Reading the map: locating and navigating the academic skills development of pre-service teachers

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Reading the Map: Locating and Navigating the Academic Skills Development of Pre-Service Teachers

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Reading the Map: Locating and Navigating the Academic Skills Development of Pre-Service Teachers

Abstract
This article reports on an action research project that was implemented to strengthen preservice teachers’ academic skills and competencies in a Bachelor of Early Childhood Education course. Strategies identified as effective included mapping assessment tasks to State and National Early Childhood Education Curriculum and Standards Frameworks and Graduate Teacher Standards and against the skills needed to complete assessment tasks. Tools and resources were developed by lecturers to identify students’ existing skill levels and then scaffold the required competencies into course teaching. The critical reflections of lecturers on their professional learning through this process were found to be integral to successful outcomes for students.

Keywords
teacher education; academic Literacies; reflective practice; transition to higher education.

Cover Page Footnote
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Introduction

When students begin any university study, they are undertaking several new areas of learning. Not only do they have to negotiate a new learning environment and subject content, they also are required to learn how to read and write in an academic style. Correct use of referencing formats and writing structures, in addition to the ability to make sense of unfamiliar terminologies and academic texts, are usually prerequisite to success in negotiating assessment tasks. Yet, as Chanock, Horton and Stephenson (2012) suggest, many students will come to their studies unequipped with the specific academic literacies required to engage effectively with their studies. As Gourlay (2009) points out, the challenge for such students is to identify what they need to be able to do and find ways to gain the skills, even though they might not have any prior experience or any role-modelling in these areas.

The Bachelor of Early Childhood Education at Deakin University was one of a number of undergraduate degree courses selected to be part of a Commonwealth Government-funded Deakin University Participation and Partnerships Program (DUPPP) in 2012. The “Developing academic literacies within your course curriculum project” (Deakin University 2013) was an initiative to improve learning outcomes for all students, but especially those from low socioeconomic backgrounds. All students enrolled in the course were included in the project, as there was no screening for participation. The project was an opportunity for academics in the participating Faculties and Language and Learning Advisers (Deakin University Division of Student Life) to share knowledge and expertise in helping students become aware of the literacy practices used in academia. It also opened up collaborative space for Language and Learning Advisers to further strengthen links with a variety of the University stakeholders serving students, including academics and students themselves, to jointly affect learner-centred curriculum development (Deakin University 2013; Thies, Wallis, Turner & Wishart 2014).

Deakin University’s Bachelor of Early Childhood Education (BECE) course was originally designed as a TAFE (Technical and Further Education) Pathway program to enable students with the Diploma in Children’s Services (Australian Qualifications Framework Level 5) to upgrade their qualifications to a degree in teaching children from birth to 5 years (Australian Qualifications Framework Level 7). Students received credit for prior learning (CPL) for their diploma, but there was no opportunity for school leavers to enter. From 2013 the course was reviewed and restructured to a four-year degree, with entry points at year 1 for school leavers or those without prior qualifications, and at year 2 for those with CPL for a graded Diploma of Children’s Services or Diploma of Early Childhood Education and Care (AQF Level 5). The BECE course now prepares students to teach from birth to 12 years.

In both iterations of the BECE course, there are considerations about transitioning from TAFE. In TAFE, gaining demonstrable work-ready vocational competencies may be a higher priority than gaining academic literacies associated with entry to the profession of teaching and the norms of academic cultures within universities (Whittington, Ebbeck, Diamond & Yim 2009). Moreover, the new course incorporates the more usual transitions for those entering first-year studies from school and for mature students who are entering tertiary education for the first time. Although the revised BECE course is not part of the DUPPP project, we have continued to extend and develop the work to support students’ academic-learning competencies.

In this article, we explain the action-research project (Kemmis & McTaggart 2001) that was undertaken around a case study (Carter 1999). The case in this study was defined by an
undergraduate, early-childhood teacher education course where students were graduates of TAFE diploma courses. We discuss our approach to developing students’ academic-literacy skills through identifying the skills and knowledge necessary to complete the assessment tasks and mapping these against an academic-literacies skills development framework (Harper 2011), State and National Early Childhood Education Curriculum and Standards Frameworks, and State of Victoria professional standards for graduate early-childhood teachers. In this context academic-literacy skills are viewed as a developmental nexus of skills, knowledge and academic cultural competence. We also show how we identified students’ existing competencies and developed an embedded teaching program for scaffolding students to the next level of competency.

