Impact of an Experiential Programme on Development of Pedagogy in Pre-service Outdoor Education Teachers: A Case Study

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Declaration

I certify that this thesis, submitted in fulfilment of the requirements for the award of doctor of Philosophy, in the Faculty of Education, University of Western Sydney, is wholly my own work unless otherwise referenced or acknowledged. The document has not been submitted for qualifications at any other academic institution.

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Terri-Anne Philpott

2 August 2013
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<table>
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<th>Abbreviation</th>
<th>Description</th>
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<tbody>
<tr>
<td>AEE</td>
<td>Association for Experiential Education</td>
</tr>
<tr>
<td>AERA</td>
<td>American Education Research Association</td>
</tr>
<tr>
<td>ANTA</td>
<td>Australian National Training Authority</td>
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<tr>
<td>B.Ed.</td>
<td>Bachelor of Education university student</td>
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<td>CC</td>
<td>Challenge Course program</td>
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<tr>
<td>DEST</td>
<td>Department of Education, Science and Training</td>
</tr>
<tr>
<td>DVD</td>
<td>Digital Video recordable Disc</td>
</tr>
<tr>
<td>EEU</td>
<td>Experiential Education Unit</td>
</tr>
<tr>
<td>ELT</td>
<td>Experiential Learning Theory</td>
</tr>
<tr>
<td>OE</td>
<td>Outdoor Education program</td>
</tr>
<tr>
<td>PBL</td>
<td>Problem-based Learning</td>
</tr>
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<td>PE</td>
<td>Physical Education</td>
</tr>
<tr>
<td>PP</td>
<td>Productive Pedagogy framework</td>
</tr>
<tr>
<td>PP-CRS</td>
<td>Productive Pedagogy – Class Reflection Sheet</td>
</tr>
<tr>
<td>SETL</td>
<td>Student Evaluation of Teaching and Learning report</td>
</tr>
<tr>
<td>SNAPPER</td>
<td>Performance Analysis Software by Websoft technologies</td>
</tr>
<tr>
<td>TAFE</td>
<td>Technical and Further Education</td>
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LIST OF TERMINOLOGY

Adventure - in this case relates to adventure experience paradigm (Priest & Gass, 2005, p.46). “Adventure is characterised by the presence of some fear. Participants are in total control of the situation but they are being challenged” (p.49).

Experience - is defined by Beard and Wilson (2007) as an “Experience is a meaningful engagement with the environment in which we use our previous knowledge (itself built from experience) to bring new meaning to an interaction” (p.21).

Experiential Education - as a term used in this thesis refers to “Experiential education is a philosophy that informs many methodologies in which educators purposefully engage with learners in direct experience and focused reflection in order to increase knowledge, develop skills, clarify values, and develop people’s capacity to contribute to their communities” (Association for Experiential Education, 2003-2013, p.2)

Experiential Learning - definition of meaning is taken from the most recent works by Illeris (2007) “Experiential learning can be understood as learning in which the learning dimensions of content, incentive, and interaction are involved in a subjectively balanced and substantial way” (p. 90) and also Dewey’s (1938) thoughts on education via quality experiences that lead to an educational outcome.

Experiential Learning Theory (ELT) - Theory focused on researching the experiential education methodologies and practices.

Outdoor Education - Most current description of Outdoor Education included a “…handful of terms: … school camping, conservation education, nature study, nature recreation, and outdoor recreation… earth education, ecological education, energy education, expeditionary learning, environmental and environment education, adventure and challenge education, outdoor ethics education, bioregional education, science technology-society education, global environmental change education, and sustainable development education” according to Knapp (1997, as cited in Quay & Seaman, 2013, p.3) which describes the type of Outdoor Education programs through type of activity that takes place or via the goal in which the program wishes to achieve. This builds on an early Outdoor Education definition by Ford (1986) that emphasized education in, about and for the outdoors which is still relevant today as well.

Out of doors – A most recent clarification of what is meant by out of doors was best provided by Quay and Seaman (2013) “… educational endeavours signals a move out-of-doors – a step through the doorway that marks the physical and metaphorical boundary of indoor education, of being an academic student – each is also a different occupation relevant in its historical context” (p.94).

Outdoor Educator – in this thesis it is used as another term for Outdoor Education teacher, outdoor leader or outdoor facilitator because all informants were learning to incorporate leadership skills and knowledge about facilitation into their teaching practices.
Problem-Based Learning - is used to describe a technique used by teachers that involves devising a problem to students that they eventually learn.

Risk - in this thesis relates to adventure experience paradigm model as, “Risk is the potential of losing something of value. The loss may lead to harm that is physical (e.g., broken bones), mental (e.g., psychological fear), social (e.g., peer embarrassment), or financial (e.g., lost equipment). Risk is created by the presence of danger” (Priest & Gass, 2005, p.18).
ABSTRACT

This case study aims to share the findings of the effect of an experiential programme on development of pedagogy by pre-service Outdoor Education teachers in an education program. The unit was designed to progressively challenge the pre-service Outdoor Education teachers to develop and improve their teaching skills in a number of outdoor learning environments that emulate the demands of teaching in an Outdoor Education setting. The final teaching session of the programme required the participants to teach in an authentic outdoor learning environment with authentic secondary students. Created through a framework of experiential education and teacher education theory and processes, this teaching and learning approach encourages attributes of problem solving, critical reflection on teaching practices, and gaining professional knowledge through experience as part of the role as an Outdoor Education teacher. Informants reported their understanding and identified challenges that prompted them to transfer their theory of teaching into practice. The informants went through three cycles of Kolb’s (1984) experiential model, used filming to capture their teaching and analyses of performance, and identified other critical components of the learning experience that enhanced their learning about their own teaching practices.

The data collected from the pre-service Outdoor Education teachers provided examples of a number of components in the learning experience that lead them to critically reflect on their teaching practices. The data also showed how the Pre-service teachers transferred this new knowledge of effective teaching into their outdoor pedagogy.
Chapter 1: Introduction

The focus of this study is to elucidate the impact of an experiential education unit on the development of pedagogy for pre-service Outdoor Education teachers, thus revealing how they learn and how we may best teach them. The need for such a study is discussed from various perspectives including a personal perspective. This chapter is thus organised into the following sections: teacher education research overview; use of teacher education research to inform practice; Outdoor Education and experiential education; tertiary Outdoor Education programs in Australia; pre-service Outdoor Education teachers; professional experience needs; and the need to obtain more in-depth knowledge of ‘how Outdoor Education teachers learn to teach’.

Background

In Australia, the ways in which we educate and train pre-service teachers has been fiercely debated since teachers’ colleges were taken over by universities in the early 1990s (Gale, 2006). Federal funding allocated to education faculties in universities in 2006 meant an anticipated focus on the quality of outcomes from teacher education and training would follow (Attarian, 2001; Cochran-Smith, 2005; Dickson, Gray, & Hayllar, 2005; Hattie, Marsh, Neill, & Richards, 1997; Loughran, 2007; Nuttall, Murray, Seddon, & Mitchell, 2006; Priest & Gass, 2005; Shulman, 1986). Taking effective steps to ensure pre-service teachers have a positive experience that allows them to develop their full potential is critical if education faculties are to meet the needs of schools pre-service teachers and universities.
While the focus of many lecturers in education faculties is to prepare pre-service teachers for the school setting, it has also become apparent that some undergraduate programs have been stripped of funding to support adequate time for pre-service teachers to put their pedagogy theories into practice within a supportive and positive teaching environment.

As a lecturer working with pre-service Outdoor Education teachers, I have often been alarmed at the lack of preparation time for these teachers to grasp classroom management and teaching skills to create a positive learning environment. I have conducted a review with my students upon their return from practicum, and many have made anecdotal comments that reinforce this notion. They voiced their frustrations in feeling under prepared in developing teaching practice. Furthermore, they feared the next critical learning curve—transferring knowledge gained from the lecture theatre into action in the school classroom—let alone applying this knowledge to the outdoor learning environment.

The same feelings of inadequacy were expressed by pre-service teachers in other curriculum areas including physical education (PE), early childhood education and primary education. During my career I have worked in three very different pre-service teaching programs and from my critical observations I offer the following insights:

1. Pre-service teachers optimise their learning from experience-based approaches, especially from micro-teaching situations, where they could teach under the watchful eye of a lecturer or master teacher (a teacher who
has gained their master’s degree in teaching or advanced skills or experience in teaching).

2. Micro-teaching (experiential learning) situations are time and labour intensive, and therefore experiential learning has been squeezed out of many time poor faculties that offer education programs.

3. Pre-service teachers found it frustrating and counterproductive to their learning when they felt under prepared or were put into a school with a teacher who did not create a positive learning environment.

4. The combination of supportive university lecturer and school teacher closely working together to make sure the pre-service teacher could practice what they were currently learning worked best. This method seemed very effective and created a positive learning environment. This enabled the pre-service teacher to grow, challenge their teaching capabilities and even try new teaching approaches without fear of failure in the classroom.

These personal insights reflect 17 years of combined teaching experience as a PE and health teacher and Outdoor Education teacher, at university level and teaching in schools (five years). My pre-service education and training was in PE and health K-12. This constituted a four-year degree with many experiential opportunities to hone my sporting skills and knowledge in a variety of sports contexts, combined with education and science units. On completion of my degree I taught Health Education, PE and Outdoor Education (OE) for four years in schools in Tasmania. In my fourth year of teaching I was highly challenged by the students that attended a school that was classified ‘hard to teach’. During this year I was not ‘job-ready’, and found it frustrating and demoralising due to my inadequate skill set to teach in a negative and problematic school environment. This prompted me to seek more skills and knowledge of teaching. I applied and was granted a fellowship at Springfield College
in Massachusetts, USA. Here I studied a Master in Education, Outdoor Recreation and Ecotourism Management over a two-year period. I also taught part time and had opportunities to attend Outdoor Education training sessions such as Challenge Course (CC) facilitation workshops and training programs (Springfield College Outdoor Education Centre), camp counsellor staff orientations and training opportunities, and Association for Experiential Education (AEE) regional and national conferences. It was during this time that I learned of experiential education and experienced different and very effective forms of outdoor learning. This stimulated more thinking about my own teaching and how I could become a more effective teacher utilising these ‘soft skills’ (teaching approaches or pedagogy) to make the Outdoor Education experience and or Physical Education (PE) experiences more educative and fun to the learner. I started to evolve as a critical reflective teacher (master teacher) who was more focused on student-centred learning rather than a dictatorial teacher centred delivery.

