and Tricia).

I should not present the impression that the therapeutic qualities of personal construct psychology have some magical powers to produce critical educators where critical theory and action research and critical pedagogy in teacher education has had limited success. Moreover, even those that positioned themselves outside of dominant pedagogical discourses were still caught up in others and this, for them, was a source both of existential anxiety and, as one might imagine, dilemmas of the professional self.

**Regulatory Discourses**

The essence of the regulatory discourses appear to be exclusion practices which have either been witnessed by the students, experienced by them (as part of their own physical education) or promoted by them (albeit inadvertently). So from Jenny's story, it can be seen that she witnessed a narrow framework of pedagogy that she regards as the product of male hegemony. This has had almost disturbing visions of deja vu since as has been indicated, it matches the kind of physical education that she herself experienced. Other regulatory discourses appear to emerge out of implicit surveillance perceived by the students to exist in certain communities particularly of a rural nature, (see MacDonald and Kirk, 1996, for more on this).

Later in the study, Jeremy was consumed by the *structure* (as in rules that govern a community of practice and the resources one seems to need to part of that community) of the department and perhaps the implicit structures of the teaching
profession more broadly. In this sense his language was highly regulated. The connections between regulative discourse and the curriculum are readily seen here and are discussed more generally below. Constantly acknowledging the curriculum was itself regulative even for those who might be described as the risk takers.

For Tricia an important mediating experience was the informal practicum experience that was arranged for the Curriculum Studies in Physical Education unit. She argued that the environment was restrictive, but indicates that formulaic rules and resources were at the heart of the restrictions. Tricia’s preparedness to cultivate risk was evident within her story.

Paula seems to rely on the community of agreement in directing her towards acceptable aspects of the truth when it comes to knowledgeability in physical education teaching. There can be no doubt about some of the procedural knowledge which she regards as important but its overemphasis is structural and related to the formulaic rules one finds in teacher education and in schools. This has a tendency to make pedagogy narrow to the point of one dimensional in some cases.

The evidence from the conversations that the community of agreement is indeed powerful and perhaps though these become personal constructions they in effect de-center the self as the self becomes consumed by rules, and agency becomes the social construct Gergen claims it to be.

Denis didn’t see himself as a knowledge creator. Rather he saw knowledge as steadfast, resolute and absolute. He even argued that if something is changed (reflexively) it still has an original source of knowledge (which it does). There was some anxiety in this for Denis and it could be argued that there is much saturation (in Gergen’s terms) that is contributing to this. There also emerged some evidence of governance by structure and perhaps the diminution of the self as a pastiche (assemblage of images).
Sarah raised the issue of community as a powerful structural element and as a controlling feature of pedagogy. But so was the school as a similar structure comes into action here. Under such circumstances the self does become an assemblage of images and in this regard (and as described by Gergen and in Sarah’s case) the self would be seen as a pastiche which would represent a dilemma of professional identity.

By the end of the study, it was also apparent that throughout the project, the potential for the fallibility of knowledge gained through the practicum was a real one. In Giddens’ terms, student teachers could be subjected to formulaic rules that activate structurally governed practice. The whole area of teaching practice with its hierarchies and power dimensions would indicate that such an experience can be gained.

*The* Curriculum

The notion of curriculum tends to figure in two aspects in the data. The students talked about curriculum as something that must be known about and also as something which must be enacted. *The* curriculum then, was regarded almost as sacrosanct. It appears to have such status bestowed upon it by all the students in the study including those who attempted to position themselves outside of dominant discourses. In this regard then, the curriculum, and really it was the syllabus that was being referred to, acts as a structural device in the process of learning to teach physical education. In this sense it embodies the duality of structure that Giddens (1984) talked about. The students in this study as they moved towards graduation were increasingly regulated by the necessity to adhere to *the* syllabus. So even the risk takers in the group were wary of challenging the discourse of the syllabus. Again, this in part formed a dilemma for some who felt that whilst they wanted to take intellectual risks, there were structures that were always likely to thwart such development.
This dilemma then for the risk takers was paradoxical. They earnestly wanted to engage in pedagogical practice which if not emancipatory, at least placed the children much closer to the centre, found that to do so ran the risk of professional admonishment from those who know better (my words). Another factor that warrants inclusion in this discussion was that in Queensland where most of the participants are likely to work as teachers, there is a new discourse surrounding the official and sanctioned syllabus. This has grown out of a national move to provide similar curriculum experiences across the states and territories of Australia. At the time of the study, the students would have had little exposure to the appropriate documentation other than draft forms of the national statement. What the document in fact provides, as it moves closer to implementation, is the scope for teachers of physical and health education (the recognised subject or Key Learning Area to use local parlance) to develop a range of learning experiences largely through a range of forms of physical activity. These need not mean exclusively sport. It is important to raise to the discussion the fact that as a group, they may well have seen the new syllabus as flexible enough to suit all pedagogical interests. Given that it is founded on a social model of health, the risk takers may have felt some comfort (and perhaps will feel some comfort) in working within it. It is perhaps more the case that those wedded to a notion of games as a dominant discourse may find their protective cocoons disrupted.

Managerial concerns

Even though this manifested itself in different ways, there is evidence that this is a commonality. It figured strongly in all of the students' constructions of knowledge for teaching (physical education) and became more important as the study went on and the point of graduation moved closer. For some, management was simply something one did to ensure that the true intended pedagogical outcomes could at least be strived for in a lesson or unit even if they were not completely achieved. For these persons it was simply about setting up the most appropriate conditions for learning to take place. For others however, management in the broadest sense seemed to be an objective itself. It was seen in the literature that this is a prime concern for
new and pre-service teachers, but for some in this study it was a source of great existential anxiety. There were questions of discipline, knowing how to set up lesson structure, how to organise a unit of work, how to plan for the long-term. These anxieties were perhaps shared by all but clearly to varying degrees. Those who felt the greatest degrees of anxiety were those who felt that without such skills or knowledge, they would not be able to teach. By elevating managerialism to this level of importance, it became a significant, if almost overwhelming feature of their pedagogical knowledge.

Other types of knowledge

Perhaps most obvious within the data was the virtual ambivalence towards the biophysical sciences. The only persistent form of knowledge in this regard was kinesiology and more specifically biomechanics. Other areas of knowledge were virtually a non-entity unless it attracted criticism for example exercise physiology for its elitist nature. What is noteworthy about this, is that it does challenge some of the claims about exercise science as a dominant discourse. Though the case for this is tempered by the focus of their course of study (primary education). However, even where importance was attached to the body and to fitness, exercise science was seen to be of only marginal help. Among the strongest criticisms tabled by the students was that exercise physiology as a course of study was constructed in almost the total absence of reference to children, paediatric fitness and children’s metabolic response to various levels of exercise intensity.

Even biomechanical knowledge was somewhat transient. Increasingly, the students whilst agreeing that it was important, felt that its impact upon the grids was because it was the area of the course being studied at the time. Whilst it appeared to maintain some importance throughout the study, perhaps because it provides a language of movement, it receded as the study progressed and was not so much reduced as
relegated to an intuitive form of knowledge the closer the students got to graduation. What became more important, (it seems) is what it meant to be a teacher.

It is important to note that even though this type of knowledge was regarded by some to be irrelevant (as indicated earlier, exercise physiology in particular) it was none the less afforded great status. This seemed to have more to do with its perceived degree of difficulty (as in difficulty to pass) than the contribution it appeared to be able to make to the professional knowledge of the physical education teacher. Again, this is consistent with my earlier point about the challenge to the claim that the biophysical knowledge is the dominant discourse within teacher education. For these students, it was certainly not the case. As I indicated, their intended career paths into primary education meant that the importance of such knowledge would always be minimised or marginal at least. However, it was more a case that the students regarded some aspects of their course to be misdirected. They felt that in addition to far greater attention given to paediatric exercise physiology and training programs for young athletes, there ought to have been a greater investment in physical growth and development as significant and important course work. This was close to unanimous with the group generally indicating that it was something they were going to have to develop whilst they were in the field. Other areas within their program were barely mentioned throughout the study at least as discipline knowledge. The risk taking members of the group appear to have made much closer alliances between being a teacher and the sociological concepts they would have encountered in their courses in say the sociology of sport, curriculum studies or pedagogical studies. Motor learning and motor control are conspicuous by their absence.

Hence, it was knowledge of children that they regarded as most important. This related to their general growth, their cognitive development and their motor development (rather than motor learning- even though these might be seen as
inextricably linked). There were regarded as being of greatest significance for them as developing physical education teachers of young children.

**Becoming saturated, becoming relational and dilemmas of the professional self**

It is not unreasonable to suggest that the students in this study found themselves, by virtue of this study and by the nature of their studies in teacher education, under conditions of saturation. They were caught within multiple discourses, many of which were directly related to them becoming physical education teachers. Inevitably some of the discourses competed and the students were forced to make decisions or to take positions where a range of discourses could be served. This was at the centre of the challenge of social constructionism, as the challenge was to their very ontology. Certainly, the degree of doubt that was cast did mean that, at various stages the students found themselves experiencing serious existential anxiety. Some within a grid conversation and others to the degree that they either made decisions about teaching (i.e. not to) or they made decisions about teaching physical education (i.e. not to). Attempts to overcome this were made either by constructing forms of knowledge that were safe, for example knowledge of the curriculum meant that there was a degree of decision making they were happy to have removed from their hands. Alternatively, the students developed relational selves. It was in this sense that the constructions of knowledge were fragmented and there is consistency between Kelly’s (1955) fragmentation corollary and Gergen’s (1991) idea of the relational self. The risk takers in the group did this less, preferring perhaps to exist in a state of risk rather than assume positions, with attendant roles, which compromised their own professional identity. This is not to suggest that they did not change. Indeed as Giddens (1991) suggested, identity is forged across the continual reflexive ordering of narratives. However, they did this within the confines of a more critical context. For this group, the notion of becoming, within a critical framework, represented their authenticity. It was not a stable state of mind but was, as de Puiter (1998) suggested a temporary outcome through which coherence (albeit transitory) was available.
Moreover, such coherence was for these students, as de Peuter indicated ‘... a resource in situated dialogues...’ (p.44).

Re-theorising Physical Education Teacher Education

Identifying forms of knowledge

As Lyotard (1984) has indicated, within the postmodern era, knowledge in contemporary western society is so contestable that it is impossible to know of the state of knowledge without understanding something of the society in which it is produced/situated. Moreover, it was indicated earlier that he suggested knowledge produced within societies is so unstable that it represents a complex blend of knowing which he argued couldn’t be reduced to science. This is consistent with Giddens’ notion of sociological research as needing to be more humanist, since the structure of society is, as has been described earlier, inherently linked to human action and is not objective, static and absolute in the Durkheimian sense (Layder, 1995). Hence Lyotard suggested, that the nature of such knowledge emerged through narrative such as the forms of narrative within this study. Narrative forms of knowledge he suggested have come to take precedence over the sterility of scientific knowledge. Such narrative is able to play a greater role in establishing the criteria for what might be counted as knowledge; in other words it can define the criteria for competence.