**Identifying Academic Literacies**

Dockett and Perry (2007) have said that transition to school for young children involves knowing what to expect and how to manage difficulties and uncertainties. They also make the point that by knowing what is expected of them, children can settle into their new environment with greater confidence. Moles and Santoro (2013) found that adult learners entering higher-education courses can also lack confidence because they do not know what will be expected of them, and find the unfamiliar expectations confronting. As Gourlay (2010) explains, a student’s first year at university can be daunting and can cause some students to feel exposed and vulnerable if they perceive themselves to be lacking the skills to complete – or even understand – tasks. Wingate (2012) takes this point further when she discusses the power relationships that can exist through the emphasis on academic-literacy skills, referring to “academic socialisation” (p.28), which seems to suggest the importance of students having the knowledge and skills of academic literacy in order to belong. Devlin (2011) and Devlin et al. (2012) also note that universities operate from discourses, assumptions, values and expectations that may be difficult for some first-time students unfamiliar with these assumptions and expectations to decode.

Therefore, adjustments in how these assumptions and expectations are communicated to first-time students are warranted. We argue that such adjustments need to be made from assessment level upwards.

**The methods**

Participatory action research has been explained by Kemmis and McTaggart (2001) as a way of investigating practice through problematising specific areas for improvement. Similarly, Townsend (2013) describes it as an approach to enable the “understanding and enacting ideas” (p.41). For us, the specific areas for investigation were identifying approaches for scaffolding the understanding and skills for academic literacies. Particularly, we wanted students to quickly construct their knowledge of academic writing; notably structuring an essay, searching, locating and interpreting scholarly literature and referencing. These are all areas that Chanock, Horton and Stephenson (2012) regard as needing to be discipline-specific when taught. Hence, we decided that we could strengthen the way we approach introducing students to these skills.

To begin the research, we consulted with Language and Learning Advisors (LLA). Following this, it was decided to implement the first action, which was to embed academic literacies into the course (Thies et al. 2014). Thus, the project was started by undertaking an exercise of mapping academic literacies so that they could be identified in assessment and subject content. It was anticipated that this mapping exercise would help identify how these literacies could...
contribute to students’ acquiring certain learning outcomes, such as communication and critical-thinking skills, and to students’ acquisitions of professional competencies. Mapping academic literacies would also contribute to decisions on how these literacies might be taught and assessed at different stages in the course. Willison and O’Regan (2007) suggest that mapping students’ development of academic literacies from enrolment in a first-year undergraduate course until graduation can help inform course curriculum design.

The question asked of academics was how academic literacies could be embedded in the curriculum and introduced as part of the course material? Thus, mapping academic literacies to assessment tasks in each unit of a course was an approach that was applied to a number of specific units, self-selected by academic staff members. Willison, Le Lièvre and Lee (2010) and Harper (2011) have produced frameworks of academic literacies and research skills that seek to identify and describe specific academic literacies, and also articulate how students might develop competencies as part of a developmental or staged process. These frameworks provided a starting point for a conversation between the course team members about an approach to mapping academic literacies at the unit and course level. However, it became clear that the team members needed to agree on a specific set of academic literacies at the unit and course level that reflected students’ approaches to assessment tasks.

Initial data were collected from students on entry to the course. Although all students were included, voluntary participation was sought through a research participant form (Plain Language Statement) and obtained through a consent form. Approximately 70 students participated.

On enrolment, students were asked to provide a piece of writing, which they used to assess their own level of academic literacy using a brief academic-skills self-assessment checklist. This prompted them to think about their current levels of competence and confidence as a writer.