Whilst in the USA, I experienced different education programs that caused me to reflect on my past teaching experiences. The exposure to many different teaching approaches made me realise that there were many effective ways to teach, not just the standard, traditional PE teaching style (coaching model) (Callcott, Miller, & Wilson-Grahan, 2012; Tinning, MacDonald, Wright, & Hickey, 2001). A key point in my learning came from a CC instructor/teacher who said “I can see you are a very competent and capable PE teacher but you have to let go of some of your ways if you wish to fully embrace the experiential learning (Outdoor Education) teaching style”. I reflected upon my teaching and started to seek out other ways of teaching. I was all too keen and prepared to step in and instruct my group on possible plans to
implement for success, instead of stepping back and empowering the group to take responsibility for finding the solution. In some teaching instances, where the group I was instructing was overcoming technique problems (e.g. to swing on a rope) or teamwork problems or planning a way to tackle their challenge, I needed to become a facilitator of learning—not a dictator.

Upon returning to Australia, I started questioning whether the successful experiential learning process I used with students in the outdoors could be implemented in my teaching in other curriculum areas, so I started to experiment. I was also introduced to Teaching Games for Understanding theory through a workshop run by Joy Butler. Later in 2004 I presented at a national Australian Council for Health PE and Recreation (ACHPER) conference and participated in a Games Sense workshop run by Ray Breed. These two experiences and further investigation of theory for the subject area led me to think that facilitation techniques from Outdoor Education theory could in fact be applied to other areas of the curriculum with success. This type of thinking was developed further by current notions of teaching practices discussed by Callcott, Miller, and Wilson-Graham (2012). From that point on I experimented with some alternative ways of teaching games for PE pre-service teachers. Through a number of different units over 11 years (in three different university education faculties) I have used the experiential model with my own teaching development, especially self-reflection (including self, peer and student feedback), being a key part of the process to my continued quest for excellence in teaching, but also to underpin my teaching practice with pre-service PE, health and Outdoor Education teachers studying in an undergraduate teaching degree.
The more I tried to read the literature about developing my outdoor educator skills, the more frustrated I became because of the lack of research and texts in this area. I have already experienced using and adapting theory from one of the other closest experiential education areas, being PE and general education, but discovered through my experiences that Outdoor Education and PE teaching styles are different (Penney & Chandler, 2000; Siedentop & Tannehill, 2000; Tinning, McCuaig, & Hunter, 2006). I had to learn as a master teacher to adapt and adjust to make teaching styles fit the context of learning and outdoor students’ needs.

Many pre-service Outdoor Education teachers do not have a lot of experience teaching in any context, let alone being able to adjust current texts and education theories to fit their outdoor context and teaching situations. Their reflective skills are limited because their knowledge and experience levels of the teaching setting are low. This seems to inhibit their ability to make the connections between learning contexts made by more experienced teachers.

It was through my involvement in a specific unit aimed at giving pre-service Outdoor Education teachers a micro-teaching experience with other tertiary students first, followed by secondary students. I then formulated that idea for a possible study on pre-service Outdoor Education teachers going through a unit designed to utilise micro-teaching experiences taught through an experiential learning model. The pre-service Outdoor Education teachers would focus on two outcomes, namely risk management and designing a program that used an experiential learning model with two different student groups.
Teacher education research

According to Cochran-Smith (2005) “we need research that explores the interrelationships of teacher education strategies and arrangements, what teacher candidates actually learn, how they use what they learn in schools and classrooms, and what and how much their students learn…” (p. 305). Further, they suggest better tools and approaches which can add rigour when planning and implementing research in the field. An analyses of the research needed in teacher education in the 2000s concurred with Shulman (1986), who had previously suggested in the mid-1980s that “As we have begun to probe the complexities of teacher understanding and transmission of content knowledge; the need for a more coherent theoretical framework has become rapidly apparent” (p.9).

Current research on teacher education in Australia has been critically analysed for strength and rigour by Nuttall, Murray, Seddon, and Mitchell (2006), who reported that “Overall, this portrayal of the field of research into initial teacher education research in Australia during the last decade suggests a relatively weak epistemological base, small-scale and isolated studies, and variable research quality” (p.325). Furthermore, the research field is recently formed and still trying to define itself as a research and/or operational field concerned with teaching (Bransford, Brown, & Cocking, 2000; Nuttall et al., 2006; Penney & Chandler, 2000). This critique offers numerous suggestions on how best to strengthen research in teacher education that match the suggestions made by Cochran-Smith’s (2005) report on American teacher education research issues and also those of Shulman (1986). The concern for quality of research in teacher education was also identified by Loughran
(2007) who stated “a need for these deeper understandings to be developed in ways that enhance an articulation of pedagogy of teacher education”, and this is also asserted by Bransford, Brown, and Cocking (2000) and Colby, Ehrlich, Beaumont, and Stephens (2003).

Furthermore, Shulman (1986), who made a request for future teacher education researchers to conduct more case study research on pedagogy from a variety of teaching disciplines, is still relevant today. This notion of a need for quality research from a variety of teaching subject areas was later recognised by Cochran-Smith’s (2005) analysis of the American Education Research Association (AERA) panel report that “In addition, we need research on the outcomes of teachers in subject areas and grade levels besides secondary mathematics as well as research on preparing teachers for diverse populations…” (p. 302).

This case study incorporates a number of recommendations for future research discussed in current teacher education research journals. Diversity is added to the teaching discipline under examination, so instead of looking at mathematicians, this study will look at outdoor educators. The focus of the study will be on exploring how the Outdoor Education teacher learns to teach, using experiential education theory. The use of a case study with suggestion by Cochran-Smith (2005) and Yin (2003a) add rigour by using appropriate theories, data collection and analysis tools, which is discussed in more detail in the methodology in Chapter 4.
Use of teacher education research to inform practice

This study was based on how pre-service Outdoor Education teachers learn to teach outdoors. At the outset, it was designed to supplement current literature and studies by Gore, Griffiths, and Ladwig (2001) who conducted their study on novice teachers in different disciplines in Queensland. I wanted to extend their work by investigating their theories of productive pedagogy in the outdoor pre-service teaching context. Gore et al. (2001) focused on novice teachers, whereas my study is on pre-service outdoor educators and how they use the productive pedagogy framework to inform their understanding of theory and practice. The aim of this study was to build on their research base of existing knowledge but also add different aspects and elements to define some of the gaps in the literature as suggested by Shulman (1986): “What are the sources of teacher knowledge? What does the teacher know and 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). This is supported by current research by Cochran-Smith (2005): “What teacher candidates actually learn, how they use what they learn in schools and classrooms, and what and how much their students learn” (p. 302). These questions help pre-service teachers understand students in tertiary classrooms.

A number of similar studies relate to the area of understanding how teachers learn to teach and become experienced teachers but they concentrate on other teaching disciplines. They offer valuable insight on effective methods already used to prepare teachers to learn to teach and suggest ways to teach for deep learning, offering ideas on how to advance pre-service teachers to obtain a level of expertise in teaching
Effective teaching methods are also addressed by Cochran-Smith (2005) in a meta-analysis of teacher education research, who states:

However, across the research, there is evidence that certain program components and characteristics are related to teacher quality and pupil’s achievement, such as consistent vision, strong collaborations between universities and schools, certain course work and school/community fieldwork, and effective use of certain teacher education strategies. (p. 302) Her suggestions on what they know and what they need to know about teaching has also guided the development of this study.

Outdoor Education and experiential education perspectives

There have been numerous research studies conducted on leadership and facilitation skills but limited research has been focused on teaching ability or pedagogy of outdoor educators (Attarian, 2001; Hattie et al., 1997; Hayllar, 2005; Priest & Gass, 2005; Quay & Seaman, 2013). Hammerman, Hammerman, and Hammerman (2001) wrote an insightful American based text but it fails to connect Outdoor Education to teaching practices in an Australian education context. For example, it does not link curriculum outcomes or expectations of Outdoor Education teachers to an Australian based education curriculum or standards for teachers. Also from an Australian Outdoor Education perspective, there is a need for more research that evaluates programs, tests theories and presents ideas for improvement in outdoor pedagogy (see Gray & Martin, 2012; Martin, 2001; Neill, 2001; Priest & Gass, 2005; Wagstaff, Attarian, & Drury, 2007) in ways to take Outdoor Education research into the 21st century along with the other disciplines in teacher education research.
Experiential education theories have been evolving with outdoor leadership and facilitation theories. There is a very strong connection between some Outdoor Education programs and experiential education theory. In fact, a number of educators use experiential learning approaches and theories to underpin their outdoor classroom, because they think it is the best way for students to learn from any outdoor adventure or nature based experience (Beard & Wilson, 2007; Breunig, 2011; Dickson et al., 2005; Joplin, 1984; Kolb, 1984; Kraft, 1984, 1999; Smith & Knapp, 2011). Again, in this literature there is a lack of context for Australian pre-service Outdoor Education teachers to link what they learn in the university outdoor program with how they relate this learning to the real learning environment in schools. There is a vital need for a focus on preparing outdoor educators for the future as currently there are only a couple of Australian based books about the subject including a most recent addition by Quay and Seaman (2013).

**Tertiary Outdoor Education programs in Australia**

Outdoor Education programs are fairly new in comparison to the other disciplines in undergraduate education programs at the tertiary level in Australia. There is very little research conducted on how pre-service Outdoor Education teachers learn to teach or how they transfer and integrate their outdoor experiences into their teaching. There is also limited research and information on the capacity of Australian tertiary Outdoor Education programs to provide experiences that teach Outdoor Education teachers to meet the education department’s expectations. There is a need to conduct more research on Australian tertiary Outdoor Education programs. That information
can be shared with other academics to inform best practice of Outdoor Education teacher preparation programs (Martin, 2001; Neill, 2001).

**Pre-service Outdoor Education teachers**

In my role as a lecturer, I am often asked by my pre-service Outdoor Education teachers about where they can find texts, journal articles and other sources of ideas that incorporate links between Outdoor Education theories and Australian education curriculum documents. They also request Australian based research that would provide them with valuable examples of Outdoor Education pedagogy best practices that make direct links between teaching and learning theories and practice provided on all Education Department websites in Australia. The information discussed in this study could also help guide novice Outdoor Education teachers to grasp further ways to improve their outdoor teaching ability (University A’s SETL reports, 2006 & 2007).