Lyotard’s argument seems to be able to be sustained since, as is seen in this study (among many) knowledge for teaching (physical education) is inherently complicated. To be knowledgeable as a teacher then seems to lack stability and can only be authenticated in temporary terms. If, according to Giddens (1991), knowledgeability represents part of one’s identity, then it follows that the self as a dilemmatic construct is inevitable. In order to cope with the multiplicity of knowledge and the competing claims for truth, Gergen (1991) as we have seen, suggested we enter into agreement with others and form, via dialectic means ‘communities of agreement’. In doing so, we as human agents are likely to find
ourselves in a range of settings where competing claims for truth and knowledge play out a battle for ascendancy. Since we are inevitably caught up in this battle, our selves become relational (Gergen, 1991). We become a pastiche or what Gergen refers to as an assemblage of images. Thus Gergen claims, that we become *multiphrenic* ... someone with many selves. It is apparent that the pre-service teachers in this study have not been immune from this.

In general, it is assumed that teacher education makes provision for a change in perspective from undergraduate student to teacher. This change involves a student acquiring the professional skills and knowledge to be an effective beginning teacher. However, as has been described, there has been a tendency to rely heavily upon teacher education pedagogy imbued with a sense of technocratic rationality. The shortcoming of such an approach is that it creates an 'objectivist' theory of knowledge that sees knowledge in autocratic, impersonal terms and absolute terms.

The dominant discourse that emerges from this is a form of pedagogy underpinned by efficiency, managerialism, and corporate competence. Hence a teacher dispenses content in a manner supposedly established by scientific research, and which perhaps conforms to Friere's (1970) banking metaphor and what McLaren (1994) called mainstream pedagogy.

It can be confirmed then, that in this context, teachers’ professional knowledge is viewed as absolute and that once acquired teachers then ‘know how to do it’. This makes no real sense. For the most part the lives of teachers are complex with many hundred points of contact per day. The idea that a one size fits all pedagogy can therefore not be taken seriously (Lawson, 1990). Pedagogy is that complex relationship between the learner, the teacher and knowledge, these are inseparable (Lusted, 1986). Which means for a teacher to implement what amounts to a subjective code of professional knowledge is fundamentally a process of problem-solving, and professional competence is the skilful application of theoretical
knowledge to the instrumental problems of practice. This is where the classical gap between theory and practice is generated. Technical rationality generates a form of teaching knowledge that can help to inform practice aimed at the pursuit of fixed and absolute educational ends. However, in teaching the ends are always contentious; they tend to be unruly; and often conflicting. The problems of the real world do not present themselves as givens, but as ‘... ‘messy’, ‘indeterminate’ and ‘problematic’ situations which arise because of ‘conflicting values’” (Carr, 1989, p.9). Therefore, this form of knowledge has only limited use.

For many teachers, action is based on their own, largely tacit, knowledge of what they are doing and what they are trying to achieve. The social parameters, which shape these ‘social constructions’, are seldom noticed it appears unless a teacher or pre service teacher is actively prepared to discursively engage them. A focus on the personal knowledge of teaching can lead to what (Gilroy, 1989) termed a ‘subjectivist’ theory of knowledge. Supporters of this theory of knowledge hold to the view of encouraging pre-service teachers to develop personal knowledge from their own individual experience. In this view there is no gap between theoretical knowledge and practical knowledge, because there is only one form of knowledge, one’s own. The subjectivist denies the usefulness of knowledge that is not ‘personal’, however this claim of sovereignty over knowledge effectively isolates teachers from their profession, colleagues and researchers of education. Such isolation leaves a teacher without a support system, a way of communicating with colleagues or a way of gauging their professional development.

This is a significant problem. I have discussed here the structures within which teachers have to work are themselves structured by certain rules and resources required to exist within that context (Giddens 1984). Such rules and resources have a way of shaping social practice. This social practice then recreates the conditions for the structure itself to be reproduced (Giddens, 1984), and teachers and pre-service teachers, as is shown here, tend to be caught within such a recursive cycle. This is
understandable. What such a cycle creates is a system of security, it does so because
drawing from Gergen (1991) it can be argued that there is established a community of
agreement about what represents good teaching. Moreover, new recruits to teaching
are governed by the degree of surveillance that exists within such structures and
ensures that there is an adherence to structural rules. Macdonald and Kirk's (1996)
study of new physical education teachers in rural districts in Australia is informative
here. In the Macdonald and Kirk study as with this one, there were expectations about
how to behave, how to look and what and how to teach. It is little wonder then that
new teachers of physical education are shaped by the conventions of practice
commonly agreed upon, and handed down in a commonsensical fashion and seldom
subjected to the rigours of critique. The sovereignty of their knowledge then, whilst
seemingly in the private domain, seems to be a structural device which comes about
through the double hermeneutic that Giddens talks about. It does this through the
implicit surveillance inherent within Gergen's notion of a community of agreement.

I have indicated elsewhere (see Rossi and Hopper, 1998) that to overcome this,
knowledge of teaching clearly has to be personal but must also be collegial, shared
with others who teach, not in the surveillance sense, but as part of a critical
community. Knowledge of teaching has to have both objectivist and subjectivist
elements without allowing one discourse to dominate the other. To do this we need a
sense of knowledge for teaching that emphasises the social dimension of knowing,
the sense of self and others.

From a social sense of knowledge the objectivist has to accept that contamination
with uncertainty becomes inevitable, and the subjectivist has to accept that individual
autonomy can only be expressed within the context of the social world. The social
dimension of knowledge, because of its nature, is inevitably uncertain and based on a
social structure within which people operate. By basing knowledge of teaching on a
social dimension the emphasis in teacher education (pre and in-service) should be
upon situating knowledge.
Situated or contextual knowledge then is a shared body of knowledge that is inherited from experience and colleagues and has its essence in the practical. To understand contextual knowledge teachers use personal knowledge from their frameworks of knowing. From this framework teachers ‘... make sense of practical situations, formulate goals and direction for action and determine what constitutes acceptable professional conduct...’ (Shön, 1987, p.32-33). Hence in physical education teacher education, opportunities for pre-service teachers to understand the inherited knowledge that constructs their personal framework about teaching in a context, as well as the professional knowledge that informs the art of teaching must be created.

Knowledge for teaching then must be a reflexive theory of knowledge. Since the plates of pedagogical practice are constantly shifting, it is appropriate to confirm again that it makes no sense to talk about teachers’ knowledge as being rooted in a single dimension. However, here lies the problem. Most physical education teacher education students including some in this study have a voracious appetite for answers to pedagogical problems. For the most part they want to know how to do it. However, as we have seen stock answers have only limited use. The requirement of the teacher to be able to be reflexive in almost every situation means that the she might have a range of selves with which to cope with such a degree of saturation (Gergen, 1991).

Theorising further
It is useful to take these ideas further. I have argued elsewhere (Rossi and Hopper, 1998; Rossi, 1998) teaching needs to be seen as a dynamic and moveable construct that interweaves personal knowledge, professional knowledge and the structural qualities of the contextual. It is my view that personally constructed knowledge is overwhelmed, perhaps colonised is a better word, by what is considered to be professional, which has its basis in socially constructed norms. There is a blurring of these in that the power of such professional knowledge comes as we have seen, from a combination of a scientific legacy craft knowledge, and the plain commonsensical
in which teachers invest heavily. This is a dominant discourse and is structured by the very context in which one is operating.

Student teachers need to transform these knowledge structures into their own agency as they narrate their practice and strive to understand the pluralistic perspective that surround these practices and are influenced by their actions. Knowledge for teaching physical education that is transformed in this way, can contribute to developing professional teacher knowledge in the official sense or at least in the private sense of the particular context of teaching.

Whilst this may be attractive as a way of thinking about the knowledge upon which the professional practice of physical educators is based, it is problematic. It is so because one can see the potential for conflict among the forms of knowledge as they are likely to compete for ascendancy, particularly as socially constructed dominant discourses come to exact certain pressures to conform. These are the conditions under which the self is likely to become saturated (Gergen, 1991). This warrants attention since the self of becoming a teacher is largely marginalised in physical education teacher education. Yet we know from the work of people like Lortie (1975), Graber (1989) and Schempp, (1989) that students arrive at PETE programs with well-developed self-generated theories of pedagogy. The self in italics is intentional because Gergen (1991) and Shotter (1993) would argue that the theories of teaching students arrive at college with are in fact social constructions which emerge through Gergen’s notion of a community of agreement. Such theory therefore exudes little relationship between reality and truth; the correspondence between these is weak. But this is what social constructions are like. So when we ask students about their constructions of teaching, it may well be that they in fact buy into a community of agreement which is rooted in the own apprenticeship of observation.
The possibilities of personal construct theory

I have previously argued (Rossi, 1997) that the therapeutic qualities of PCT could be useful in PETE. By encouraging re-construals through the dialectic relationship between researcher and participant, a critique of the taken for grantedness and commonsensical can be undertaken. In this sense, not only is learning to teach physical education a reflexive project, but it can become a 'critical' project because we ask students to engage in self-critique. This can be dangerous, since if as Gergen (1991) suggested that persons become caught in the maelstrom of 'multiphrenia', then all we might expose is the multi perspective nature of person-in-context. This disturbance of ontological security can be deeply threatening. It is this very day to day practice that Giddens (1984, 1991) and Goffman (1959) have indicated arc so difficult to elevate to the visible. Giddens (1991) indicates that such practical consciousness is linked to habitual routine. I argue that much of what stands for physical education teacher knowledge is based in habitual routine. Teacher practice then that might be considered as normal is that taken-for-granted social practice which is seldom questioned or reflected upon, indeed it is simply done. Perhaps it is useful to consider normal more closely. Giddens (1991) again draws upon Goffman's (1959) term normal appearances to argue that they are integral routine interactions. Moreover ‘...how far normal appearances can be carried on in ways consistent with the individual's biographical narrative is of vital importance for feelings of ontological security’ (Giddens, p.58). In other words it is important in order for us to feel that there is continuity or order in the events around us. It is this day to day routine that provides the protective cocoon.

Habitual routine then that has taken for granted qualities about it and is framed by a form of knowledge bounded, by rules of structure (Giddens, 1984) and folklore (Buchmann, 1987) and is indicative of the dominant discourse in teaching physical education. It forms a loose alliance with technocratic forms of pedagogy to which were alluded earlier. Hence physical education pedagogy is dominated by utilitarian questions such as 'how do I teach soccer or the high jump, how should I organise a
group for swimming practice or basketball lay up shooting?” perhaps rather than questions such as ‘why should I teach soccer’ or ‘what are the consequences of organising groups in this way? The former questions are important but they are limited in that they represent questions about basic generic skills which teachers tend just to go on with. I have already indicated that moving beyond practical consciousness is vital for effective physical education pedagogy. Hence the role of teacher education is to make the unexplainable, explainable, or better still to make the ordinary - extraordinary. In many respects this follows Goffman’s ideas as described by Giddens (1987) (speaking of Goffman) ‘...He seeks to disclose the unfamiliar in the familiar, to produce an intellectual estrangement from what is most common and habitual in our day to day activities’ (p.114). In the same way, I argue that the disturbance of the protective cocoon represents a way to encourage reflective (and reflexive) educational practice in physical education pedagogy. It may well be that new equilibrium, new discourses and new alliances are represented by a new the position of security for the teacher of PE. This is likely to be the multi-perspective that Gergen talked about. The crucial thing is to get teachers of physical education to both see it and act upon it.