Over a two-year period, pre-service teachers from the Bachelor of Early Childhood Education (BECE) and a group of four teacher-education lecturers participated in the project to track and strengthen the development of pre-service teachers’ academic literacies. The development of academic literacies was promoted by embedding skills development in course materials. In particular, assessment tasks provided a structured approach to learning how to write academic essays, source, read and use academic literature and accurately reference material. After one year, pre-service teachers were then asked to undertake a further self-assessment (Table 3) to monitor their progress.

Evaluation of the project was based on the action-research model of Kemmis and McTaggart (2001) and a case-study approach (Carter 1999). Action research provided a framework based on a collaborative and individual cycle of enquiry (Glanz 2014; Kemmis & McTaggart 2001), which includes planning, acting, observing and reflecting. The project evaluation included students’ perceptions of their progress in developing academic literacies. Reflections on their development incorporated the synergies between this learning and their development of the skills and attributes of early-childhood teachers. BECE academic staff participating in this project were also asked to reflect on their level of understanding of embedding academic literacies in the curriculum and their involvement in curriculum development as part of the project.

Evaluation of the BECE component of the project included students’ perceptions of their academic-literacies development, and the synergies between this learning and their development of the skills and attributes required of early-childhood educators (Thies et al.)
2014). As part of the evaluation research, students were asked to reflect on this process, and on their acquisition of related professional skills. The survey was administered in March and October of 2013. Survey 1 was completed by 69 students, and survey 2 by 51. Ten academic literacies were surveyed: responding, reviewing, observing, researching, reading, recording, reflective writing, critical thinking, writing (presentation) and referencing. Students were asked to rate their self-perceived skill on a Likert scale where 1 = unsure, 2 = acquiring, 3 = developing and 4 = emerging. As shown in Figure 1, the average response was higher for each of these skills in survey 2. Figure 1 displays the overall trend towards self-perceived improvement for each academic literacy.

![Figure 1. Comparison of average responses for each academic literacy in surveys 1 and 2 (N = 69 for survey 1 and N = 51 for survey 2; horizontal axis: 1 = unsure, 2 = acquiring, 3 = developing, 4 = emerging)](image)

When completing the initial survey, some students included comments that indicated an increased awareness of the importance of developing high levels of competency in oral and written communication; for example, “This self-assessment has reinforced what a huge learning curve I am travelling” and “This task allowed me to consider my strengths, and the areas for me to develop as a learner”. In the final survey, students’ comments illustrated their understanding of the links between academic literacies development and the professional skills required of an early-childhood educator. For example, “I have developed my abilities over the trimesters, and have acquired skills to apply in my academic literacy and professional skills writing (that is amazing!)”.

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**The project**

Although we were aware of the stresses that learning how to succeed in university placed on some students, our understanding of the responsibilities of our role in students’ transition to university intensified during the DUPPP project. In reviewing the written assessment tasks that students were required to complete, we became aware of the language we used in developing the assignments. We realised that there were many places where we assumed students would be able to interpret what they were expected to do; for example: “Using current literature, discuss how children’s learning could occur and which areas of knowledge, skills and competencies could be strengthened”. In this excerpt from an assignment, there are several assumptions, including:

- Students understand what is meant by “current literature”
- They can source literature
- They have the skills to incorporate material into their work
- They know how to “discuss” in an academic essay.

As we reviewed the assessment tasks, it became apparent that we needed to develop a tool for clarifying our understanding about levels of complexity. This incorporated determining and defining different aspects of skills development. Table 1 shows how this was achieved:

<table>
<thead>
<tr>
<th>Level</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scaffolded</td>
<td>This involves the lecturer purposefully supporting the student to make links between their current level of understanding and the skills required to complete the task. The level of support required would depend on the student’s prior knowledge and experience. A student requiring scaffolding would likely be inexperienced in academic writing or research.</td>
</tr>
<tr>
<td>Supported</td>
<td>A student requiring support would have some prior knowledge and experience of academic writing and research. However, to complete the task they may require guidance or advice such as an explanation of the task required and recommendations to assist them.</td>
</tr>
<tr>
<td>Guided</td>
<td>The student would have demonstrated knowledge and competencies in the skills required, but may need some guidance to assist or reassure them in completing the task.</td>
</tr>
<tr>
<td>Supervised</td>
<td>Working in a largely independent manner, the student is regarded as having the basic skills and knowledge necessary to complete the tasks required; the lecturer’s role is one of “overseeing” and monitoring the student’s progress.</td>
</tr>
<tr>
<td>Independent</td>
<td>The student is believed to have all the knowledge, skills and competencies needed to complete the tasks to the required level and is able to work without any form of intervention from the lecturer.</td>
</tr>
</tbody>
</table>