The information collected in this study could aid planning and redevelopment of tertiary outdoor units and would also be useful for unit evaluation in other disciplines of education with experiential learning components. The information will also help guide decisions about unit components that students will gain most learning from to enhance their learning experiences. Ultimately the information from this study will inform redevelopments on future Outdoor Education units that focus on teaching Outdoor Education teachers to teach. This should inform planning so that the experiential education unit (EEU) provides positive and valuable experiences that allow pre-service Outdoor Education teachers adequate time and space to develop
their full potential. This notion of quality teacher preparation is supported by similar
teacher preparation ideas as discussed by Callcott et al. (2012) from the related field
of Health and PE teacher preparation.

**Professional experience and how teachers learn to teach**

As an academic in teacher education I wanted to explore a dissertation topic that
would utilise my outdoor teaching knowledge and experiences in a setting that would
allow me to capture how pre-service Outdoor Education teachers learn to teach. I
wanted a research project that was going to give me valuable insight and
understanding of how Outdoor Education teachers learn to teach, a discipline that I
am passionate about and have an eagerness to learn more. I also considered that a
dissertation takes commitment over many years and I wanted a research topic that
would challenge me but also provide useful information that would assist novice and
pre-service teachers to learn to teach effectively in the outdoors.

It was through my involvement with pre-service Outdoor Education teachers’ micro-
teaching experiences that I started to formulate the idea, as previously mentioned, for
a possible study on pre-service Outdoor Education teachers’ going through a unit
designed to utilise micro-teaching experiences taught through an experiential
learning model. This led to the formulation of this case study question: What impact
does an experiential education unit (EEU) have on the development of pedagogy
practices of pre-service Outdoor Education teachers? The particular focus would be
on how pre-service Outdoor Education teachers learn to teach. Also the critical
components of the unit that allowed pre-service Outdoor Education teachers to learn
best about their teaching practices would be identified. During the time of the case study I relinquished my role as a lecturer of the EEU. Thus I was free to conduct research on the EEU exclusively from a researcher’s perspective. Another lecturer was given the task of teaching the unit during 2007 in my absence.

Conclusion

Due to the breadth of research fields and the fact that the focus of the case study crosses a number of education disciplines, various reasons for undertaking this research have been outlined in this chapter. Many gaps in current research were identified, which this case study could inform. Due to the breadth of the research, the focus for this case study was on obtaining information about how Outdoor Education teachers learn to teach.

This thesis comprises eight chapters including the Introduction. Chapter 2 will discuss the literature reviewed for this case study with a focus on current needs from a teacher education research perspective. This chapter also explores experiential education theory and current research findings. Chapter 2 also focuses on Outdoor Education teacher theory and practice and presents current literature that espouses how young adults learn to teach.

Chapter 3 introduces and presents a detailed discussion of the Experiential Education Unit (EEU). I chose the EEU because its unique design of learning purposely was constructed for pre-service teachers so they could learn about teaching outdoors. The unit was designed to provide an outdoor learning experience for adult learners because it had the potential to aid future learning experiences for adult Outdoor
Education teachers or instructors. Research on Outdoor Education teacher preparation and practice is needed in Australia. The unit design and history is illuminated and explored. The EEU outcomes, assignments, schedule of content and assessment items are also provided. This chapter also includes a critical component of the EEU—the CC (CC)—previously identified by the research.

The methodology is explained in Chapter 4. The development and implementation of research design and data collection methods are revealed and further explanation of filming processes are included.

Chapters 5, 6 and 7 contain the analyses of the qualitative data and discussion of the study’s themes. The filming process and collection of artefacts provided rich samples of data to explore. The data provides a clear and detailed view of pre-service Outdoor Education teachers’ thoughts about their teaching practice and reveals critical components of the learning experience that affect teachers’ development.

Chapter 8 summarises the data analysis explored in the three previous chapters. This chapter also highlights the critical components that arose from the data during this study. Chapter 8 also provides an overall view of pre-service Outdoor Education teachers’ thoughts and what they learned about teaching practice during the EEU. This chapter finally concludes with some suggestions for future research of Outdoor Education teachers, and discusses implications for experiential education learning processes at university level or adult learner level. Some suggestions for future teacher education are also offered.
Chapter 2: Literature Review

This chapter will present and discuss the key literature pivotal to how outdoor educators learn to teach while completing their undergraduate degrees in Australian universities. The literature review is organised into a number of sections due to the nature of the study. These sections which aim to improve teacher quality include: current teacher education research recommendations from a broad perspective; teacher education research on best practice teaching models; existing pedagogy in teacher education; recent research on Outdoor Education; contemporary experiential education, experiential education theory; present research on how pre-service teachers learn and come to know; the Experiential Education Unit of work; and the chapter conclusion.

Current teacher education research recommendations from a broad perspective

A number of leading research scholars in the teacher education field have urged others to conduct rigorous research that both informs and raises the quality of teacher education programs and teaching at the tertiary level. Current research issues raised during the past two decades of teacher education are of particular interest. These include the increased production of “…research in the field [which has] developed to the extent that it can now support several specialist international journals of high standing, warrants many national and international conferences to discuss and disseminate research findings and their implications for practice” (Calderhead & Shorrock, 1997, p.9). This not only leads to more rigorous research, by allowing
international experts in the field to share ideas, but it also enables new teaching approaches to be discovered/discussed and tested for their effectiveness on a broader scale.

Leading scholars commented that there were already many studies conducted on maths teachers (Cochran-Smith, 2005; Shulman, 1986) but they were limited with regard to the Outdoor Education teaching discipline area, in particular. There were also suggestions to make future teacher education research more robust by using the latest tools to collect and analyse data and build on previous research in the field, thereby taking teacher education forward (Cochran-Smith, 2005; Richards, 2010). Another suggestion made by Shulman (1986) was for further exploration of teacher education practices “using case studies”, in particular by scholars, “to inform better teacher education practices when teaching teachers how to teach” (p.14).

Consideration was given to suggestions made by Newmann, Marks, and Gamon (1996) that identified weaknesses in the use of case study and offered advice for future teacher education researchers to prevent them from making the same error. In the critique Newmann et al. (1996) shared a reinterpretation of Schon’s case study (cited in Cochran-Smith, 2005), and pointed out that epistemology based research of teacher education should be strengthened by rigorous research and philosophical arguments. Furthermore, Newman et al. (1996) recognised that Schon made two assumptions in his case study work relating to ‘governing variables’ and teaching strategies, which later caused difficulty in interpretation of participants in the study, hence labelled “the problem of existence and of inference” (p.66). This relates to more recent research conducted by Cochran-Smith, Feiman-Nemser, McIntyre, and
Demers (2008), in an in-depth review of the abovementioned AERA report, which called for teacher education research to be more robust by using stronger research methodology.

Research conducted by Smith and Strahan (2004), Stronge, Tucker, and Hindman (2004) and many others have identified a diverse range of teaching practices and models that could potentially influence the professional development of pre-service teachers. According to Calderhead and Shorrock (1997) “factors within the school, within the training program and within the individual” (p.17) all influence the pre-service teacher’s ability to teach. For the purpose of this study, a close look at the development of teaching practices of pre-service Outdoor Education teachers will take place within their training program—an undergraduate education degree. We ought to consider that teacher education does not exist in a vacuum and is influenced by the government of the day and interested stakeholders. These extrinsic factors as described by Cochran-Smith (2005) which include debates about teacher education can be explained “as turf battles, some as rhetorical manoeuvring or political symbolism, and some as challenges to an unjust system” (p.179). This is occurring in the USA, but such issues in the history of teacher education in an Australian setting are barely raised. In summary, it is evident that quality research has a vital role to play in teacher education (Berry, 2005; Callcott et al., 2012; Cochran-Smith & Zeichner, 2009; Loughran, 2007; Nuttall et al., 2006).

**Teacher education research on best practice teaching models**
Through the use of a meta-analyses study of teacher education undergraduate programs across all areas of pre-service specialisations, Shulman (1986) reported that there was a 95% focus on content with 5% pedagogy over a century ago, but he observed a shift towards a pedagogy focus with minimal content (based on Shulman’s observations of many teacher exam papers administered in the USA). Hence he suggested a need for a balanced approach to improve both teacher pedagogy and course content. Furthermore, Shulman (1986) suggested that a balanced focus on teachers’ practices and their content knowledge is important because:

Mere content knowledge is likely to be as useless pedagogically as content-free skill. But to blend properly the two aspects of teachers’ capacities requires that we pay as much attention to the content aspects of teaching as we have recently devoted to the elements of teaching process. (p.8)

Through many recent studies of teacher education from researchers, such as Colby et al. (2003), Cranton (2002), Darling-Hammond (2006b), Nuttall et al. (2006), Ross-Gordon (2002), Shulman (1986), and Smith and Strahan (2004), a pattern emerges that depicts the state of education, not only in Australia, but internationally. It is important to acknowledge that the history of program development and especially preparation of teachers in higher education has been evolving over the past 150 years. During this period, teacher education has moved from Model Schooling (1850s), to the Apprenticeship System (1860s) to the Craft of Teaching (1920s–1980s) to micro-teaching (1970s and 1980s), and finally to teaching being viewed as a scholarly pursuit from the 1980s (Aspland, 2006). Calderhead and Shorrock (1997) described these teaching models from the past as “Enculturation or socialization into the professional culture model” or “Technical, or knowledge and skills, model” (pp.13–17). Throughout this period the design of teacher education models have been
influenced by governments, principals, teacher unions, national/international teacher education researchers, and tertiary institutions (Aspland, 2006; Berry, 2005; Cochran-Smith, 2005; Colby et al., 2003; Dyson, 2005; Loughran, 2007; Openshaw & Ball, 2006).

The variety of influences on teacher education programs has led to differing views about the right balance of theory and practice, which fuelled debates about whether teachers would be best educated in an apprenticeship system model as opposed to the tertiary based model. This has led to an ongoing debate about whether ‘theory based’ programs at tertiary institutions were better or worse than the predeceasing ‘practise based’ programs based in schools. A way forward in this argument according to Bengtsson (1993) is the “recognition that the dualism between theory and practice is not maintainable, there are three kinds of knowledge about practice, and they complement each other in a fashion which would be an advantage for teacher education” (pp.205–211). In the US the Association of Teacher Educators has provided strong guidance for conduct of research on Teacher Education by providing many examples of reputable studies (that focus on teachers practice or curriculum developments) with robust research designs that are valid, reliable and ethical (Cochran-Smith et al., 2008).