Whilst this is disturbing, the move from a protective cocoon into a situation of existential anxiety can provide the basis for reflexive pedagogical work. Moreover, it seems to provide an opportunity to regain the critical project from which postmodernism seems to have retreated. There is no guarantee of this, but a critical engagement of how students approach their professional practice and their personal theorising of their practice is possible through the methods and traditions of personal construct theory. I have found throughout this study and in allied work, that as a mediating experience, the repertory grid appears to provide a way for individuals to really examine what it is that they believe they are trying to go on with (see Hopper, 1996, and Rossi 1997). Both Hopper (1996, 1998) and myself have found that the repertory grid and grid inspired conversations to have been helpful for the participants of these studies (and indeed ourselves) to critically examine the nature of
educational practice. This has provided opportunities for the students with whom we worked to bring to the surface that practice with which they just went on with. This close scrutiny of what Goffman (1959) refers to as everyday performance means that it can be placed into the realm of discursive consciousness. Remember, by discursive consciousness, Giddens (1991) is referring to when an actor can give an account of particular issues. It is this to which I feel PETE students must aspire. I have found this to be achievable through personal construct theory.

Knowledge, physical education teacher education and the links to identity

Giddens (1991) premised his model of self-identity on the assumption that to be a human being is to know. He argues that actors reflexively monitor daily social action and can describe discursively the '…nature of, and the reasons for, the behaviour in which they engage' (p.35). My concern is with the level of discursive description by which physical education teachers and student teachers are able to account for their actions. One of the reasons is that if Gergen's (1991) analysis is robust then in fact even though teachers may have some language to account for their actions, they none the less find it difficult to break the shackles of socially constructed knowledge. It is the saturatedness that contributes to this and clearly has a profound affect on identity. These resemble the conditions of existential anxiety about which Giddens talks. It is under such conditions that teachers will experience dilemmas of the self (see Billig, 1988 also Berlak and Berlak, 1987). I argue that by recognising and grasping the plurality of the many kinds of knowledge which touch upon learning to teach physical education and by understanding the configured form it takes, PETE students can come develop into knowledgeable teacher of physical education.

This process can be assisted, by including the notion of dilemma as part of the theoretical construct. This is because student teacher constructions of educational discourse are frequently framed by the commonsensical. Moreover, the commonsense foundation of physical education pedagogy is as I have already alluded, underpinned by a technocratic philosophy. Hence if a purpose of physical
education teacher education discussed above is to problematise the very day to day business of teaching physical education, then we are seeking way for student teachers to see things differently. Herein lies the problem. Billig (1988) and his colleagues suggested then that dilemmas may be used as the vehicle for this since this encourages '... dilemmatic aspects of thinking...' (p.8). He and his team argue that the contrary themes within common sense facilitate the emergence of social dilemmas. Under these circumstances, commonsense must therefore be viewed as dilemmatic. Moreover, they argued that if this is so then: '... the contrary themes of common sense represent the material through which people can argue and think about their lives, for people need to possess contrary themes if they are to think and argue' (p.9).

Commonsense then, as an indicator of knowledgeability is itself unstable but it is a fruitful area in which to engage persons in the rhetorical process of argument. This dialectic provides a way to resolve some of the problems of the dilemmatic self framed by a commonsense knowledge. As Billig said, '...The existence of such contrary beliefs is then taken as evidence for the hopeless confusion of commonsense...' (p.16), indicating that whilst commonsense is usually shared and often a powerful governor of agency, it is severely limited in its usefulness to inform. However, highlighting the dilemmatic qualities of commonsense may indeed be a useful strategy in the learning to teach process via a dialectic process (Shotter, 1993).

This is crucial since commonsense represents such a potent force in the thinking of pre-service teachers then one can assume from Billig's analysis that it is dilemmatic. But how is this seen and what knowledge structures are at work to support commonsense as a dilemma in the first place? In this study, the methods of PCT have helped in bringing this out into the open for the participants. Once exposed, the rhetorical device of argument and the professional approach of reflection were used to construct important knowledge for teaching physical education and for forming a professional identity. It was under such conditions of saturation, that the selves of the
participants became what Gergen (1991) describes as relational. So risk takers and non-risk takers alike became assemblages of images or multiple selves.

To draw further from Billig, in this regard, the social condition dilemmas will be ideological in their nature. Dilemmas are not just out there, but they are historically located within the life story of individuals. Similarly, the individual is part of a greater community and sub-communities (such as professions) and workplaces (such as schools) within professions. Every-day thinking, therefore is not an isolated act but one conducted within the limitations of the community in which one exists. In this sense then, dilemmas may well be shared within the community. Hence in stressing the ideological nature of thought, and the thoughtful nature of ideology, Billig is closely aligned with Giddens (1984, 1991) who considers humans as knowledgeable actors.

But what about reflexively re-ordered narratives - is the knowledge valid?

Narrative knowledge, Lyotard (1984) suggested provides knowledge that is just as worthwhile, equally as useful and more commonly shared. Shotter (1993) argued that it is through conversation that our realities are constructed. However, the status of such knowledge is weak largely because it is not founded on verifiability and falsification that to the scientist, represents the crucial requirements of legitimisation. The relevant criteria against which narrative knowledge and scientific knowledge must be judged are necessarily different; they require different language and are for different purposes. Scientific knowledge retains the notion of knower and non-knower whereas narrative knowledge is a collegial construction through the dialectic. The parameters of verifiability and falsification then are irrelevant, narrative knowledge requires no such legitimisation, it is legitimised through being part of the culture (or subculture) in which it emerges. In the case of this study, it was the culture of physical education teacher education and teacher education more broadly, in which for some (myself included), new narratively structured knowledge emerged.
Identities in physical education teacher education: A view from the researcher’s chair.

-A postscript-

I have already indicated that within the story of this study there is a thread that is my own tale. This is inevitable in a study such as this. At the outset I drew from Britzman’s (1993) position about wanting to know more about the world I inhabit, that is physical education teacher education. I have emerged from his process some years later and again perhaps inevitably, a different person. This is a well-worn cliché but I do not make the claim lightly. I do not claim for instance, that I emerged a better person, simply different. To use my own words, I now see things differently. Part of this has to do with living a process of research, part has to do with the insights shared by the persons who assisted me and part of course is my own history. My own background, though rooted in the working class has been shaped by elite schooling (a selective London grammar school), high level sports performance (representative rugby union) which itself gave entry to a highly masculinised form of physical education teacher education (I shall withhold the name of the institution!). Whilst I can reflect fondly on some of those experiences, they created a very narrow view of the world based on highly controlled, Enlightenment inspired knowledge. I suspect I took such a view into my teaching career and even though I made often attempted to step from this shadow it is only now that my identity has been challenged to any degree of severity.

Hence, this process has forced me to reassess the very nature of what I do and in doing so has forced me to challenge the views of the people with whom I work. Therefore I too have faced periods of existential anxiety, not just from doing the research (a fateful moment itself) but through the mediating experience of the process itself. I am reluctant to proceed further with this as it may induce some form of baby boomer narrative to which those of similar age seem prone. Suffice it to say, the research has not been one sided. I may well have encouraged the participants to see
things differently, but I myself have continually re-ordered my own narratives. I have probably experienced saturation as described by Gergen (1991) possibly to a point where I felt I have to develop some grand narrative surrounding physical education teacher education. Learning to retreat from this position has provided both a protective cocoon and high degrees of existential anxiety. I too, like the participants have oscillated between the two.

A final word
I may well have developed through this process, a warrant for some kind of expertise. However, expertise is something I have come to see differently. In that regard, I am not sure that this study provides many answers. I hope however, it asks some serious questions.
References


Connelly (Eds.), *Teachers' professional knowledge landscapes*. New York: Teachers College Press.


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Sage, G. (1993). Sport and physical education and the New World order: Dare we be agents of social change. *Quest* 45 (2), 151-164.


Thomas, J.R. (1986). Are we already in pieces or just falling apart? Quest 39(2) 114-121.


Tinning, R. (1993). We have ways of making you think. Or do we?: Reflections on training in reflective teaching. Invited address to the International Seminar on the training of Teachers in reflective practice of Physical Education. Trois Rivieres, Quebec, Canada. July.


APPENDIX A

CONSTRUCTING A REPERTORY GRID
How a Repertory Grid is created

1. The participant is first asked to think of (a minimum of) six things that are related to or important for the context that has been set for the session. In the case of this study, the context was always ‘knowledge for teaching physical education’ and the participants had to think of that they considered important for teaching physical education. An example of such a list might be:

   knowledge of children;
   knowing how children move;
   games and sports;
   teaching techniques;
   mechanics of movement, and
   knowing how to give feedback.

2. The computer program then offers a number of procedures. The one chosen in this study was triad. For this, the computer selects three elements at random and puts them on the screen, thus:

   mechanics of movement

   knowledge of children

   teaching techniques

3. The participant then has to choose one of these as being different in some way to the other two. In the example, let’s say knowledge of children was identified. The participant then highlights this choice and the program sorts the triad onto a pole with the highlighted element at one end and the remaining two at the other (see overpage).
(way in which this one is different)
knowledge of children

mechanics of movement

(way in which these two are similar)
teaching techniques
4. As can be seen, there is a small direction for the participant to follow at the ends of the pole - this will give the grid its bi-polar appearance. Below is a response to the direction

(Has to do with children)

knowledge of children

mechanics of movement
teaching techniques
(related to teaching)

As can be seen here, the task has been undertaken. To the side of this pole the other elements are listed so that they can be placed on the pole in a position where they are considered to fit best, that is to which end of the pole are they most closely associated. This is done using a simple click and drag technique. The result might be as follows:

(Has to do with children)

knowledge of children

- knowing how children move
- games and sports
  - knowing how to give feedback

mechanics of movement
teaching techniques
(related to teaching)
5. This process is repeated until all the triads have been completed or until the participants decides to conclude. Obviously the more elements there are the more possible triads there are. In the case of this study, some participants were happy with six elements but some listed many more and consequently it tended to generate bigger, more complicated grids.

6. At the completion of a pole, the program can generate this into a grid which shows the bi-polar labels now layed horizontally and between these are the ratings (or positions along the pole) for the remainder of the elements. These have numerical value (the default scale in the program is 1-9, but I chose 1-5 as I was really only interested in approximate position of the elements on any particular bi-polar arrangement. This represents a personal construct. The number of times that this process is repeated, represents the number of constructs there are on the grid.