By using this model\(^1\), we were able to determine the level of skills required, and thus build guidance into the assignment instructions, as well as incorporating intentional teaching in class and develop other tools and resources for students.

When deconstructing the assessments, we were confronted by the complexities of the way we presented assessment tasks and the ambiguities that existed in the way we wrote. To ameliorate this, we found it useful to ask Language and Learning Advisors to act in an editorial capacity, reading the assignment instructions and highlighting places that could confuse students. This working partnership was productive in that it overcame the risk of a lecturer writing the assignment instructions knowing exactly what they themselves meant but not seeing how their work would be read through others’ eyes.

The second part of the process was to map the skills and knowledge that a student required to complete each assignment task we set. Table 2 shows the example assignment that was deconstructed and mapped, using a model adapted from Harper (2011). This showed the specific levels of guidance and support we needed to give students opportunities to meet the assessment criteria. In this model, the tasks were assessed against three developmental levels of increasing competency and independence, from “scaffolded” as the highest support level, to “guided” as the lowest support required. Some aspects of the tasks covered more than one level of competency, and it is notable that all aspects of the skills needed fell into the higher-support categories.

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\(^1\) Self-Assessment Checklist & Reflective Tool developed by Wishart and Thies (2013), with academic-skills descriptors adapted from Harper (2011).
Having identified the levels of knowledge and skills necessary to complete tasks, we then determined students’ perspectives about their existing academic literacies. This was achieved by developing and using a tool that gave students the opportunity to self-assess. The benefits of this were twofold. Students were encouraged to reflect on their own learning needs; and we were able to respond to the information they provided by focusing on the specific skills they had identified. Table 3 is an example of one of the academic-skills self-assessment checklists that students were offered when embarking on preparation and planning for a new assessment task.
Table 3. ECE 301 assessment tasks – academic-skills development

<table>
<thead>
<tr>
<th>Assignment</th>
<th>Academic Skill</th>
<th>Skill Description</th>
<th>Self-Assessment Checklist [✓/☐]</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Acquiring</td>
<td>Developing</td>
</tr>
<tr>
<td></td>
<td></td>
<td>I am new to this skill for the first time and need help with it</td>
<td>I am learning this skill and need to work on it further</td>
</tr>
</tbody>
</table>

2A  Effective Research  Students locate relevant written information to support completion of the assessment task.

Effective Reading  Students read from written sources to extract relevant information.

Effective Recording  Students integrate information from written sources into description, justification and critical reflection upon the learning environment through short quotation, summarising and/or paraphrasing.

Effective Reporting  Students effectively describe and outline the goals and key features of the learning environment.

Effective Critical Reflective Analysis  Writing demonstrates critical analysis and reflection upon the learning environment and its context.

Effective Relating  Students apply and synthesise issues discussed in the unit with theoretical perspectives to justify the approach taken with design, development and implementation of the learning environment.

Effective Writing (Presentation)  Writing displays clear layout and structure, including paragraphs; correct spelling, punctuation, grammar and appropriate vocabulary.

Effective Referencing  Students demonstrate appropriate procedures for citing and referencing using author-date (Harvard) style as presented in Deakin University’s Guide to Assignment Writing and

The academic-skills self-assessment checklist (Table 3) was accompanied by a “How To Use This Table” user’s guide (see below). The user’s guide explained how students could self-assess their academic skill levels prior to undertaking an assessment task, and how to self-assess again after the assessment task had been marked with feedback from their assessor.
HOW TO USE THIS TABLE
This table is a guide to help you get clearer about the academic skills you will be developing by doing Assignment 2A.