In current times the ideal balance between theory and practice is still debated with a clear purpose of raising the quality of teachers that graduate from tertiary education programs. The field has moved forward into debates on how best to teach pre-service teachers to become quality teachers (Gale, 2006). Teacher quality has become a focus of teacher education research due to the results of the latest Review
of Teacher Education in Australia, initiated by the Hon. Brendan Nelson, Education Minister in 2005. The latest review was instigated due to the perceived lack of literacy and numeracy skills of school students. Due to these past reviews, teacher education programs have been restructured and they have become more accountable for the level of quality teaching practices and professionalism of graduates. Effective teacher characteristics and pedagogy issues have driven some recent research by teacher educators to identify possible areas of improvement in their programs. This is attempting to best prepare pre-service teachers to meet Australian education policy standards for graduating teachers (Kalantzis, 2002; Darling-Hammond, 2006b; Nuttall et al., 2006; Stronge, Tucker, & Hindman, 2004). Furthermore, the review of teaching practices also ignited the push for defining quality teaching and exploring effective ways to transfer quality teaching practices to pre-service and novice teachers (Bransford et al., 2000; Gore, Griffiths, & Ladwig, 2001; Smith & Strahan, 2004; Stronge et al., 2004). This area of teacher education research focuses on improving pedagogy practices in teacher education programs that lead to quality graduate teachers.

Although many teacher education programs across Australia are on a continuous progression of refining program weaknesses and strengths, and ongoing development in a quest to understand best pedagogy of transforming pre-service teachers into quality practitioners. They still rely on the discovery of deeper understandings of what learning to teach involves. Exploring the numerous issues of teacher education and the processes of understanding learning to teach, highlight that many factors facilitate or impede teacher education programs and that developing quality teachers for the future is a complex task (Berry, 2005; Calderhead & Shorrock, 1997;
Cochran-Smith, 2005; Cranton, 2002; Gore, 1992; Gore et al., 2001; Loughran, 2007; Ross-Gordon, 2002; Stronge et al., 2004). Finally, according to Darling-Hammond (2006a) “Schools of education should resist pressures to water down preparation” of pre-service teachers, because ultimately in the classroom setting along with other factors, “teachers’ abilities are especially crucial contributors to students learning” (p.300). Teacher learning is a new area and requires further research and development (Bransford et al., 2000).

**Existing pedagogy to improve teacher quality in teacher education**

Preparing pre-service teachers for the future is a complex task. Wragg (1999) stated “There is a strong argument that teaching should be much more open than it has previously been, with teachers themselves playing prominent role in observing, analysing and dissemination best practice, however that might be conceived” (p.82). One of the issues to be addressed in this study is linked with how teachers learn to teach in the outdoors. And, more specifically, to develop further understanding of what pre-service Outdoor Education teachers are learning about their teaching practices during a teacher education program, and what learning experiences best support development of such practices.

Newmann et al. (1996) conducted extensive research work on authentic pedagogy and student performance, and restructuring US-based schools for improved intellect. This study was influenced by the research project conducted by Australian teacher education researchers, such as Gore et al. (2001), who developed and trialled a pedagogy framework aimed at improving pre-service teacher’s pedagogy practices in
order to improve school students’ intellect in Queensland. The Gore et al. (2001) research project was supported by the Queensland Education Department that developed the authentic New Basics Curriculum that required quality teachers to implement the curriculum. Therefore a teaching framework was devised alongside the new curriculum to support early career or inexperienced teachers become quality teachers; with quality pedagogy practices to guide their development of teaching abilities, the early career or weaker teachers could deliver the new curriculum values and outcomes. This approach was built on by Gale (2006) who alluded to the fact that having a quality curriculum was only half the equation in a quality education experience—the other half was quality teachers. One solution was to give extra support to early career or inexperienced teachers to help them become quality teachers. Hence, the Productive Pedagogies framework that would support novice teachers become quality teachers was subsequently developed, based on research findings of a longitudinal study by Luke, Lingard, Gore, Mills, and Hayes (2002) in Queensland.

The aim of Luke et al. (2002) research was to identify areas that would improve weaknesses and transform pre-service teachers into better teachers. Arnold (2003) also provided valuable insight into teaching qualities by alerting us to the fact that teachers need to be empathetic as well as academically capable of teaching. This need for improvement in pre-service and novice teacher performance is further supported by Calderhead and Shorrock (1997) who reported that “During initial training and their first few years in the classroom, many teachers, perhaps even the majority, experience difficulties in learning to teach” (p.8). The support of pre-service and novice teachers in their practice has also been the driving force behind
Australian states shifting their focus to pedagogy practices. According to Gale (2006) education departments are turning to “issues of pedagogy in seeking a solution to poor student outcomes and also in naming the problem”. Hence the derivative from Productive Pedagogies (Gore et al., 2001) in Queensland influenced initiatives such as “Quality Teaching (New South Wales), Powerful Pedagogies (Tasmania) and Principals of Learning and Teaching (PoLT) (Victoria)” (p.107).

Currently every Australian state and territory’s education department has its own teacher support framework to guide early career and inexperienced teachers to develop quality teaching practices. The quality teaching practices or productive pedagogy support frameworks contain resources that can be easily accessed from the Web. Each state and territory has named its framework in a somewhat different manner (see Table 2.1 for more information). Each framework displays the year in which it was implemented in schools and contains teaching abilities or characteristics listed in each column in Table 2.1.

Table 2.1 each row represents what each state is requiring of a novice teacher, which also matches up with their terms for the same or similar principle. For example, in the first column, the Northern Territory includes intellectual rigour. Which matches up with other states that also felt it was important to recognise intellectual rigour as an important component of teaching, and that their early career teachers should possess the ability and level of expert knowledge to implement lessons with intellectual rigour/quality. All states have slightly different terminology and emphasis depending on the requirements of student populations in respective states and/or territory.
Recent studies identified methods of teaching that would encourage pre-service teachers to learn from their practices (Cochran-Smith, 2005; Cranton, 2002; Gore et al., 2001; Hiebert et al., 2007; Holland-Wade, 1998; Kalantzis, 2002; Newmann, Marks, & Gamoran, 1996; Shulman, 1986; Smith & Strahan, 2004; Van Mannen, 1995). In particular, reflection on practice was key to novice teacher or pre-service teacher development and is also an important component of the “experiential learning cycle” model (Kolb, 1984), which led to a natural integration of the two theoretical areas that have similar philosophies of reflection on practice (Cranton, 2002; Ross-Gordon, 2002; Van Mannen, 1995). This connection of reflection as a means of learning can be traced back to Dewey (1938) when he described his observations of learning situations.

Dewey (1938) espoused that “unless we go over past experiences in our mind, unless we reflect upon them and by seeing what is similar in them to those now present, go on to form a judgement of what may be expected in the present situation” (p.68). The issue Dewey raised was related to when a learner is put into unfamiliar situation and they cannot predict the consequences of their actions but try to solve the problem by thinking about prior learning. Dewey’s seminal work in learning and teaching influenced many teacher educators and experiential education researchers.

According to Wragg (1999) “In order to make an impact, any formal appraisal of teaching competence must be both retrospective and prospective, looking back at what has been achieved and forward to what might be done in the future” (p.101). To allow the learner (pre-service Outdoor Education teacher) time to reflect during the
learning of new teaching skills in order to put them in to future practice. Table 2.1 alludes to the skill of reflection as a skill required by early career or novice teachers’.
Table 2.1: Teaching and learning principles for early career or novice teachers

<table>
<thead>
<tr>
<th>Northern Territory</th>
<th>Western Australia</th>
<th>South Australia</th>
<th>Queensland</th>
<th>NSW</th>
<th>Victoria</th>
<th>Tasmania</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intellectual rigour</td>
<td>Opportunity to learn</td>
<td>Knowledge</td>
<td>Intellectual quality</td>
<td>Intellectual quality</td>
<td>4. Students are challenged and supported to develop deep levels of thinking and application</td>
<td>- Knowledge and skills - Thinking skills in all curriculum areas - Based on high expectations and a passion for learning</td>
</tr>
<tr>
<td>Relevance of learning</td>
<td>Connections and challenges</td>
<td>Relationships</td>
<td>Connectedness</td>
<td>Significance of student’s work</td>
<td>6. Learning connects strongly with communities and practice beyond the classroom</td>
<td>- Transfer learning to new problems and situations - Setting goals and connects to life and further learning - Connections to student needs, interests and future possibilities</td>
</tr>
<tr>
<td>Mutual respect</td>
<td>Supportive environment</td>
<td>Practices</td>
<td>Supportive classroom environment</td>
<td>Quality learning environment</td>
<td>1. Learning environment is supportive and productive 2. Learning environment promotes independence, interdependence and self-motivation</td>
<td>- Provides a safe and positive learning environment - Builds purposeful, positive relationships between all those involved in the educational process</td>
</tr>
<tr>
<td>Student-centred learning</td>
<td>Inclusively and difference</td>
<td>Values</td>
<td>Recognition of difference</td>
<td>3. Students’ needs, backgrounds, perspectives and interests are reflected in the learning program</td>
<td>- Recognises individual differences, is inclusive and uses broad range of teaching strategies - Builds positive expectations and confidence in the student</td>
<td></td>
</tr>
<tr>
<td>Motivation and purpose</td>
<td></td>
<td></td>
<td></td>
<td>5. Assessment practices are an integral part of teaching and learning</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Action and reflection</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
All of the quality teacher characteristics and productive pedagogy practices described in Table 2.1 are provided on each state and territory education department’s website with the aim to support the novice teacher and aid improvement in the school environment.

A number of teaching abilities or pedagogy practices were identified in current teacher education research as shown in Table 2.1. The first ability to be discussed is the recognition that pre-service teachers need to be taught how to reflect on their own teaching practice and make changes to become better teachers. Reflection is an important part of teacher development and assists with this transformation (Cranton, 2002; Darling-Hammond, 2006b; Gore et al., 2001; Loughran, 2007; Ross-Gordon, 2002). Calderhead and Shorrock’s (1997) study argued that certain types of pedagogy might be more effective in developing reflective pre-service teachers if organised appropriately. According to this study, reflective teaching approaches require consideration with regards to:

…What the cognitive, affective and behavioural components of reflection might be: journal writing, action research and the use of research evidence and empirically derived theory to provide alternative conceptual frameworks for the analysis of practice as well as the development of certain principles of training and defined roles of the trainers that relate to the overall ‘reflective’ philosophy and organization of a course. (p.17)

Teaching pre-service teachers to reflect on their practice and supporting their learning with ongoing reflection are important learning experiences to include in a teacher education program (Cranton, 2002; Van Mannen, 1995). Darling-Hammond (2006b) suggested a number of tools to support learning about reflection including “logbook
entries, journals and essays” that stimulate pre-service teachers to reflect on their practice (p.107). Effective reflection tasks about practice must also be supported by receiving valuable feedback (Cranton, 2002; Ross-Gordon, 2002).