7. All completed grids for this study are in appendix E.

Focus Grids

A focus grid uses exactly the same data but organises it differently in grid format. This is where the numerical values are useful. The program arranges the constructs such that the degree of relationship between the constructs on the grid can be shown diagrammatically. This can also be done using a correlation coefficient in the Principal Component Analysis command. This was not used in the study. All focus grids for this study are in appendix E.
APPENDIX B

DATA CODING SYSTEM
Coding system for identity analysis

Social Constructionist Theory/Saturated Self

<table>
<thead>
<tr>
<th>CODE</th>
<th>SIGNIFIED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Soc.Con</td>
<td>evidence of social constructionism- psychological traits that appear to be social/historical constructs- constructed more through one’s place in time and space</td>
</tr>
<tr>
<td>Self.Dec</td>
<td>Decentred self: representing a decrease in importance of the self- largely due to bureaucratic intervention (state/corporate)</td>
</tr>
<tr>
<td>Auth/Self.Rec</td>
<td>LINK WITH</td>
</tr>
<tr>
<td>Auth/Self.Rec</td>
<td>The authentic self as receding from view- Gergen’s argument is that personal action is constrained by our abilities to make our personalities intelligible (care here as contradictions with Giddens are possible)</td>
</tr>
<tr>
<td>Sat.Self</td>
<td>Evidence of the self as being Saturated- through structures of what Gergen prefers to call postmodernity… lack of coherence in relationships between agents, structures, and agents and structures</td>
</tr>
<tr>
<td>Soc/Struct.Inf</td>
<td>Evidence of multiple influences of many social structures (often many at one time) … multi-layers of influence</td>
</tr>
<tr>
<td>Truth/Coal.Subj</td>
<td>Evidence of Gergen’s notion that truth is a ‘coalition of subjectivities’ (NB there may be aspects here of knowledge and truth being subject to power relations)</td>
</tr>
<tr>
<td>Commun.Agree</td>
<td>Evidence that truth can only be expressed in terms of “communities of agreement”</td>
</tr>
<tr>
<td>Ass.Img</td>
<td>Evidence that the self is an “assemblage of images” … the self is seen as a pastiche</td>
</tr>
<tr>
<td>Self.Rel/Self</td>
<td>Self as a relational, subjectivity governed by relationships</td>
</tr>
</tbody>
</table>
## Structuration and self identity

<table>
<thead>
<tr>
<th>CODE</th>
<th>SIGNIFIED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rules:</td>
<td></td>
</tr>
<tr>
<td>Hab.Rout</td>
<td>Evidence as part of a self regulatory discourse through rules which rely on habit or routine (as part of the process of the recursiveness of narrative)</td>
</tr>
<tr>
<td>Reg.Ru</td>
<td>Evidence of rules of thumb and privileged knowledge through time honoured practices (see Grundy for more on this)</td>
</tr>
<tr>
<td>Form.Ru</td>
<td>Evidence of rules which are more germane to structure</td>
</tr>
</tbody>
</table>

| Posn    | Evidence of positioning... important as it contributes to formulaic rules and regularized social practices. Relates to knowledgeability of teachers and how they become positioned over space and time |
| Role    | Relates to both positioning and therefore professional self identity (A source of dilemma)                                               |
| Rec/Org.Prac | Evidence of recursively organized practices... this reveals what the actors know and how they apply such knowledge this leads to knowledgeability (link this to discursive consciousness and practical consciousness) |
| Kn.Abil |                                                                                                                                 |
| Med.Ex  | Evidence of mediated experience ... The mediation of human experience through socialization, culture. Important as this will contribute to the reflexive development of self identity also is important regarding contact with so-called expertise |
| Re-knlg | Evidence that re-knowledging occurs through mediation ... can be related to re-skilling                                               |

### Aspects of the Self

<table>
<thead>
<tr>
<th>CODE</th>
<th>SIGNIFIED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ontol.Sec</td>
<td>Evidence of ontological security</td>
</tr>
<tr>
<td>Exist.Anx</td>
<td>Evidence of disruption of Ont.Sec and situations of discomfort where knowledgeability is at odds with various structural expectations</td>
</tr>
<tr>
<td>Dis.Cons</td>
<td>Evidence of Discursive Consciousness... the means to describe and explain accountancy</td>
</tr>
<tr>
<td>Pract.Cons</td>
<td>Actual agency (agency in practice)</td>
</tr>
</tbody>
</table>
**Trajectory of the Self**
*(self-identity as an existential question)*

<table>
<thead>
<tr>
<th>CODE</th>
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</thead>
<tbody>
<tr>
<td>Risk</td>
<td>An aspect of knowledgetability and the trajectory of the self-</td>
</tr>
<tr>
<td></td>
<td>particularly relevant to decision making</td>
</tr>
<tr>
<td>Non.Risk</td>
<td>ought to be included but does not appear in Giddens' analysis</td>
</tr>
<tr>
<td>Court.Risk</td>
<td>Evidence of courting risk - for Giddens this means not seeing risk -</td>
</tr>
<tr>
<td></td>
<td>being forced to question fixity</td>
</tr>
<tr>
<td>Cult.Risk</td>
<td>Evidence of risk being cultivated which is a preparedness to</td>
</tr>
<tr>
<td></td>
<td>question fixity</td>
</tr>
</tbody>
</table>
APPENDIX C

CONTENT ANALYSIS: THEMATIC GUIDELINES
## Thematic Analysis

### Classes of Knowledge

<table>
<thead>
<tr>
<th>Propositional/Declarative or knowing that</th>
<th>Knowledge of teaching, learning, broader education knowledge</th>
<th>Practical/Performative/Procedural knowledge or knowing how</th>
</tr>
</thead>
<tbody>
<tr>
<td>PE Sub-discipline knowledge</td>
<td>pedagogical knowledge</td>
<td>knowledge of movement including skills and techniques</td>
</tr>
<tr>
<td>biomechanics and anatomy collectively known as kinesiology</td>
<td>physical education pedagogical knowledge knowledge of curriculum theory</td>
<td>knowledge of sports and games including: rules, dimensions, codes, regulations</td>
</tr>
<tr>
<td>acquisition of skill or motor learning</td>
<td>knowledge of the curriculum</td>
<td>includes practical ability to be able to perform the above (see Arnold regarding knowledge in the strong sense and the weak sense)</td>
</tr>
<tr>
<td>biological bases of human movement - often known as exercise physiology</td>
<td>knowledge of children knowledge of the children knowledge of schools and school systems - including rural schools, urban schools and schools within communities</td>
<td></td>
</tr>
<tr>
<td>sociological aspects of sport and physical activity</td>
<td>knowledge of growth and development</td>
<td></td>
</tr>
</tbody>
</table>

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334
### Dilemmas of the professional self

<table>
<thead>
<tr>
<th>Academic dilemmas</th>
<th>Knowledge dilemma</th>
<th>Professional dilemma</th>
<th>Dilemmas of socialization</th>
<th>Dilemmas of the self: Questions of the Self</th>
</tr>
</thead>
<tbody>
<tr>
<td>standards</td>
<td>practical competency</td>
<td>teaching competency</td>
<td>being a teacher</td>
<td>Who am I?</td>
</tr>
<tr>
<td>passing/failing courses</td>
<td>worth of knowledge</td>
<td>teacher knowledge</td>
<td>being a student teacher</td>
<td>What do I believe in?</td>
</tr>
<tr>
<td>rites of passage</td>
<td>content</td>
<td>professional knowledge</td>
<td>perceptions of master and apprentice</td>
<td>What do I know?</td>
</tr>
<tr>
<td>studentship</td>
<td>disciplines</td>
<td>content</td>
<td>becoming a professional</td>
<td>What can I do?</td>
</tr>
<tr>
<td></td>
<td>teacher knowledge</td>
<td>knowledge</td>
<td>rites of passage</td>
<td>Can I do this job?</td>
</tr>
<tr>
<td></td>
<td>professional Knowledge</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>rights of passage</td>
<td></td>
<td></td>
<td></td>
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<td>335</td>
</tr>
</tbody>
</table>
APPENDIX D

CONSENT FORM
CONSENT FORM:

I, of

Hereby consent to be a subject of a human research study to be undertaken by

and I understand that the purpose of the research is (to be completed by researcher)

I acknowledge

1. That the aims, methods, and anticipated benefits, and possible hazards of the research study, have been explained to me.

2. That I voluntarily and freely give my consent to my 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. Individual results will not be released to any person except at my request and on my authorisation.

5. That I am free to withdraw my consent at any time during the study, in which event my participation in the research study will immediately cease and any information obtained from me will not be used.

Signature: Date:
APPENDIX E

PARTICIPANTS' GRIDS
Display Grid 2

Elements: 7, Constructs: 7, Range: 1 to 9, Context: Knowledge for Teaching Physical Education

The way lesson is taught and equip. used determines effectiveness.
Large influences on what is taught ie content, skills.
Determine how well a skill or content is taught and learnt.
Both influence the planning of a learning experience.
This is knowledge teacher uses to benefit students learning.
Teacher uses to benefit student learning experience help to construct learning procedure.

1. Not directly involved with procedure of lesson.
2. Minor factor when determining content.
3. Not as great a role in achieving objectives of lesson.
4. Provides teacher with knowledge about how the body moves and how to teach a skill.
5. This is knowledge teacher uses to benefit own instruction.
6. Teacher uses to benefit own instruction.
7. Used as aid to teaching instruction ie practice a skill.

1. Ability to utilise available equip. effectively.
2. Awareness of physical & anatomical structures.
3. Know ol & how to do a variety of P.E activities.
4. Know & implement good teaching methods.
5. Make P.E enjoyable as well as educational.
6. Students cognitive, affective & physical d'ment.
7. Awareness of safety procedures & first aid.
**Display Grid 3**

Elements: 9, Constructs: 8, Range: 1 to 5, Context: knowledge for teaching physical education

<table>
<thead>
<tr>
<th>1</th>
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</tbody>
</table>

1. more personal knowledge indirectly related to learner
2. used based on the needs of the learner
3. involved in the actual teaching process
4. effect what content is delivered
5. related to subject of P.E
6. not a teaching practice
7. determines the quality of teaching
8. not a teaching practice
9. know how to provide adequate and corrective feedback
8. implement good assessment and evaluation procedure
7. know how to perform the various P.E. skills and games
6. ability to utilise available equipment effectively
5. know and implement a variety of teaching methods
4. students cognitive, affective and physical development
3. strategies to motivate students and make learning
2. awareness of safety procedures / first aid and com
1. knowledge of basic physical and anatomical structure
Focus Grid 2

Elements: 7, Constructs: 7, Range: 1 to 9, Context: Knowledge for Teaching Physical Education

- This is knowledge teacher uses to benefit own instruction
- Teacher uses to benefit own instruction
- Large influences on what is taught in content
- Provides teacher with knowledge about how the body moves and how to teach a skill
- Not as great a role in achieving objectives of lesson
- Not directly involved with procedure of lesson
- Help to construct learning procedure
- This is knowledge teacher uses to benefit student learning
- Teacher uses to benefit student learning experience
- Minor factor when determining content
- Both influence the planning of a learning experience
- Determine how well a skill or content is taught and learnt
- Way lesson is taught and equip. used determines effectiveness
- Used as aid to teaching. Instruction is practice a skill
- Ability to utilise available equip. effectively
- Know & implement good teaching methods
- Make P.E enjoyable as well as educational
- Awareness of safety procedures & first aid
- Awareness of physical & anatomical structures
- Student cognitive
- Know of & how to do a variety of P.E activities
Focus Grid 3

Elements: 5, Constructs: B, Range: 1 to 5, Context: knowledge for teaching physical education

| Involved in the actual teaching process | 3 | 2 | 2 | 1 | 5 | 6 | 2 | 3 | 3 |
| Effect the quality of teaching | 7 | 1 | 2 | 2 | 6 | 1 | 1 | 3 | 3 |
| Effect the delivery of the content | 4 | 1 | 1 | 2 | 5 | 2 | 2 | 1 | 4 |
| Used based on the needs of the learner | 2 | 6 | 1 | 1 | 2 | 2 | 3 | 1 | 3 |
| Teaching practices | 6 | 1 | 1 | 1 | 2 | 3 | 5 | 5 | 5 |
| Teaching practice directly affects the learner | 8 | 1 | 2 | 1 | 1 | 2 | 4 | 5 | 3 |
| Related to the learner | 1 | 2 | 2 | 1 | 1 | 2 | 5 | 4 | 3 |

3 involved in the organisation of teaching process
7 determines the quality of teaching
4 effect what content is delivered
2 intrinsic to the learner
6 not a teaching practice
8 not a teaching practice
1 more personal knowledge indirectly related to learner
5 related to subject of P.E.