We suggest you download and print off this table and try filling out the accompanying Self-Assessment Checklist for each assignment:

<table>
<thead>
<tr>
<th>Acquiring</th>
<th>Developing</th>
<th>Emerging</th>
</tr>
</thead>
<tbody>
<tr>
<td>I am new to this skill for the first time and need help with it</td>
<td>I am learning this skill and need to work on it further</td>
<td>I can now show evidence of this skill being developed</td>
</tr>
</tbody>
</table>

- Tick the box that best describes what stage you are at with learning each of these skills;
- With each of the academic skills listed in the table tick one of the boxes (Acquiring, Developing or Emerging) before you start writing the assignments;
- And then go back through the checklist again after these assignments are marked and do the same thing: that is, tick one of the boxes (Acquiring, Developing or Emerging) to self-assess how you are going with developing these skills.

The intention of the checklist was, first, to introduce students to the ambit of academic skills embedded in an assessment task, thus making them more aware of the importance of these skills in building academic literacy. On this basis, the self-assessment checklist afforded students the possibility of further metacognition of academic literacies (Pacello 2014). We were interested in getting them to identify and self-assess their own skill acquisition within a rubric or developmental progression with the following taxonomic elements: Acquiring, Developing and Emerging (Table 3). We were also curious to see if students could identify a developmental process at work for themselves in learning these new skills. Our experience suggests this particular student cohort are quick to recognise the importance of gradual developmental progressions in learning with young children, but have not been encouraged in the past to apply the same developmental ethic to their own learning as adult learners and beginning students in initial teacher education. Research suggests that inexperienced higher-education learners frequently have limited awareness that learning is an evolving process occurring over time (Pacello 2014).

Indeed, we are of the conviction that the acquisition of academic-literacy skills that catalyse students’ self-recognition of developmental trajectories actively contribute to the formation of teacher identities.
Ultimately, becoming acculturated to the norms and practices of an academic institution, becoming academically literate – in other words, becoming and being a university student – also contributes to becoming and being an early-childhood teacher. Therefore, we also see an ontological purpose to building initial teaching education students’ academic literacies that includes and transcends instrumental skills acquisition. This has been a point of tension for a percentage of this student cohort, many of whom come from a vocational background where concrete and instrumentalised skills have been highly privileged. As lecturers we were faced on many occasions with incredulity from students about the long-term relevance of academic-skills acquisition to becoming an early-childhood teacher. The call from this cohort to have their degree studies vocationally and practically relevant is often considerable. To address these tensions, maps were developed. These clearly charted the connections between the acquisition of academic skills at the university, course, unit and assignment levels through to later professional skills, which were mapped to relevant early-childhood teacher, curriculum and quality standards and requirements (Appendix A).

“ECE 301 Academic to Professional Skills Map” (Appendix A) served a range of purposes:

- It invited students to further cultivate metacognition of academic-literacy skills and self-reflection on emergent identities as a university students and future graduate early-childhood teachers.
- It aimed to help students to see direct pathways between the academic work and priorities of being at university and their current and future practice as degree-trained early-childhood teachers.
- These pathways were mapped in a way that would bring their pre-service teacher education out of abstraction into concrete steps with a clearly visible taxonomy.
- The map was deliberately formatted with specific skills successively juxtaposed so students could see recurring professional priorities and themes explicitly connected to unit aims and assessment tasks; course learning outcomes, university graduate learning outcomes, Australian Qualifications Framework (AQF) Level 7 Qualification Knowledge-Skills Criteria (AQFC, 2013, pp. 47-48); and wider professional-skills requirements. In this case the recurring theme was “critically reflective practice”, and the requirements for these skills were presented as they appeared in Victorian early-childhood teacher graduate standards (AEU, KPV & LHMU, 2009), state and national early-childhood education and care (ECEC) curriculum practice principles (DEECD & VCAA 2011; DEEWR 2009) and national ECEC quality standards (ACECQA 2013).