During the initial stages of pre-service teacher development, valuable feedback from tutors, lecturers and experienced teachers provides the substance to reflect on and help the novice teacher become aware of effective teaching practices. Furthermore, feedback needs to be immediate and relevant to pedagogy practices. This encourages pre-service teachers to assess their own teaching performance. They should receive feedback from many stakeholders in their education. According to Calderhead and Shorrock (1997) at the beginning of teacher education programs the “Most influential actors to shape their [pre-service teachers] developing teaching practices are the college tutors and the mentor or supervising teacher” (p.18). As pre-service teachers progress through their undergraduate course they start to rely on feedback and support from mentor teachers in school setting, and so “the college tutor’s importance decreases and the supervising teacher increases” (Calderhead & Shorrock, 1997, p.18). This may be in part due to the increased time pre-service teachers spend out in schools as their program progresses. It is also important to note that Calderhead and Shorrock (1997) reported the importance of feedback from “peer groups … [and] school children” with which the pre-service teacher was interacting (p.18). When transforming pre-service teachers’ teaching it is invaluable for time to be spent on encouraging them to reflect on their current teaching practice and develop ways to improve it (Cranton, 2002).
There has been a growing recognition that teachers’ work occurs within a dynamic environment, wider than the individual classroom and school (Cooney, 2000, p.v). This trend, combined with a call for variety in teacher education research other than a mathematical base, led to an investigation into what types of standards are already out there for effective teaching (Ross-Gordon, 2002; Shulman, 1986).

Table 2.2 contains a generic descriptor from the Report of the National Standards and Guidelines for Initial Teacher Education Project (1998) (soon to be updated). The characteristic entered in the first column relates predominately to mathematical and other secondary classroom based teacher education research. The second column contains an example of another area of experiential education closely related to Outdoor Education, namely the characteristics of an effective PE teacher, and these emanate from Mawer (1995, as cited in Tinning et al., 2001). The link between PE and Outdoor Education is dependent on various views, but from a curriculum point of view, Outdoor Education outcomes are embedded in many PE curriculum outcomes. Due to the close relationship within the curriculum, these two areas are similar in some ways, but also very different in others. The third column contains effective Outdoor Education teacher characteristics, and these emanate from the outdoor leadership competencies by Wagstaff, Attarian, and Drury (2007 as cited in Prouty, Panicucci, & Collinson, 2007, pp.183–185). Similarities between each specialised teaching area have been entered in the same row for comparison. These outdoor leader characteristics are also noted in the top 10 capabilities critical to outdoor leaders in a number of studies including Buell 1981 and Green 1981, (as cited in Priest & Gass, 1997, p. 3-4), Priest (1999) and Raiola and Swiderski between 1981
and 1986 (as cited in Priest & Gass, 2005, p.4), and supported by current research by Smith (2011) and Smith and Knapp (2011).

Table 2.2: Characteristics of an effective teacher

<table>
<thead>
<tr>
<th>Graduate standards (mathematical and classroom)</th>
<th>Physical education teacher</th>
<th>Outdoor Education teacher (outdoor leadership and facilitation skills)</th>
</tr>
</thead>
<tbody>
<tr>
<td>General professional attributes</td>
<td>Plan their work</td>
<td>Foundational knowledge – sense of purpose, heritage</td>
</tr>
<tr>
<td>Technology</td>
<td>Present new material well</td>
<td>Explanation, demonstration and Technical ability</td>
</tr>
<tr>
<td>Relationships with learners and behaviour management</td>
<td>Organise and manage pupils</td>
<td>Facility skills Program management Safety and risk management</td>
</tr>
<tr>
<td>Duty of care, health and safety</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Students and their communities</td>
<td>Provide a positive, supportive and warm learning environment</td>
<td>Self-awareness and professional conduct Acting mindfully, knowing one’s abilities and limitations, knowing how we influence others, personal and professional ethics</td>
</tr>
<tr>
<td>Working in schools and systems</td>
<td>Repertoire of teaching styles in Teach for Understanding</td>
<td>Breadth of profession – various ways in which outdoor leadership is practiced Teaching experientially and learning by doing</td>
</tr>
<tr>
<td>Literacy, numeracy, teaching and learning, content studies</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Working with others</td>
<td></td>
<td>Decision making and judgement – awareness of available resources in decision making</td>
</tr>
<tr>
<td>Assessment</td>
<td>Observations</td>
<td>Teaching skills – lesson plans and learning activities</td>
</tr>
<tr>
<td>Curriculum</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Indigenous education</td>
<td></td>
<td>Environmental stewardship</td>
</tr>
</tbody>
</table>

The current teacher abilities or characteristics in Table 2.2 are a guide to outdoor educators because the only characteristics available in a closely related area came from outdoor leadership and facilitator characteristics that emanate from research based on the past 15 years. The process of how best to transfer these capabilities to pre-service Outdoor Education teachers has limited literature or research (Priest & Gass, 2005; Rohnke & Butler, 1995). Novice Australian outdoor educators are left to fill the gaps with their own teaching theory and philosophy of what it is to be a quality Outdoor Education teacher. Acknowledging that Quay and Seaman (2013) have only just recently provided a text that prompts pre-service Outdoor Education teachers to
think about their practice and to also think about the aims and goals of Outdoor Education.

**Outdoor Education teacher research to improve Outdoor Education teacher quality**

This section will discuss the research that influenced the development of this study’s focus on how outdoor educators learn to teach when studying an undergraduate degree at tertiary level in Australia. There is limited knowledge about how the Australian pre-service outdoor educator learns to teach. Indeed, there is also a lack of understanding about how outdoor educators draw on experiential subject matter to inform their teaching abilities in the outdoor learning environment. In fact there is a lack of understanding of what it takes to be a quality Outdoor Education teacher or leader and this is still being discussed in current research (Smith, 2011). This line of inquiry adopted for my study was recognised by Shulman (1986), who suggested a number of directions for future research in teacher education. For example, “How does learning for teaching occur?” (p.8) in other teaching disciplines that differ from the maths classroom, therefore taking the examination of teaching outdoors into a more experiential learning environment (Association for Experiential Education, 2003, 2006, 2012; Beard & Wilson, 2007; Foster & Linney, 2007; Kraft & Sakofs, 1984; Smith & Knapp, 2011).

Outdoor Education as a subject has been going through cycles over the 20th century according to the Quay and Seaman (2013). Over time Outdoor Education content was adapted to meet various local and national societal needs. Thus Outdoor Education
teachers needed to develop various skills and specialist knowledge to teach the different programs in order to meet education outcomes of the day.

The purpose of this study was to investigate outdoor educators learning to teach is supported by current Outdoor Education research by Quay and Seaman (2013) they stated

As outdoor educators we need to be more aware of how the programs we design, via the methods and subject matter that we engage with, can be improved by a Deweyan understanding of education through occupations – as can all education, without any prefixes attached (p.95).

The preparation of Outdoor Education teachers has a history in Australia similar to that of the broader teacher education sector (Lugg & Martin, 2001; Pickett & Polley, 2001; Quay & Seaman, 2013). It was not until the late 1990s teacher education programs at universities across Australia developed specialised Outdoor Education teacher programs. Since the inception of these programs, we have seen limited research conducted on both the pedagogy practices used to teach pre-service Outdoor Education teachers or the characteristics of an effective outdoor educator. For example, do they need to be sustainably literate, social justice literate or something more, for instance, able to reflect on their teaching models and transform them into better practices? (Colby et al., 2003; Cranton, 2002; Littledyke, Taylor, & Eames, 2009; Lugg, 2007; Preston & Griffiths, 2004; Priest & Gass, 2005; Ross-Gordon, 2002; Smith, 2011). According to Quay and Seaman (2013) teaching Outdoor Education requires teachers to possess unique skills appropriate to the Outdoor Education program and they stated that

But we do believe Outdoor Education is somewhat unique in its history of tinkering and therefore deserves special attention. Because it has always
straddled the boundary between classroom-based and out-of school learning, it provides a compelling test case for closely examining and then moving past the educational confusion that bedevilled Dewey (, p.2).

Quay and Seaman (2013) identified a “dichotomy between method and subject matter or as Dewey famously put it, child and curriculum. So, while specific Outdoor Education reformers were often very clear about their own meanings and the programs they wanted to see implemented, one can see in retrospect that the larger debates in which they were embroiled bear the tell-tale marks of this dichotomy” (p.2). The issue of reforms for Australian Outdoor Education content has continually evolved but focus on Outdoor Education teaching practice has not.

This is an unfavourable position for Australian Outdoor Education teacher because there is a lack of accountability about the quality of outdoor educator programs and teaching models that are taught to pre-service Outdoor Education teachers. There is limited research based knowledge of Australian Outdoor Education teaching practices (Gray & Martin, 2012; Lugg, 2007; Neill, 2001, Quay and Seaman, 2013). These matters mirror the broader issues faced by teacher education’s increased accountability to meet policy standards and redesign of the Australian curriculum (Kalantzis, 2002; Nuttall et al., 2006; Stronge et al., 2004). More research is needed on Australian Outdoor Education teachers practice and this is supported by informative research that ensures university teacher education programs produce quality and effective outdoor educators (Baldwin, Persing, & Magnuson, 2004; Cochran-Smith, 2005; Neill, 2001; Priest & Gass, 2005).
Research from outdoor leadership and facilitators’ skills literature to obtain characteristics and abilities for an Outdoor Education teacher was used because of the limited research on outdoor educators. Due to the lack of robust research I conducted a wider search in related terminology to obtain an idea of what an effective outdoor leader or outdoor facilitator is able to do. This literature search provides an extensive array of research that offers current ideas on the qualities of a good outdoor leader and effective facilitation skills (McLeod & Allen-Craig, 2007; Preston & Griffiths, 2004). According to Dickson, Gray, and Hayllar (2005) Outdoor Education teachers ought to have attributes such as leadership in the outdoors and facilitation skills to become a good outdoor educator.