4 students cognitive
1 knowledge of basic physical and anatomical structure
2 Awareness of safety procedures / first aid and common sense
7 know how to perform the various P.E. skills and games
6 ability to utilise available equipment effectively
8 Implement good assessment and evaluation procedure
9 know how to provide adequate and corrective feedback
5 know and implement a variety of teaching methods
3 strategies to motivate students and make learning
### Display Grid 2

**Elements: 6, Constructs: 21, Range: 1 to 9, Context: Knowledge for Teaching physical education**

<table>
<thead>
<tr>
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<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
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</tr>
</tbody>
</table>

**Similarity between these two**

- to continue to understand children and their needs a teacher will be able to relate to
- both deal with the rules and background of sports and pe
- these are your rules and knowledge of sports and pe
- both can affect your approach to teaching pe
- to have an understanding of children you need to recognize the changes in behavior
- both can affect your approach to teaching pe
- to understand children you need to recognize changes cognitive and developmental
- they both can affect your approach to teaching and what you teach
- both are about rules and information about the games/activities and what to teach
- both can affect your approach to teaching
- both deal with knowing the games, rules and pe in general
- recognizing changes may influence your principles and approaches to teaching
- to continue to understand children you need to recognize change
- both have to do with the information and the workings of pe
- your understanding of children can change your own philosophies and principles
- to recognize and go with change can influence your philosophies and principles
- you need both of these before you can go to mechanics
- to continue to understand children one must recognize change
- principles and philosophies can be determined by your understanding of children
- both deal with the basis of physical education and are important components of pe

**1 Difference in this one**

- different teachers will have different levels of dedication
- knowledge of sports is rules whereas mechanics is body functions as a result
- principles and philosophy are your own influences about your teaching of pe
- understandings of mechanics is more body oriented than recognize change and understandings of mechanics is more body oriented
- knowledge of sports is about how it is played and taught
- mechanics is more about the body
- understanding children is more cognitive and developmental than knowledge of sport
- mechanics is more about the body and how it works
- these are your ideas and approaches to how to teach
- these are your approaches to teaching and may not change too often
- mechanics is about how the body moves, works
- knowledge in sports does not help you understand children or recognize changes
- not many changes occur in sports/activities or knowledge about pe
- knowledge is knowledge and philosophies are your own influences
- mechanics is how the body works and moves pe is about rules and how it is played
- mechanics is about the body whereas the other is more about development in children
- knowledge about sports is that whereas principles and understanding children is
- understanding of children is not pe dominated whereas sports and mechanics are
## Display Grid 3

**Elements:** 7, **Constructs:** 22, **Range:** 1 to 6, **Context:** knowledge for teaching physical education

<table>
<thead>
<tr>
<th>1</th>
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</tr>
</tbody>
</table>

1. relates to growth/different of children
2. what to teach to children
3. these are your ideas and how you teach
4. Children's growth and how they function
5. Your thoughts and ideas of how to teach
6. knowing what to teach
7. understanding of a children's development
8. assist in what to teach
9. relate to how the body moves
10. will influence what you teach
11. decide what you teach
12. knowing what to teach according to situation
13. will affect your teaching style
14. in general information about pe
15. will assist your understanding of functions
16. this is overall understanding
17. how the body moves and functions
18. knowing the workings of children
19. your pe will affect what your curriculum is and your teaching
20. understanding of growth and development
21. how the body moves and its functions
22. understanding how the body moves and functions

1. knowledge of curriculum
2. knowledge of body/movement
3. recognise changes in children
4. principles and philosophies
5. understanding of children
6. knowledge of sports/activities
7. knowledge of physical education
Focus Grid 1

Elements: 9, Constructs: 38, Range: 1 to 5, Context: Knowledge for Teaching P.E.
Focus Grid 2

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
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<tbody>
<tr>
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</tr>
</tbody>
</table>

Elements & Constructs: 21, Range: 1 to 3, Content: Knowledge for Teaching Physical Education

- Both can affect your approach to teaching pe
- Both deal with the rules and background of sports
- You need both of these before you can go to mechanics
- Similarity between these two
- To recognize and get with change can influence your philosophies and principles
- To continue to understand children and their needs a teacher will be able to re
- To understand children you have to understand that changes are occurring
- These are your rules and knowledge of sports and pe
- Both deal with knowing the games
- Knowledge about sports is that whereas principles and understanding children is
- Knowledge is knowledge and philosophies are your own influences
- Mechanics is more about the body
- Mechanics is more about the body and how it works
- Both deal with the basis of physical education and are important components of pe
- Both are about rules and information about the games/activities and what to teach
- Both have to do with the information and the workings of pe
- Knowledge of sports is about how it is played and taught
- Understanding of mechanics is more body oriented than recognize change and understanding in sports does not help you understand children or recognize changes in mechanics is about the body whereas the others is more about development in other mechanics is about how the body moves
- Understanding of children
- Recognize changes
- Principles and philosophies
- Knowledge of physical education
- Knowledge of sports/activities

- Difference in this one
- Understanding of children is more cognitive and development than of philosophy
- Different teachers will have different levels of dedication
- These are your approaches to teaching and may not change too often
- Principles and philosophies are your own influences about your teaching of pe
- These are your ideas and approaches in how to teach
- Principles and philosophies can be determined by your understanding of children
- Your understanding of children can change your own philosophies and principles
- They both can affect your approach to teaching and what you teach
- Both can affect your approach to teaching
- Understanding of children is not as dominant whereas sports and mechanics are
- Understanding children is more cognitive and development than knowledge of sport
- Not many changes occur in sports/activities or knowledge about pe
- To understand children you need to recognize changes cognitive and development
- To have an understanding of children you need to recognize change in behavior
- To continue to understand children you need to recognize change
- To continue to understand children we must recognize change

1 2 3 4 5 6

100 90 80 70 60

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Focus Grid 3

Elements: 7, Constructs: 22, Range: 1 to 5, Context: knowledge for teaching physical education

Knowing what to teach and how... your influences
Children's growth and how they function
Understanding of growth and development
Knowing the workings of children
Knowing how the children think and their development
Knowledge of children and their abilities
Will influence what you teach due to your values
Will determine what and how you teach PE will affect what you teach and how
Will influence what you teach and how you teach
These are your ideals and how you teach
Knowing what to teach according to situation
This is overall understanding
What to teach to children
Decide what you teach
Knowing what to teach
Knowing what to teach and how
Deal with basis for PE
Understanding of curriculum and knowing what to teach
How the body moves and what to teach in accordance
Understanding changes and adapting accordingly

5  4  3  2  1  6

1. Background knowledge of what to teach
2. Knowledge of physical education
3. Knowledge of curriculum
4. Principles and philosophies
5. Recognise changes in children
6. Knowledge of body/movement
7. Knowledge of sports/activities

10  9  8  7  6  5

1. Background knowledge of what to teach
2. Knowledge of physical education
3. Knowledge of curriculum
4. Principles and philosophies
5. Recognise changes in children
Elements: 7, Constructs: 15, Range: 1 to 5, Context: Knowledge for teaching P.E.

<table>
<thead>
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<tbody>
<tr>
<td>1</td>
<td>Involves physical activity</td>
<td>2</td>
<td>Involve judgement of individual students</td>
<td>3</td>
<td>Involves judgement of individual children</td>
<td>4</td>
</tr>
<tr>
<td>5</td>
<td>Involves an understanding of general movement</td>
<td>6</td>
<td>Involves planning</td>
<td>7</td>
<td>Involves understanding children</td>
<td>8</td>
</tr>
<tr>
<td>9</td>
<td>Involve lesson design</td>
<td>10</td>
<td>Involves lesson planning</td>
<td>11</td>
<td>Involves an understanding of movement</td>
<td>12</td>
</tr>
<tr>
<td>13</td>
<td>Refers to movement</td>
<td>14</td>
<td>Involve lesson design</td>
<td>15</td>
<td>Refers to movement</td>
<td></td>
</tr>
</tbody>
</table>

1. Need to Design Suitable Lessons
2. Need for Planning
3. Knowledge of Children's Abilities
4. Knowledge of Children's Reactions
5. Understanding of Movement
6. Judge Children on Their Sole Achievements
7. Inclusive Teaching
### Display Grid 2

**Elements:** 12, **Constructs:** 21, **Range:** 1 to 9, **Context:** Knowledge for teaching physical education

<table>
<thead>
<tr>
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<td>4</td>
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1. **Class Organisation**
2. **Knowledge of community**
3. **Organisational Knowledge**
4. **Knowledge of people**
5. **Organisational skills**
6. **Teacher education**
7. **Knowledge of school perspectives**
8. **Instruments for teaching**
9. **People and perspectives**
10. **Knowledge of people**
11. **Occur during and after the lesson**
12. **Particular to each group being taught**
13. **Occur during tertiary teacher education**
14. **Knowledge of people**
15. **Knowledge acquired at tertiary level**
16. **Not particular to one group**
17. **Management skills**
18. **Knowledge of people and community**
19. **Knowledge of people and community**
20. **Knowledge of people and community**
21. **Knowledge of people and the community**

---

- **Group size & arrangements for teaching & resources**
- **Resources - management and control - effectiveness**
- **Teaching strategies for different classes at diff. levels**
- **Evaluation of lesson & how well aims/objectives were reached**
- **General aims & objectives of plans at all levels**
- **Community based values as compared with own person vision**
- **School philosophy on PE & how to adopt it to the context**
- **Community expectations at class level and broader**
- **Content of lessons - what to teach and how to teach**
- **Planning - sequencing and scope - lesson to curric**
- **Movement & analysis for explanations and results**
- **Individual student abilities**
### Display Grid 3

Elements: 11, Constructs: 27, Range: 1 to 5, Context: knowledge for teaching physical education

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1. Knowledge about children
2. Teacher knowledge
3. Teacher knowledge
4. Involves program knowledge
5. Teacher knowledge
6. Class management
7. Class management
8. Program evaluation
9. Planning process
10. Planning process
11. Student knowledge
12. Knowledge of community
13. Knowledge of community
14. Knowledge of community
15. Knowledge of students
16. Knowledge of school
17. Pedagogical practice
18. Teacher knowledge
19. Teacher knowledge
20. Knowledge of school beliefs
21. Program management
22. Teacher knowledge
23. Planning process
24. Teacher knowledge
25. Planning process
26. Class management
27. Teacher knowledge