**Identifying The Grid-Points**

Chanock et al. (2012) contend that the academic-literacy support provided for students is usually generic, ad not discipline-specific. They also make the point that lecturers are “native speakers” (Chanock et al. 2012, p.6) of the language used in their discipline area, and thus can easily interpret literature and assessment tasks. They are, therefore, less likely than students to see the complexities or ambiguities within the material. This was taken into account when developing the tools that would best provide our early-childhood students with relevant and appropriate academic guidance. Although the university provides excellent academic-skills support, we
wanted to develop material that was accessible and that would “speak” to our students. As discussed by Wingate (2012), there is no generic model that can effectively teach academic writing across disciplines, even within the same faculty. Furthermore, we found that interpreting academic literature needed to be taught with discipline-specific material. This was consistent with findings by Moles et al. (2012), whose study with pre-service teachers reported that generic study skills could be confusing and unhelpful. We therefore made the decision to develop guidance material that incorporated the assessment types and literature that our BECE students would actually experience.

By taking this approach, we were able to embed scaffolding of skills in our course material seamlessly and cohesively for the students. We felt that if we had relevant tuition that was contextualised to the course content, students would be more likely to make sense of what we were asking and why we felt it was important. We have found that students either overlook the support that exists in university, or find it too difficult to access, especially for distance (off-campus) students. Therefore, by providing scaffolding that was immediate and integrated, we could achieve increased uptake of academic-literacy resources and achieve positive outcomes for student learning.

The resources we provided were developed through our mapping exercise with the assessment tasks and students’ self-assessment. We therefore provided material to inform the “5 Rs”:

- Researching and accessing academic literature relevant to teaching;
- Reading and making meaning from an article;
- Referencing and incorporating referenced literature in an essay;
- Reflective writing;
- Reviewing and editing an essay.

These were provided in a number of different mediums, including PowerPoint, booklets and audio-visual resources. We also developed a website, the “BECE Learning Hub”, where students could access guidance and support for assessment tasks, but also contribute their own experiences and ideas.

Having provided resources to increase students’ academic-literacy levels, we also reflected on how we delivered the assessment of their assignment tasks. Riggan and Oláh (2010) assert that formative assessments provide additional learning and development opportunities for students. Thus, as suggested by Wingate (2012), to optimise their learning, we needed to provide informative feedback that evaluated their writing, use of literature and accuracy of referencing along with the course content-specific aspects. The students have greatly appreciated this, as they can use their feedback to monitor their progress. Similarly, Moles et al. (2012) found that many students regard the feedback they receive on their assessments as some of their most effective developmental tools, particularly if it is related to their development as teachers.
In keeping with our focus on discipline-specific development of academic literacy, we have also mapped the academic literacies needed for the BECE course against the professional skills required by graduating teachers, teacher-validation standards and regulatory and curriculum frameworks (Appendix A).

Travelling On

As experienced lecturers, we have been surprised by the magnitude and direction of change in our own practice as an outcome of the academic-literacies project. In particular, the way we have approached how we set and structure assessment tasks has been as much a learning journey for us as it has for the students. We have become increasingly aware of the implications of providing students with appropriate tools and resources in supporting their transition to university study. We have also endeavoured to avoid making assumptions about what students might know, or understanding they might bring; accordingly, we are consciously incorporating specific guidance into assessment tasks.

We do not see our work in this area as having a destination. This project continually develops as the focus of students’ academic competencies expands. For example, as university education incorporates an increasing level of ICT into teaching and coursework, the range of competencies and literacies required by students shifts rapidly. It is worth considering that there may no longer be groups who can identify as “digital immigrants” and “digital natives” (Prensky 2001) because of the rapid changes in technology and the ways it is applied in education. Thus, we cannot assume that students will be able to use new technologies without guidance or tuition. Even if they are younger, they might be unfamiliar with the application or functions of a program or software. We will, therefore, need to continue to monitor what we ask of students and provide appropriate guidance, tuition and support to give them every opportunity of success. However, this action-research project demonstrated that when students are involved with their own development in gaining and strengthening their academic literacy skills, they become engaged with their learning and note their own progress.

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Appendix A. Ece 301 Academic To Professional Skills Map

“University to Early Childhood Teacher” BECE – ECE 301 Assignment 2A Mapping Academic to Professional Skills (Wishart 2012)