Outdoor educators need to be versatile and able to teach across a multitude of content areas (McLeod & Allen-Craig, 2007), if not addressed appropriately can lead to problems such as burnout (not wanting to teach outdoors) or fear of litigation due to teaching in a high risk learning environment (Birrell, Gray, & Chapman, 2001). Therefore, effective preparation of pre-service Outdoor Education teachers is very important in lowering the risks for future participants in Outdoor Education programs. The Outdoor Education teacher preparation program should also prepare pre-service teachers to be effective, which incorporates current education outcomes while maintaining safety in the outdoor learning environment.

For the purpose of this study, the term Outdoor Education describes content areas such as Adventure Education through to an Environmental Education focus or a mixture of both, depending on objectives for the lesson (Wattchow & O’Connor, 2003). According to research, Outdoor Education, Adventure Education, and
Environmental Education programs can be effective when they place students in a real learning context, and use Experiential Education and ‘learning by doing’ theories to underpin approaches to teaching.

Due to the variety of Outdoor Education programs, teaching in the field can be demanding (Rohnke & Butler, 1995). Teaching in Outdoor Education requires critical core competencies such as: “technical skills, safety skills, environmental skills, organisational skills, instructional skills, facilitation skills, professional ethics, flexible leadership style, experience-based judgement, problem-solving skills, decision-making skills and effective communication” (Priest & Gass, 2005, p.6) plus curriculum knowledge and assessment techniques. Furthermore according to Priest and Gass (2005) research “There is currently no consensus on how best to prepare outdoor leaders, and as a result, several processes exist for producing outdoor leaders” (p.6). Those processes include individual certification, program accreditation (US-based model) and outdoor leadership preparation programs. Hence the lack of consistency in tertiary Australian Outdoor Education programs because of a corresponding lack in research based information on what an Outdoor Education teacher should know and be able to do. In Australia Outdoor Education teachers are still currently required to obtain further certifications to teach in particular outdoor activities.

In Australia, the individual certification process through Technical and Further Education (TAFE) colleges co-exists with tertiary (university) outdoor leader preparation programs. The standards for outdoor leaders were produced by the Australian National Training Authority (ANTA) in conjunction with experienced
current outdoor leaders. ANTA was subsumed into the Department of Education, Science and Training (DEST) in 2005. These ANTA standards still impact upon the expectations of the capabilities of Outdoor Education teachers by prescribing levels of competence for each activity undertaken in the outdoors. For example, if an Outdoor Education teacher taught rock climbing, kayaking/canoeing, bushwalking or CC activities they first need to meet criteria set by the DEST. To be an outdoor leader (facilitator or teacher) in these activities the Outdoor Education teacher must first obtain relevant certification, or be able to demonstrate their level of experience to the equivalent of the recommended skills and competencies. To become an Outdoor Education teacher, pre-service teachers must not only meet the standards set by government policy for teacher graduates at tertiary institutions, but they must also meet the criteria/standards set for each activity by DEST. There are two major requirements to become a fully qualified Outdoor Education teacher which include meeting the following criteria:

• A minimum of 100 hours of personnel practical experience in each adventure activity including gaining certification to particular instructor competency levels. (Recommendation of competency levels depend on participant’s age/experience and activity the instructor wishes to undertake as suggested in the ANTA outdoor recreation leader package located on the DEST website.)

• Quality teacher characteristics will be achieved through studying in a tertiary institution with a recognised teacher education program (to meet recommendations by education departments in Tasmania, New South Wales, Victoria, Queensland, Western Australia and South Australia).

Existing experiential education research to improve facilitator quality
There are a number of leading researchers that have provided suggestions for future direction of experiential education theory. In particular Dewey (1938), but also refer to work by Boud (1989), Cantor (1995), Kolb and Kolb (2005), and Illeris (2007) who provided strong guidance for research of experiential education or further understanding of experiential learning theory. Experiential Education Theory has become known as Experiential Learning Theory (ELT) theory. Kolb and Kolb (2005) defined ELT as a theory built on six propositions that are shared by these scholars.

1. Learning is best conceived as a process, not in terms of outcomes. To improve learning in higher education, the primary focus should be on engaging students in a process that best enhances their learning—a process that includes feedback on the effectiveness of their learning efforts. As Dewey notes, “[E]ducation must be conceived as a continuing reconstruction of experience: . . . the process and goal of education are one and the same thing” (Dewey, 1897, p.79 as cited in Kolb, 2005).

2. All learning is relearning. Learning is best facilitated by a process that draws out the students’ beliefs and ideas about a topic so that they can be examined, tested, and integrated with new, more refined ideas.

3. Learning requires the resolution of conflicts between dialectically opposed modes of adaptation to the world. Conflict, differences, and disagreement are what drive the learning process. In the process of learning one is called upon to move back and forth between opposing modes of reflection and action and feeling and thinking.

4. Learning is a holistic process of adaptation to the world. Not just the result of cognition, learning involves the integrated functioning of the total person—thinking, feeling, perceiving, and behaving.
5. Learning results from synergetic transactions between the person and the environment. In Piaget’s terms, learning occurs through equilibration of the dialectic processes of assimilating new experiences into existing concepts and accommodating existing concepts to new experience.

6. Learning is the process of creating knowledge. ELT proposes a constructivist theory of learning whereby social knowledge is created and recreated in the personal knowledge of the learner. (p.194)

Experiential learning has been recognised as a powerful way to learn. Beard and Wilson (2007) state that the basic major theories of experiential learning “all of which are linked with notion of experience” and that they emphasis “the importance of linking action with thought or reflection” (p.13) and this is present in Kolb’s identification of six steps to a experiential learning setting. The steps or models of experiential learning have been re-worked and developed as researchers theorised the process of learning.

Kolb’s research according to Beard and Wilson’s (2007) critique was based on observations of only a small section of Lewins work and that the “Kolb does not take into account Dewey’s distinction between habit… that tyrannically traps us to behaving a particular way without thinking alternatives” (p.41). Furthermore they also argued that “Kolb’s theory was flawed because he used psychological assessments instead of social, historical and cultural measures for the phenomena” (p.199). Another critique of Kolb’s work came from a paper by Illeris (2007) that stated “Kolb came to conclusion that all learning is experiential learning… making this reference rather meaningless or empty” (p.85). These criticisms are noted and taken into consideration in the methodology chapter of this case study.
One important aspect to note is that Kolb and Kolb (2005) provided a rationale for the use of Experiential Learning Theory (ELT) at higher education level. Similar to the research conducted by Kolb back in 1984 and again in 2005 this study is focused on adult learners at University level. Hence Kolb and Kolb (2005) suggestions were taken into consideration and that

The enhancement of experiential learning in higher education can be achieved through the creation of learning spaces that promote growth producing experiences for learners. A central concept in Dewey’s educational philosophy is the *continuum of experience* in which experiences that promote or inhibit learning are arrayed. “The belief that all genuine education comes about through experience does not mean that all experiences are genuinely educative . . . For some experiences are mis-educative. Any experience is mis-educative that has the effect of arresting or distorting the growth of further experience (p.205).

Furthermore, Kolb’s model stands in contrast to the ‘transmission’ model on “which much current educational practice is based, where pre-existing fixed ideas are transmitted to the learner” (Kolb & Kolb, 2005, p.194). These experiential learning theories provide a framework for critiquing the EEU.

Outdoor Education and ELT research provided some basis for attributes of an Outdoor Education teacher. From that research a number of characteristics and abilities have been identified for an Outdoor Education teacher. These skills and attributes include teaching practices such as; providing feedback, problem solving challenges, realistic or authentic learning, strategies for assessment of outcomes, planning of lesson content and facilitator skills were all mentioned in Outdoor
Education teacher theory (Brown, 2008; Dickson et al., 2005; Hayllar, 2005; Lugg, 2007, Quay & Seaman, 2013).

Providing feedback was identified by Kraft (1999) who stated: “Whether reinforcement comes in the form of praise from the instructor, in the successful climbing of a rock face, or in more traditional classroom reinforcements, the learning process is the same” (p. 182). Therefore, feedback from either a behavioural or social learning theory (which is constructivist in orientation) can enhance the motivation of students to learn as well as form part of any assessment towards outcomes.

Cognitive learning theories can be applied to the outdoor educative experience, through the application of critical thinking and problem solving skills in activities. Kraft (1999) stated that “…it is in these areas that experiential educators make their greatest claims, and would appear to lead in pedagogy” and he believed that both the “…problem solving behaviour” and “…critical thinking skills related to the real life of the student” (p. 183).

Resnik (cited in Kraft, 1999) called for learning to be authentic and “connecting with the real world” (p. 185). In highlighting the importance of students being able to transfer what they learn in schools to their lives outside classrooms, Eisner (1999) considers ‘transfer of learning’ as “…a major aim of education” and suggested members of the teaching profession need to ask questions such as “What connections are students helped to make between what they study in class and the world outside of school?” (p. 370). Future education recommendations were made by Resnik (cited in Kraft, 1999) which include:
…educational process that is dependent on shared cognition, skills directly related to real-life settings, learning in environments that demand a wide range of reasoning skills, and a range of specific competencies which provide immediate feedback and are transferable to other life settings… The challenge now is to carefully document what is being done and it’s therapeutic and learning effects. (p. 186)

Outdoor educators can provide students with a realistic environment in which to apply, practice and acquire problem-solving skills through adventure experiences, which are designed to meet the stated outcomes and, at the same time, incorporate Resnik’s recommendations.

Cooper (1996) claimed “there is a need for outdoor educators to assess their aims and programmes, to consider imaginative ways of using the outdoors for adventure, problem-solving, conservation, community involvement and the creative arts” (p. 14). This notion is also supported by Hendricks’s (1994) study that highlighted the need for effective evaluation of experiential education settings. Planning is another skill Outdoor Education teachers need to do well, according to Cooper (1996); without planning the experiential experience there is little prospect that intended Outdoor Education objectives can be reached. The need for teachers to be thorough in planning and teaching is supported by Dewey (cited in Kraft, 1999) who “… warned that experiences could be mis-educative if they prevent further growth or lead to callousness or lack of sensitivity. Growth must be physical and moral, not just intellectual” (p.184). These potentially negative or harmful outcomes emphasise the importance of effective planning (Fine, 1999; Hendricks, 1994; Priest & Gass, 1997).
An effective Outdoor Education teacher must be able to assess the cognitive and emotional level of students (Arnold, 2003; Bisson, 1999; Fine, 1999; Priest & Gass, 1997). In simple terms, the teacher must match a student’s cognitive and emotional level with the complexity or intellectual level of the challenge. Bisson (1999) also found that, “the most important programming components of an adventure-based learning experience are the selection of activities and the order in which these are presented” (p. 205). This approach takes experience and practice to achieve.