- 11 Evaluation of programs according to A & O
- 10 Aims and objectives of plans at all levels
- 9 Community values and expectations
- 8 Class grouping for teaching and resourcing
- 7 Appropriate teaching strategies
- 6 Knowledge of individual students
- 5 Knowledge of movement - analysis and correction
- 4 Resource management
- 3 Planning - content of lessons
- 2 Planning - sequencing and scope
- 1 School philosophy of PE
### Focus Grid 2

Elements: 12, Constructs: 21, Range: 1 to 9, Context: Knowledge for teaching physical education

| Knowledge of School perspectives | 7 | 4 | 2 | 1.7 | 1.6 | 1.5 | 1.4 | 1.3 | 1.2 | 1.1 | 1.0 | 0.9 | 0.8 | 0.7 | 0.6 | 0.5 | 0.4 | 0.3 | 0.2 | 0.1 | 0.0 |
| Knowledge of people              | 14| 3 | 2 | 1 | 0.7 | 0.6 | 0.5 | 0.4 | 0.3 | 0.2 | 0.1 | 0.0 |
| Knowledge of community           | 2 | 3 | 1 | 1 | 2 | 1 | 0.9 | 0.8 | 0.7 | 0.6 | 0.5 | 0.4 | 0.3 | 0.2 | 0.1 | 0.0 |
| Knowledge of people              | 4 | 3 | 1 | 1 | 2 | 0.7 | 0.6 | 0.5 | 0.4 | 0.3 | 0.2 | 0.1 | 0.0 |
| Knowledge of people and the community | 21 | 2 | 1 | 1 | 1 | 2 | 0.7 | 0.6 | 0.5 | 0.4 | 0.3 | 0.2 | 0.1 | 0.0 |
| Teacher knowledge of people      | 6 | 2 | 1 | 1 | 3 | 0.7 | 0.6 | 0.5 | 0.4 | 0.3 | 0.2 | 0.1 | 0.0 |
| Knowledge of people              | 3 | 1 | 1 | 2 | 0.7 | 0.6 | 0.5 | 0.4 | 0.3 | 0.2 | 0.1 | 0.0 |
| People and Perspectives          | 6 | 1 | 3 | 2 | 1 | 1 | 2 | 0.7 | 0.6 | 0.5 | 0.4 | 0.3 | 0.2 | 0.1 | 0.0 |
| People and Perspectives          | 9 | 2 | 3 | 1 | 2 | 0 | 2 | 1 | 1 | 2 | 0 | 0.7 | 0.6 | 0.5 | 0.4 | 0.3 | 0.2 | 0.1 | 0.0 |
| Knowledge of people and community | 19 | 2 | 1 | 1 | 1 | 4 | 0 | 2 | 1 | 1 | 2 | 0 | 0.7 | 0.6 | 0.5 | 0.4 | 0.3 | 0.2 | 0.1 | 0.0 |
| Knowledge of people and community | 10 | 1 | 3 | 4 | 1 | 0 | 2 | 1 | 1 | 1 | 2 | 0 | 0.7 | 0.6 | 0.5 | 0.4 | 0.3 | 0.2 | 0.1 | 0.0 |
| Knowledge of people              | 10 | 1 | 3 | 4 | 1 | 0 | 2 | 1 | 1 | 1 | 2 | 0 | 0.7 | 0.6 | 0.5 | 0.4 | 0.3 | 0.2 | 0.1 | 0.0 |
| Knowledge of people and community | 18 | 1 | 3 | 1 | 3 | 1 | 0 | 2 | 1 | 1 | 1 | 2 | 0 | 0.7 | 0.6 | 0.5 | 0.4 | 0.3 | 0.2 | 0.1 | 0.0 |
| Knowledge of people              | 15 | 1 | 3 | 1 | 3 | 1 | 0 | 2 | 1 | 1 | 1 | 2 | 0 | 0.7 | 0.6 | 0.5 | 0.4 | 0.3 | 0.2 | 0.1 | 0.0 |
| Need to be applied in a particular school/group | 13 | 2 | 3 | 3 | 1 | 0 | 2 | 1 | 1 | 1 | 2 | 0 | 0.7 | 0.6 | 0.5 | 0.4 | 0.3 | 0.2 | 0.1 | 0.0 |
| Particular to each group being taught | 17 | 1 | 3 | 2 | 4 | 2 | 0 | 2 | 1 | 1 | 1 | 2 | 0 | 0.7 | 0.6 | 0.5 | 0.4 | 0.3 | 0.2 | 0.1 | 0.0 |
| Particular to each group being taught | 17 | 1 | 3 | 2 | 4 | 2 | 0 | 2 | 1 | 1 | 1 | 2 | 0 | 0.7 | 0.6 | 0.5 | 0.4 | 0.3 | 0.2 | 0.1 | 0.0 |
| Instrument for teaching          | 8 | 2 | 5 | 5 | 5 | 5 | 0 | 2 | 1 | 1 | 1 | 2 | 0 | 0.7 | 0.6 | 0.5 | 0.4 | 0.3 | 0.2 | 0.1 | 0.0 |
| Management skill                 | 16 | 3 | 6 | 2 | 5 | 5 | 5 | 0 | 2 | 1 | 1 | 1 | 2 | 0 | 0.7 | 0.6 | 0.5 | 0.4 | 0.3 | 0.2 | 0.1 | 0.0 |
| Class Organisation               | 1 | 3 | 6 | 0 | 2 | 5 | 5 | 0 | 2 | 1 | 1 | 1 | 2 | 0 | 0.7 | 0.6 | 0.5 | 0.4 | 0.3 | 0.2 | 0.1 | 0.0 |

**Occurs during and after the lesson**

| 1 | 7 | 5 | 6 | 2 | 3 | 4 | 9 | 8 | 10 | 12 | 11 |

**Occur at the lesson level**

| 9 | 10 | 11 |

**Occur before and during the lesson**

| 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |

**Resources - management and control - effectiveness**

| 10 | 11 |

**Teaching strategies for different classes at different times**

| 9 | 10 |

**Evaluation of lesson & how well aims/objectives were reached**

| 8 | 9 |

**General aims & objectives of plans at all levels**

| 4 | 5 | 6 | 7 |

**Content of lessons - what to teach and how to teach**

| 3 | 4 |

**Planning - sequencing and scope - lesson to unit**

| 2 | 3 |

**Movement and analysis for explanations and activities**

| 6 | 7 |

**School philosophy on PE & how to adopt it to the school**

| 5 |

**Community expectations at class level and broader**

| 7 |

**Community based values as compared with own personal**

| 1 |

**Individual student abilities**

| 1 |
Focus Grid 3

Elements: 11, Constructs: 27, Range: 1 to 5, Context: knowledge for teaching physical education

1. School philosophy of PE
2. Planning process
3. Program management
4. Involves program management
5. Knowledge of movement - analysis and correction
6. Evaluation of programs according to A & O
7. Planning - content of lessons
8. Planning - sequencing and scope
9. Resource management
10. Class groupings for teaching and resourcing
11. Appropriate teaching strategies
12. Knowledge of individual students
13. Community values and expectations
14. Planning process
15. Program management
16. Classroom management
17. Pedagogical practice
18. Teacher knowledge
19. Class management
20. Planning process
21. Class management
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23. Program management
24. Class management
25. Planning process
26. Program management
27. Planning process
28. Program management
29. Community & school knowledge
30. Knowledge of school beliefs
31. Knowledge of students
32. Student knowledge
33. Teacher knowledge
34. Program evaluation
35. Teacher knowledge
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47. Planning process
48. Planning process
Display Grid 1

Elements: 8, Constructs: 5, Range: 1 to 5, Context: Knowledge for Teaching P.E.

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1. what is actually taught
2. what children can do
3. subject area to be taught
4. teaching styles/activities/time allowance
5. what children need to know
6. lesson plans for reference (if necessary)
7. knowledge of children's ability and skill level
8. enthusiasm for what is being taught
9. knowledge of rules/variations to rules of games
10. classes should be enjoyable
11. good relationship with class (children)
12. familiar with curriculum
13. knowledge of skills to be taught
Display Grid 2

Elements: 6, Constructs: 11, Range: 1 to 9, Context: Knowledge for teaching physical education

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1. political issue
2. political issue
3. ability of children to perform activities
4. political issue
5. political issue
6. ability of children to perform activities
7. ability of children to perform activities
8. ability of children to perform activities
9. political issue
10. political issue
11. political issue

- use of modified rules is dependent on stage of development
- to do with teaching of skills
- knowledge and understanding of teacher
- when considering the order of development of skills, the capabilities of the child must know skills so that they can be taught in a sequential manner
- knowledge of teacher
- teacher must know the skills to be taught and when to teach them
- rules can be modified to suit the game or skill within a game (if teacher has a good stage of development of child who determines how much he/she can learn and in what capabilities of children have to be considered when teaching skills
- rules can be modified to suit the stage of development of children
- understanding of a range of perceptions of PE
- knowledge of rules
- children's capabilities
- stages of development of children
- order of development of skills
- knowledge of skills to be taught to children
### Display Grid 3

**Elements:** 13, **Constructs:** 13, **Range:** 1 to 5, **Context:** knowledge for teaching physical education

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1. knowledge of children
2. established
3. public relations
4. professional development
5. dependent on teacher
6. promoting PE program
7. promoting positive attitude to PE
8. teaching PE
9. teaching PE
10. program planning
11. knowledge of PE
12. individual development (children)
13. personal attribute

- promote PE/Sport program to maximise involvement
- understanding of current educational trends/Issues
- how to teach skills to children (teaching cues)
- knowledge of skills to be taught to children
- develop program to cater for all children
- developing individual capabilities to maximise physical stages of development of children
- order of development of skills (teaching progress)
- positive relationships with everyone involved in program
- familiar with curriculum and syllabus documents
- knowledge of rules/variants to rules (modified to suit environment)
- enthusiasm for what is being taught
- understanding and fulfilment of safety and legal requirements
Focus Grid 1

Elements: 8, Constructs: 5, Range: 1 to 5, Context: Knowledge for Teaching P.E.

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1. Response of children
2. What children can do
3. Subject area to be taught
4. If teacher is enthusiastic children should enjoy the lesson
5. What subject area is to be taught (plan how to teach it)
6. Enthusiasm for what is being taught
7. Knowledge of children's ability and skill level
8. Knowledge of skills to be taught
9. Knowledge of rules, variations to rules of games
10. Lesson plans for reference (if necessary)
11. Familiar with curriculum

Teaching styles/activities/time allowance
Reminder of rules/how to teach them
Skills children know/how to teach the ones they don't know
What children need to know

100 90 80 70

100 90 80 70 60
Focus Grid 2

Elements: 6, Constructs: 11, Range: 1 to 6, Context: Knowledge for teaching physical education

- Knowledge and understanding of teacher
- Rules can be modified to suit the game or skill within a game (if teacher has a knowledge of teacher)
- Rules can be modified to suit the stage of development of children
- Use of modified rules is dependant on stage of development
- Capabilities of children have to be considered when teaching skills to do with teaching of skills
- Must know skills so that they can be taught in a sequential manner
- Stage of development of child will determine how much he/she can learn and in which order of the development of skills
- Level of understanding of a range of perceptions of PE

Ability of children to perform activities
Political issue
Order of development of skills
Stages of development of children
Knowledge of rules
Knowledge of skills to be taught to children
Focus Grid 3

Elements: 13, Constructs: 13, Range: 1 to 5, Context: knowledge for teaching physical education

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<td>Individual development (children)</td>
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<td>Cependant on children (stage of devt)</td>
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<td>Knowledge of children to be taught</td>
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<tr>
<td>Knowledge of children</td>
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<td>Knowledge of program</td>
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<tr>
<td>Teaching PE</td>
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<td>Program implementation</td>
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<td>Knowledge of skills to be taught</td>
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<tr>
<td>How to teach skills to children (teaching cues)</td>
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<tr>
<td>Developing individuals capabilities to maximise p</td>
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<tr>
<td>Positive relationships with everyone involved in</td>
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<tr>
<td>Promote PE/Sport program to maximise involvement</td>
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<tr>
<td>Understanding of current educational trends/issues</td>
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<td>Understanding and fulfillment of safety and legal f</td>
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<tr>
<td>Familiar with curriculum and syllabus documents</td>
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<td>Develop program to cater for all children</td>
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<td>Stages of development of children</td>
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Display Grid 1

Elements: 6, Constructs: 22, Range: 1 to 5, Context: KNOWLEDGE FOR TEACHING PHYSICAL EDUCATION

1. PERSONAL HEALTH OF CHILDREN
2. BIOMECHANICALLY-BASED
3. PHYSICAL EDUCATION
4. BIOMECHANICALLY-BASED
5. BIOMECHANICALLY-BASED
6. OPPORTUNITY-BASED
7. BIOMECHANICALLY-BASED
8. PERSONAL HEALTH OF CHILDREN
9. BIOMECHANICALLY-BASED
10. BIOMECHANICALLY-BASED
11. BIOMECHANICALLY-BASED
12. OPPORTUNITY-BASED
13. HEALTHY ENVIRONMENT
14. BIOMECHANICALLY-BASED
15. OPPORTUNITY-BASED
16. BIOMECHANICALLY-BASED
17. PERSONAL HEALTH OF CHILDREN
18. RELATIONSHIPS
19. BIOMECHANICALLY-BASED
20. PERSONAL HEALTH
21. APPROACH TO TEACHING
22. BIOMECHANICALLY-BASED

Class-based
Teacher/Student Relationships
Relationships
Opportunity-based
Communication
Relationships
Efficiency
Efficiency
Healthy Environment
Efficiency
Healthy Environment
Efficiency
Opportunity-based
Communication
Efficiency
Opportunity-based
Healthy Environment
Opportunity-based
Healthy Environment
Healthy Environment
Approach to Learning
Approach to Teaching

Relationships between Teacher/Student and Student
Efficient Use of Teaching Resources
Understanding of Human Movement
Maximise Physical Education Opportunities for Children's Needs
Teaching Styles and Methods
## Display Grid 2

<table>
<thead>
<tr>
<th>Elements: 7, Constructs: 16, Range: 1 to 5, Context: Knowledge for PE</th>
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<tr>
<td>1. effective organisation will promote acquisition of skills</td>
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<tr>
<td>2. effective management will promote acquisition of skills</td>
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<tr>
<td>3. positive learning experiences will maximise environment</td>
</tr>
<tr>
<td>4. hidden learning</td>
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<tr>
<td>5. effective classroom management maximises learning experiences</td>
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<tr>
<td>6. hidden component of teaching</td>
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<td>7. hidden learning</td>
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<td>8. effective classroom management</td>
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<td>9. effective management will facilitate worthwhile learning</td>
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<tr>
<td>10. positive learning experiences will facilitate skill acquisition</td>
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<td>11. consideration of background factors</td>
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<td>12. consideration of background factors</td>
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<tr>
<td>13. positive learning environment facilitates skill acquisition</td>
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<td>14. environment factors</td>
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<td>15. effective organisation will facilitate skill acquisition</td>
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<tr>
<td>16. effective organisation will facilitate skill acquisition</td>
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</table>

| 1. consideration of background factors                          |
| 2. consideration of background factors                          |
| 3. considers overall health of the students                     |
| 4. physical development                                         |
| 5. hidden element of teaching                                   |
| 6. effective management facilitates movement experiences        |
| 7. Explicit learning                                            |
| 8. awareness of background factors                              |
| 9. hidden teaching element                                      |
| 10. relating to the whole development of the child              |
| 11. consideration of background factors                         |
| 12. effective management                                        |
| 13. consideration of background factors                         |
| 14. physical development                                        |
| 15. consideration of background factors                         |
| 16. consideration of background factors                         |

- 7. awareness of diverse stages of physical development
- 6. maximise learning experiences for students
- 5. equal opportunity for students
- 4. effective classroom management
- 3. friendly learning environment
- 2. motor skills that facilitate movement
- 1. enhance total health of the students

---

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Display Grid 3

Elements: 10, Constructs: 15, Range: 1 to 5, Context: Knowledge for teaching physics, education

1. Professional development
2. Student focused
3. Professional development
4. Implicit
5. Professional knowledge
6. Teacher skills
7. Professional development and growth
8. Attitudinal development
9. Professional development and growth
10. Attitudinal
11. Professional growth and development
12. Implicit
13. Professional growth and development
14. Developing teaching skill
15. Attitudinal in approach
16. Professional development and obligation

Inclusion of other health domains in practice
Awareness of diverse stages of physical development
Ability to communicate effectively
Awareness of professional responsibilities and role
Awareness of current trends in Physical Education
Effective management and organisational practices
Positive learning environment
Awareness of the hidden curriculum
Emphasis on skill development
Knowledge of the whole development of the child
### Focus Grid 3

Elements: 10, Constructs: 16, Range: 1 to 5, Context: Knowledge for teaching physical education

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<td>Teacher skills</td>
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<td>Attitudinal in approach</td>
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<tr>
<td>Developing teaching skills</td>
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<tr>
<td>Promotion of effective teaching strategies</td>
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<tr>
<td>Promote effective teaching practice</td>
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<tr>
<td>Catering for all students</td>
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<tr>
<td>Physical development integral part of health domain</td>
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<tr>
<td>Level of skill acquisition may occur at different stages of whole dev</td>
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<td>Communication at appropriate level is essential</td>
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<td>1. Awareness of professional responsibilities and role</td>
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<td>2. Awareness of current trends in Physical Education</td>
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<td>3. Awareness of the hidden curriculum</td>
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<tr>
<td>4. Awareness of diverse stages of physical development</td>
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<tr>
<td>5. Emphasis on skill development</td>
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Display Grid 1

Elements: 7, Constructs: 15, Range: 1 to 5, Context: Knowledge for teaching P.E.

1. Directly affects children
2. Pre-learned knowledge
3. Child input
4. Teacher's ideas on curriculum
5. Teacher knowledge
6. Teacher knowledge
7. Teacher / student relations
8. Teacher input
9. Child's input
10. Direct child input
11. Teacher adaptability
12. Teacher knowledge
13. Children directly involved
14. Subject matter knowledge
15. Helps child directly

- Teacher knowledge
- Unforeseen events in lessons
- Teacher input
- Teacher's planning according to kids
- Teacher / student relations
- Teacher / student relationship
- Background knowledge of teacher
- Child input
- Teacher knowledge
- Understanding of learning
- Teacher knowledge
- Relationships between teacher and students
- Teacher knowledge
- Knowledge of children
- Helps teacher directly

- Ability to determine and include relevant activities
- Variety of teaching styles and methods
- Good teacher student relationship (good communication)
- Input of children (inclusion of children)
- Understanding of physical and cognitive development
- Understanding of children's learning processes
- Variety of background knowledge.
Display Grid 2


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1. Personal decisions for individualization
2. Catering for individuals
3. Personally developed
4. Rational - maybe practical or personal
5. Informal learning occurring
6. Personal teaching attribute
7. Defined responsibility of teacher
8. Content based knowledge
9. Emotional needs of students
10. Content taught
11. Content based knowledge
12. Reason for student participation
13. Formal education
14. Value based judgement
15. Personal teaching attribute
16. Knowledge and content based
17. Action representation
19. learnt knowledge
20. Core attitude
21. Indirect learning
22. Indirectly related to p.e.
23. Reasons for p.e. involvement
24. theoretical component
25. Related to improvement of self-esteem
26. Indirect instruction
27. Indirectly related to health improvement
28. Sensitivity of teaching
29. Knowledge focussed
30. Teachers need a knowledge of external pressures pl
31. Teachers as role models for students
32. Teachers need to be sensitive to students needs
33. Teachers must have knowledge of sports and games
34. Teachers need to ensure that all students can ach
35. Teachers need some knowledge of theory of ped
36. Teachers need to try & make p.e. accessible & enjo
37. Teachers must see the necessity for p.e. (justic
38. Teachers must be aware of health and safe
39. Teachers need a knowledge of body functioning
40. Teachers need to understand the physical activity model.
Display Grid 3

Elements: 11, Constructs: 6, Range: 1 to 5, Context: knowledge for teaching physical education

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- 11 sensitivity to students' needs
- 10 effective communication skills
- 9 necessity of being a positive role model
- 8 knowledge of effective teaching strategies
- 7 knowledge of physical and cognitive development
- 6 knowledge of students learning processes
- 5 knowledge of external pressures placed on students
- 4 knowledge of sport and games
- 3 knowledge of theory of p.e.
- 2 necessity of p.e. (justification)
- 1 knowledge of health
Focus Grid 2

Elements: 10, Constructs: 30, Range: 1 to 5, Context: knowledge in the teaching of physical education

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- Teachers need a knowledge of external pressures to plan and evaluate lessons effectively. (10)
- Teachers need to try and make physical education accessible and enjoyable. (8)
- Teachers need to be sensitive to students' needs. (6)
- Teachers need to ensure that all students can participate. (4)
- Teachers need to be role models for students. (2)
- Teachers must be aware of health and safety aspects. (1)
Focus Grid 3

Elements: 11, Constructs: 8, Range: 1 to 5. Context: knowledge for teaching physical education

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1. ways of teaching
2. developed through experience
3. changes between students
4. personal trait
5. personal belief
6. depends on the child
7. different for different students
8. sensitive attitude
9. necessity of being a positive role model
10. necessity of p.e. (justification)
11. knowledge of external pressures placed on students
12. sensitivity to students' needs
13. effective communication skills
14. knowledge of effective teaching strategies
15. knowledge of students learning processes
16. knowledge of physical and cognitive development
17. knowledge of sport and games
18. knowledge of theory of p.e.
19. knowledge of health

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Display Grid 1


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1. More theory based
2. PE activities
3. Known knowledge
4. Activities
5. Sport/PE activities
6. Atmosphere
7. Attitudes
8. Theory
9. Factual knowledge
10. Related to children
11. Theory based
12. Personal view
13. Atmosphere
14. Post activity information
15. Pre-lesson knowledge
16. Pre-lesson
17. During lesson
18. Pre-lesson
19. Needed knowledge
20. Teaching applications
21. Pre-lesson
22. Opportunities

- Be aware of children's needs.
- Friendly environment.
- Teaching styles.
- Negative and positive feedback.
- Variety of sports.
- Winning is not everything.
- Give children confidence.
Display Grid 2

Elements: 6, Constructs: 15, Range: 1 to 5, Context: knowledge for teaching physical education

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1. Based on what has to be done (necessity).
2. What has to be done (necessity).
3. Education department goals.
4. Must achieve these following PE syllabus.
5. Short term goal.
6. What can be offered.
7. Teaching styles.
8. Long term goal.
10. Based on individual lessons.
11. Long term goal.
12. Influential to school performance.
14. Short term goal.
15. Following department policies.