Not surprisingly, Priest and Gass (1997) also argued that the adventure experience would be more beneficial for the participant if activities were effectively facilitated. The appropriate choice of qualified teacher/facilitator is certainly an important planning issue. Issues about quality teaching were supported by Clay (1999) who noted “factors influencing the quality of outdoor and adventurous activities include teachers and teaching; residential camp centres; and the school curriculum framework” (p. 85). These factors affect the pre-service teachers’ learning experiences, which almost inevitably in turn affect the level to which they can achieve and teach the Outdoor Education outcomes to school students (Lugg & Martin, 2001; Rohnke & Butler, 1995; Zink & Boyes, 2006). According to Zink and Boyes (2006) Outdoor Education teachers need an outdoor experience to teach possibly more so than classroom based teacher.

In a study which highlighted the importance of new or early career teachers possessing pedagogical skills, Freiberg (2002) stated “often they are not taught how to establish the positive, organised learning environment necessary for them to teach and for students to learn” (p. 56). Freiberg also noted that in the United States “… most of
the national curriculum standards expect teachers to create active learning environments that stimulate higher-level student thinking…” (p. 56). After an extensive review of the effective teaching literature, Harris (1999) claimed “…effective teaching is highly dependent upon the nature of educational outcomes and goals that the teaching is aiming to foster” (p. 38) and this further supports Freiberg’s findings.

Within Australia, current Outdoor Education teacher education and experiential education teacher research has a number of gaps in the literature that would benefit from further research in areas such as duration, content, flexibility of delivery, location, setting, follow-up, clients, leadership, knowledge, skills and values transfer, program elements or barriers and outdoor teacher burnout, that are fertile issues that indeed warrant additional research (Bisson, 1999; Gray, 2005; Gray & Martin, 2012; Neill, 2001; Priest & Gass, 1999). All of the elements identified could affect the level of quality to which the outdoor educator is able to teach.

**Experiential education theory**

The use of experiential education theory to underpin this study was a natural choice, given that pre-service Outdoor Education teachers were going to be using a CC to teach secondary students some personal development skills. I identified that the EEU was going through three cycles of Kolb’s (1984) experiential learning model. Experiential education theory in this case study was informed by theory from the Association for Experiential Education (2003- 2013), Beard and Wilson (2007), Boud (1989), Illeris (2007), Kolb and Kolb (2005), Kraft and Sakofs (1984), and Smith and
Knapp (2011). This theory covers research findings that date back to the 1940s and follows the progression of change in models and theory to the present day.

There have been many versions of experiential education theory and teaching models provided by the previous authors; however the definition given by Ford (1986) was specifically chosen because it is accepted by the professional field of outdoor researchers in experiential education. Ford’s definition is the most used, relevant and succinct, meaning that it highlights the difference between the terms ‘experiential learning’ and ‘experiential education’. Firstly, experiential learning or experiential based learning: “refers to learning by doing or experience. Many experiential education activities are synonymous with adventure activities and outdoor pursuits; however, experiential education can also mean any form of pragmatic educational experience” (Ford, 1986, p.3).

As for the broader term, best described by Kolb (1984), that experiential education means “Experience-based education [that] has become widely accepted as a method of instruction in colleges and universities across the nation (USA)” (p. 3), highlights the fact that it is a widely accepted method of teaching, not only for children, but also aimed at tertiary level students. These experiential learning skills go beyond formal schooling years and aid in lifelong learning from experience processes throughout adult life, especially in areas of personal development and career prospects (Kolb, 1984). This is my attempt at revitalising teacher education programs at a tertiary level, and according to Kolb (1984) “There is a growing group of educators – faculty, administrators, and interested outsiders – who see experiential education as a way to
revitalize the university curriculum and to cope with many of the changes facing higher education today” (p. 4).

Experiential learning theory offers a fundamentally different view of the learning process from that of the behavioural theories of learning based on an empirical epistemology of the more implicit theories of learning that underlie traditional educational methods, methods that for the most part are based on rational, idealist epistemology. From this different perspective emerge some very different prescriptions for the conduct of education, the proper relationships among learning, work, and other life activities, and the creation of knowledge itself. (Kolb, 1984, p. 21)

The history and foundations of experiential learning was influenced by numerous education and psychology theorists such as Dewey, Lewin, Piaget and Kolb. John Dewey’s (1938) educational philosophy, for example, founded the experiential learning movement. He explained the need for a theory of experience to bridge the gap between theory and experience, and suggested ways in which educators could plan an experience that would be educative. He supported the unity of theory and practice and endorsed sociological models of constructivism and rejected individualist constructivism (Dewey, 1938). He called for experiences to build upon each other to maintain student interest and challenge students intellectually. Dewey (1938) argued that:

The belief that all genuine education comes about through experience does not mean that all experiences are genuinely or equally educative. Experience and education cannot be directly equated to each other. For some experiences are mis-educative. Any experience is mis-educative that has the effect of arresting or distorting the growth of further experience (p. 25)... Everything depends upon the quality of the experience which is had. (p. 27)
Dewey’s main purpose was to inform and progress education and improve its overall impact on the learner’s educative experiences, which is still relevant in today’s current teacher education research, because of the emphasis it places on quality education experiences.

Kurt Lewin was another major influence on experiential learning theory and he contributed research on group dynamics, T-group theory and trialled methodology of action research. He also believed that there was a need for integration of theory and practice (cited in Kolb, 1984, pp. 9–11). Kolb (1984) noted that Lewin’s most valuable contribution to experiential learning theory was to include a person’s feelings about the experience as well as thoughts. In fact Kolb changed the way experiential learning theory was viewed in comparison to other known theories in the early 1980s.

T-groups and the so-called laboratory method on which they were based gave central focus to the value of subjective personal experience in learning, an emphasis that at the time stood in sharp contrast to the ‘empty-organism’ behaviourist theories of learning and classical physical-science definitions of knowledge acquisitions as an impersonal, totally logical process based on detached, objective observations. (p. 10)

Furthermore, Lewin’s model of learning from the 1940s was revised and modified by Kolb in the 1980s, incorporating the ideas of learning styles from psychology research from the late 1970s and early 1980s. This research provided new ideas on the way the brain functioned and processed information, which impacted upon the way in which educators planned their content delivery to best cater for the variety of learning styles.
Contrary to learning styles theory, ideals and beliefs espoused by early education researchers, in particular a current meta-analysis on learning theories conducted by Scott (2010), reports that:

Learning styles as an idea chime well with the individualist’s value system of our culture and fits its dominant entity model of human attributes – that there is no credible evidence-based practice – is gaining support groups and individuals responsible for continuing to promote the theory – university staff and personnel in state department of education included – should examine the empirical evidence against its utility as a guide for teaching practice... Learning styles waste teaching and learning time, promote damaging stereotypes about individuals and interfere with the development of evidence based best practice. It has no place in education theory and practice that claim to be scientifically based. (pp. 8-10)

However, Scott (2010) did mention that some of the learning theories still used today include Kolb’s (1984) four-way typology (converge, diverge, assimilator and accommodator) because of its relevance today. This model has been tested by many researchers and still works in current education. As educators and researchers we need to keep up with current research findings in psychology about the brain and how we best learn. This includes philosophy that incorporates a modern outlook on the way the world works, and physiological understandings of the human body to improve our quality of life. These three areas feed information into our comprehension of how we view the world around us (Kolb, 1984).

According to Kraft and Sakofs (1984) Piaget’s learning and cognitive development was another way of unpacking experiential learning in that this model provides “the dimensions of experience and concept, reflection and action from the basic continua for the development of adult thought. The adult learning process whereby this
development takes place is a cycle of interaction between the individual and the environment that is similar to the learning models of Dewey and Lewin” (p.23).

Dewey, Lewin and Piaget’s work was the foundation in which Kolb (1984) based his characteristics of the experiential learning process and his experiential learning model. Kolb suggested the following characteristics of experiential learning:

- Learning is best conceived as a process, not in terms of outcomes.
- Learning is a continuous process grounded in experience.
- The process of learning requires the resolution of conflicts between dialectically opposed modes of adaptation to the world.
- Learning is a holistic process of adaptation to the world.
- Learning involves transactions between the person and the wider “real world” environment.
- Learning is the process of creating knowledge (pp.26–38).

Kolb’s (1984) experiential learning model was chosen to underpin this study because it builds upon the work of Dewey, Lewin and Piaget’s experiential learning models. Kolb’s (1984) model extends the previous models by introducing current psychology and ways of learning in the 1980s, which adjusted the experiential model to fit with the latest understanding of how adult learners learn best. Kolb’s (1984) experiential learning theory was also chosen because it claimed to provide adult learners with an effective way to learn from their work, education and life activities. Furthermore, it focused on providing an educative experience that allowed transference of learning to take place (see Figure 2.1).

The central idea here is that learning, and therefore knowing, requires both a grasp or figurative representation of experience and some transformation of
Experiential learning has its critics that have accused the process as being too “gimmicky”, “faddish”, and “more concerned with technique and process than content and substance”.

Figure 2.1: Kolb’s (1984) experiential learning model that explains the “Structural dimensions underlying the process of experiential learning and the resulting basic knowledge forms” (p.42).

And further, “It often appears as too pragmatic for the academic mind dangerously associated with the disturbing anti-intellectual and vocationalist trends in America society” (Kolb, 1984, p. 3). Kolb refutes these ideals by basing his research on reputable theorists and logical argument, which again supports the rationale for using his experiential learning theory, supported by many current researchers I have referenced in this study.
Experiential education theory provides pre-service Outdoor Education teachers with pedagogy to enable them to decide which subsequent learning experiences are capable of providing their students with an educative outdoor experience that will also meet curriculum outcomes. Kraft (1999) (an eminent psychologist) also provided learning theories, including experiential education examples, that could be successfully used by outdoor educators.

**Current research on how pre-service teachers learn and come to know**

Shulman (1986) suggested there was a need for a more coherent theoretical framework to probe teacher understanding and transmission of content knowledge, “How do pre-service teachers transfer theory into practice?” (p.8). This question leads into the discussion of how adult learners theorise. This topic will be discussed from a sociocultural perspective and will investigate cognitive development theories in particular. There are many philosophers and psychologists who have tackled this subject in the past however I will take a closer look at the leading scholars such as Dewey, Piaget, Vygotsky and Rogoff.