6. Variety of sports.
5. Promote PE as a valuable part in the children's life.
3. Ensuring department requirements are fulfilled.
2. Catering for children's needs and learning styles.
1. Involvement of all children.
# Focus Grid 1

Elements: 7, Constructs: 22, Range: 1 to 5. Context: Knowledge for teaching PE.

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Focus Grid 2

Elements: 6, Constructs: 15, Range: 1 to 5, Context: knowledge for teaching physical education

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- Education department goals.
- Must achieve these following PE syllabus.
- Necessity to follow guidelines.
- What has to be done (necessity).
- Based on what has to be done (necessity).
- Following department policies.
- Teaching styles.
- Pedagogical prerequisites.
- Long term goal.
- Advantageous for post-school years.
- Accomplished over a longer period.
- Long term goal.
- Long term goal.
- What can be offered.
- Based on schools PE program.

1. Involvement of all children.
2. Catering for children's needs and learning styles.
3. Ensuring department requirements are fulfilled.
4. Promote PE as a valuable part in the children's life.
5. Variety of sports.
Display Grid 1

Elements: 7, Constructs: 20, Range: 1 to 5, Context: Knowledge for Teaching P.E.

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- 1 related to people
- 2 improving participation
- 3 maximising potential
- 4 related to interaction
- 5 related to people
- 6 related to sport
- 7 sport theory
- 8 sport related
- 9 related to people
- 10 related to people
- 11 biomechanics
- 12 biomechanics
- 13 sport related
- 14 related to people
- 15 related to people
- 16 related to people
- 17 biomechanics
- 18 related to people
- 19 related to people
- 20 sport related
- 1 understanding children
- 2 mechanics of movement
- 3 knowledge of sport skills
- 4 ways of increasing involvement
- 5 promotion of variety in skills
- 6 ways of promoting sporting potential
- 7 socialization
Display Grid 2

Elements: 7, Constructs: 18, Range: 1 to 5, Context: knowledge for teaching physical education

- using theory to enhance practice
- increasing participation
- use knowledge that variety is key to children's learning
- variety encourages participation
- teacher knowledge for improving involvement related to people
- promoting involvement
- promoting involvement
- promoting involvement
- improving participation
- promoting learning behaviours
- variety leads to involvement
- use knowledge of people to enhance learning environment
- using recent advancements to promote involvement
- using theory as a base for teaching
- use learning process to promote involvement
- use recent findings in practice
- teacher knowledge

1. increase participation
2. theoretical advances
3. supporting practice with documentation
4. theory to support inclusion of practical aspects
5. theoretical base for changes
6. promotion of participation
7. learning behaviours
8. learning behaviours
9. theoretical support for practice
10. learning behaviours
11. theoretical support for practice
12. enhancing learning environment
13. theoretical base for practice
14. theoretical base
15. enhancing learning environment
16. understand how people behave and react in different situations
17. theoretical basis for participation
18. basis for practice

- promotion of a variety of skills
- advances in physical education in recent years
- knowledge of and ability to utilise syllabus document
- ways of increasing involvement
- knowledge of organisational skills
- knowledge of how children learn
- knowledge of people behaviours
Focus Grid 1

Elements: 7, Constructs: 20, Range: 1 to 5, Context: Knowledge for Teaching P.E.
Focus Grid 2

Elements: 7, Constructs: 18, Range: 1 to 5, Context: knowledge for teaching physical education

variety encourages participation 4
use knowledge that variety is key to children's learning 3
increase participation 1
enhancing learning environment 15
use recent findings in practice 17
using recent advancements to promote involvement 14
teacher knowledge 18
promoting involvement 9
use knowledge of people to enhance learning environment 13
promoting learning behaviours 11
variety leads to involvement 12
learning behaviours 9
related to people 6
learning behaviours 10
learning behaviours 7
understand how people behave and react in different situations 16
theoretical advances 2
theoretical base for changes 5
4 theory to support inclusion of practical aspects
3 supporting practice with documentation
1 using theory to enhance practice
15 using theory as a base for teaching
17 theoretical basis for participation
14 theoretical base
18 basis for practice
9 theoretical support for practice
13 theoretical base for practice
11 theoretical support for practice
12 enhancing learning environment
8 promoting involvement
6 promotion of participation
10 improving participation
7 promoting involvement
16 use learning process to promote involvement
2 increasing participation
5 teacher knowledge for improving involvement
5 knowledge of and ability to utilise syllabus documents
5 advances in physical education in recent years
1 knowledge of people behaviours
2 knowledge of how children learn
4 ways of increasing involvement
7 promotion of a variety of skills
3 knowledge of organisational skills
Display Grid 1

Elements: 7, Constructs: 14, Range: 1 to 5, Context: Knowledge for teaching PE

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1. consider external factors
2. concerned with lesson procedures
3. considers children's previous experiences
4. consider overall learning environment
5. children differ in various aspects
6. considers individual child
7. concerned with class management
8. concerned with class management
9. considers past experiences
10. concerned with learning
11. concerned with class management
12. concerned with class management
13. concerned with overall class env.
14. concerned of overall env.

1. provide enriching activities
2. establish positive environment
3. encourage children to discover body awareness
4. consider PE, varying backgrounds
5. consider varying stages of development
6. provide equal opportunities for all
7. utilise effective management techniques
8. opportunities provided for all stages
9. various backgrounds produce various levels of awareness
10. effective management establishes positive env.
11. opportunities provided for all stages
12. stages of dev. assessed by body awareness
13. opportunities for all in enriching activities
14. effective management will enhance environment
Display Grid 2

Elements: 14, Constructs: 14, Range: 1 to 5, Context: knowledge for teaching physical education

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1. Provides background knowledge for teaching activities
2. Child centered
3. Concerned with affective domain
4. Teacher oriented
5. Teacher oriented
6. Teachers knowledge
7. Teacher background knowledge
8. Consider overall learning environment
9. Child centered
10. Difference in this one
11. Child centered
12. Teacher knowledge
13. Teaching practice
14. Teacher background knowledge

1. Basic knowledge of biomechanics and exercises physiology
2. Develop new interests in physical activity
3. Cater for all students abilities
4. Provide a wide range of learning experiences
5. Develop an enjoyment in PE
6. Knowledge of safety procedures
7. Recognise students' various interests
8. Utilise effective management techniques
9. Provide equal opportunities for all
10. Awareness of child development phases
11. Consider various PE backgrounds
12. Encourage children to discover body awareness
13. Establish positive environment
14. Provide enriching activities
Focus Grid 1

Elements: 7, Constructs: 14, Range: 1 to 5, Context: Knowledge for Teaching PE

- considers individual child
- equal opportunities despite background
- opportunities provided for various PE backgrounds
- various backgrounds produce various levels of awareness
- concerned with learning
- enriching act. affect dev. stages
- enriching activities enhance development
- varying stages provided with equal opportunities
- opportunities provided for all stages
- stages of dev. assessed by body awareness
- encouragement of discovery will enhance development
- effective techniques encourage discovery
- enriching act. provided to all
- opportunities for all in enriching activities
- effective management will enhance environment
- concerned with overall env.
- concerned with class management
- concerned with class management
- effective management establishes positive env.
- concerned with overall class env.
- consider external factors
- concerned with lesson procedures
- concerned with class management
- concerned with class management
- consider overall learning environment
- considers children's previous experiences
- children differ in various aspects
- considers past experiences
- utilise effective management techniques
- establish positive environment
- consider PE varying backgrounds
- consider varying stages of development
- encourage children to discover body awareness
- provide enriching activities
- provide equal opportunities for all
Focus Grid 2

Elements: 14, Constructs: 14, Range: 1 to 5, Context: knowledge for teaching physical education

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- teacher oriented: 100
- safety oriented: 90
- safety will enhance environment: 80
- a variety of practices will enhance equal opportunities: 70
- a child's abilities will be enhanced: 60
- individual learning interests: 50
- child centered: 40
- caring for all learning interests will enhance enjoyment: 30
- interests influence life long activity: 20
- enjoyment will develop with consideration of background: 10
- concerned with affective domains: 0
- variety of experiences develops enjoyment: 0
- difference in this one: 0
- develop life long interests in physical activity: 100
- develop an enjoyment in PE: 90
- recognise students various interests: 80
- consider various PE backgrounds: 70
- awareness of child development phases: 60
- basic knowledge of biomechanics and exercise physiology: 50
- utilise effective management techniques: 40
- knowledge of safety procedures: 30
- establish a positive environment: 20
- encourage children to discover body awareness: 10
- provide a wide range of learning experiences: 0
- provide equal opportunities for all: 0
- cater for all students' abilities: 0
Display Grid 1

Elements: 8, Constructs: 11, Range: 1 to 5, Context: knowledge for teaching physical education

1. Related to attitude
2. Related to the teacher's ability
3. Curriculum delivery
4. Attitude related
5. Teacher's ability
6. Focus on the learner
7. Teacher ability
8. Teacher's attitude
9. Teacher's physical ability
10. Sociological emphasis
11. Teacher physical ability

1. Responsiveness towards individuals' physical
2. Knowledge of skills associated with activities
3. Confidence in expressing knowledge
4. Knowledge of fitness development in particular acts
5. Sporting ability
6. Positive attitude towards all aspects of physical
7. Socially critical attitudes - interest in inclusion
Focus Grid 1

Elements: 8, Constructs: 11, Range: 1 to 5, Context: knowledge for teaching physical education

<table>
<thead>
<tr>
<th>Construct</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
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<tr>
<td>Responsive ness to the individual’s needs</td>
<td>2</td>
<td>3</td>
<td>2</td>
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<tr>
<td>Teacher's knowledge and attitudinal background to implementation</td>
<td>9</td>
<td>3</td>
<td>1</td>
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<td>Influence of curriculum delivery</td>
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<td>1</td>
<td>1</td>
<td>1</td>
<td>3</td>
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<tr>
<td>Influence activity selection</td>
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<td>2</td>
<td>3</td>
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<tr>
<td>Teacher's methods of curriculum delivery</td>
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<td>1</td>
<td>3</td>
<td>3</td>
<td>2</td>
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<tr>
<td>Appropriate curriculum delivery</td>
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<td>5</td>
<td>2</td>
<td>3</td>
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<tr>
<td>Focus on the curriculum delivery</td>
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<tr>
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<td>4</td>
</tr>
<tr>
<td>Curriculum components</td>
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<td>6</td>
<td>4</td>
<td>5</td>
<td>1</td>
</tr>
<tr>
<td>Understanding of individual development and change</td>
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<td>1</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Skill related</td>
<td>4</td>
<td>5</td>
<td>5</td>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>

| Knowledge of skills associated with activities | 2 |
| Knowledge of effective and appropriate teaching strategies | 1 |
| Knowledge of fitness development in particular activities | 4 |
| Responsiveness towards individuals' physical activity | 8 |
| Sociable critical attitudes - interest in inclusion | 7 |
| Positive attitude towards all aspects of physical education | 6 |
| Confidence in expressing knowledge | 3 |