Dewey (1910) started to theorise about thinking and thoughts, in particular, and produced the following definition: “Everything that comes to mind, that ‘goes through our heads,’ is called a thought” (p.1). In summary, he described thoughts as fanciful ideas or based on real events and feelings. It is through reflection that we start to exhibit an ability to connect concepts, beliefs and predictions. Thus thinking in its best sense is that which considers the basis and consequences of beliefs. (p.5). Reflection therefore implies that something is believed (or disbelieved), not in and of
its own account, but through something else, which stands as witness, evidence, proof, voucher, warrant (i.e. grounds for belief…). Thinking, for the purposes of this inquiry, is defined accordingly as that operation in which present facts suggest other facts (or truths) in such a way as to induce belief in the latter or warrant the former (p. 8). In summary, reflective thinking involves a problem to be investigated and a need to find a solution which motivates the thinking process (Dewey, 1910, pp. 9–13).

Piaget (cited in Kolb, 1984) also constructed a model of “learning and cognitive development” based on the notion that the dimensions of experience and concept, reflection, and action form the basic continua for the development of adult thought (p.23). However, more contemporary psychologists felt there was a more complex relationship between human learning than age determining the intellectual level. One of those psychologists was Vygotsky (1978) who put forward a number of hypotheses and notions that have since been investigated by current researchers and found to be plausible including the works of Rogoff (2003).

Vygotsky (1978) approached philosophy theory from a cultural and historical perspective and he refuted psychological theories that were not influenced by the culture or society they were immersed in. There is a direct link between Piaget’s early work on cognitive development and its influence on Vygotsky thinking. Vygotsky used Piaget’s work to prompt his own theories to address human learning. One of the ideas that Vygotsky built on is the notion that learning was not linked to developmental age of the learner. He stated that “developmental processes do not coincide with learning processes. Rather developmental processes lag behind learning process; this sequence then results in zones of proximal development” (p. 90).
Another hypothesis discussed by Vygotsky (1978) was that humans evolved from a need to master their environment for survival with other humans, working together to overcome the challenges and not on their own as individuals. This is where Vygotsky inferred that: “In the development of higher functions – that is, in the internalization of the processes of knowing – the particulars of human social existence are reflected in human cognition: an individual has the capacity to externalize and share with other members of her social group her understanding of their shared experience” (p.132). Vygotsky further stated that:

Learning is not developmental; however, properly organised learning results in mental development which sets in motion a variety of developmental processes that would be impossible apart from learning. Thus learning is a necessary and universal aspect of the process of developing culturally organized, specifically human psychological functions. (p.90)

This theory offered by Vygotsky (1978) regarding human learning and development is relevant to experiential education theory, because experiential learning encourages students to cooperate with each other and to problem solve, which certainly provides a learning environment with the potential to prompt developmental processes like learning to teach. Vygotsky’s work and ideas are still explored by his past students who have now become scholars in teacher education settings.

Within ELT learning process was defined as “that the learning is the process whereby knowledge is created through the transformation of experience. Knowledge results from the combination of grasping experience and transforming it” (Kolb, 1984, p.41). Furthermore to build on their past work Kolb and Kolb (2005) reported
The ELT model portrays two dialectically related modes of grasping experience—Concrete Experience (CE) and Abstract Conceptualization (AC)—and two dialectically related modes of transforming experience—Reflective Observation (RO) and Active Experimentation (AE). Experiential learning is a process of constructing knowledge that involves a creative tension among the four learning modes that is responsive to contextual demands. This process is portrayed as an idealized learning cycle or spiral where the learner “touches all the bases”—experiencing, reflecting, thinking, and acting—in a recursive process that is responsive to the learning situation and what is being learned. Immediate or concrete experiences are the basis for observations and reflections. These reflections are assimilated and distilled into abstract concepts from which new implications for action can be drawn. These implications can be actively tested and serve as guides in creating new experiences (P.194).

Further theorising about cognitive development has come from Rogoff (1990) who based her education research work on past theorists, such as Piaget, but was predominately influenced by Vygotsky’s ideas and offers further understanding of thinking (cognitive processes) and its influence on human development. Rogoff (1990) explained that “The traditional distinction among cognitive, affective and social processes become blurred once we focus on thinking as an intelligent means to reach goals” (p.9). And further, Rogoff uses an example by Vygotsky to explain her view of how thinking, feeling and acting play a role in the individual’s production of thoughts.

Thought… is not born of other thoughts. Thought has its origins in the motivation sphere of consciousness, a sphere that includes our inclinations and needs, our interests and impulses, and our affect and emotion. The affective and volitional tendency stands behind thought. Only here do we find the answer to the final ‘why’ in the analysis of thinking. (Vygotsky, 1987; cited in Rogoff, 1990, p.9)
In more modern times Rogoff (2003) elucidated important aspects of learning that, from my professional experience, are provided in a well-planned outdoor experiential learning setting where the pre-service Outdoor Education teachers takes on the role of Outdoor Education teacher. Thus prompting the pre-service teachers to learn as Rogoff (2003) explains:

This perspective (sociocultural integrated approach) has shifted our understanding of cognition from a focus solely on the thoughts of supposedly solitary individuals to a focus on the active processes of individuals, whether momentarily solo or in ensembles, as they engage in shared endeavours in cultural communities. From this perspective, cognitive development is not the acquisition of knowledge or of skills; rather, it takes a more active form. Cognitive development consists of individuals changing their ways of understanding, perceiving, noticing, thinking, remembering, classifying, reflection, problem setting and problem solving, planning, and so on – in shared endeavours with other people building on the cultural practices and traditions of communities. Cognitive development is an aspect of the transformation of peoples’ participation in sociocultural activities. (p.237)

Rogoff along with other education research psychologists and education scholars, such as Dillon et al. (2005), Hetland, Hammerness, Unger, and Wilson (1998) and Perkins (1998), provided an explanation for ‘how people know’ or understand or demonstrate understanding, and these theories would be appropriate for guiding a pre-service Outdoor Education teacher’s thinking about how to plan an educational experience outdoors.

Whereas Cranton (2002) researched transference of learning for teachers, Kuhn (2001) researched the transference of learning phenomenon, utilising data collected from judges who made decisions based on theoretical explanations or evidence given in court. In particular, Kuhn (2001) recommended that “to understand the acquisition
of intellectual values and dispositions, and the ways in which they shape performance, it will be necessary to examine them in the social contexts in which they emerge and develop”. This supports Rogoff (1990) and Vygotsky’s ideas on how social context impacts individual’s thinking, and through this transformation process learns from the experience.

Pre-service Outdoor Education teachers are adult learners and according to education research they learn through well-planned learning experiences and activities that require them to think about then apply a critical pedagogy approach (Branford et al., 2000; Dillon et al., 2005; Kanpol, 1994; Mezirow, 1991; Smith & Colby, 2007; Van Mannen, 1995). As stated by Rogoff (2003) “…individuals changing their ways of understanding, perceiving, noticing, thinking, remembering, classifying, reflection, problem setting and problem solving, planning, and so on – in shared endeavours with other people building on the cultural practices and traditions of communities” (p.237). Therefore pre-service teacher specific planned activities in the EEU require them to perceive, notice, think, remember, classify, reflect, problem solve, and lesson plan in the social context of the EEU. Pre-service Outdoor Education teachers should go through a transformation in their understanding of their own teaching practice and learn to teach. This study tracked informants by collecting many forms of artefacts that feed into the data analysis, and from this process provided a view of what pre-service Outdoor Education teachers were learning about their teaching practices.

**The Experiential Education Unit of work**

The Experiential Education Unit (EEU) was chosen, because of its design, to use reflection as a part of informing pre-service Outdoor Education teachers about their
pedagogy practices. The EEU naturally followed a Kolb (1984) learning cycle model of lessons containing theory and practice. The EEU was based heavily on ELT ideas present by Kolb and Kolb (2005). This research on the EEU will provide a worldview of the effectiveness of the EEU and address the critique of ELT model of learning that will be was discussed by Kolb and Kolb (2005) “…the central problem of an education based on experience is to select the kind of present experiences that live fruitfully and creatively in subsequent experiences…”(p.206). Thus a need to explore the effect of the EEU (experience) on pre-service Outdoor Education teachers’ development of Outdoor Education pedagogy practices. Determine whether the experience in the EEU aids the development of teaching practices.

The selection of content and the adult learners is supported by Cochran-Smith and Zeichner (2009), Haskins (2003), Rohnke & Butler (1995), Stronge et al. (2004), and Van Mannen’s (1995) especially from current research conducted by teacher education researchers on US teacher preparation programs. Furthermore Cochran-Smith and Zeichner (2009) stated that “the research could be strengthened through stronger and better theorised connections between pre-service teachers’ reflections and beliefs and the quality of their teaching practice” (p.325). Furthermore Nuttall et al. (2006) stated that “This is a point we concur with in our reading of the Australian literature” (p.325). I also concur with this point and that is why I chose to research pre-service teachers’ learning experience in the EEU in an effort to address Nuttall et al. (2006), Haskins (2003) and other education researchers’ requests for further evidence.
Why investigate what pre-service Outdoor Education teachers are learning from an EEU of work? Is it because it is different to mathematics or any other teacher education research studies to date (Cochran-Smith, 2005)? The EEU was designed to provide pre-service Outdoor Education teachers with a context to learn about experiential teaching theories, put them into practice and provide a learning experience that would encourage deep learning (Smith & Colby, 2007). The description, objectives, content, delivery, assessment and specific components of the EEU, for example the CC facilitation program, are discussed in detail in Chapter 3.

**Conclusion**

In conclusion, it can be argued that research has a vital role to play in teacher education, more specifically in Outdoor Education teacher (Cochran-Smith, 2005; Priest & Gass, 2005). Although teacher education and outdoor leadership research is in an accountability mode and continuously refining programs; it is important to realise that substantial improvements in the field are dependent on a fuller understanding of what learning to teach in the outdoors involves (Priest & Gass, 2005). Exploring the various aspects of teacher education and outdoor leadership (Outdoor Education teacher education) research has highlighted the need for this understanding. This in turn can advocate for quality Outdoor Education for schoolchildren in the outdoors. Chapter 3 continues to build a picture of the setting for this case study. The Experiential Education Unit of work was identified by the researcher as a unique learning experience and therefore an in-depth explanation of the EEU is required to give a full picture of the case study setting.
Chapter 3: The Experiential Education Unit

This chapter will provide the undergraduate experiential education unit (EEU) details and its implementation during the research period. The description of the EEU includes its location in the degree, the design process, theoretical underpinnings, unit outcomes, critical components, the implementation process of lectures and tutorials/fieldwork, phases of the unit, the CC component, justification for the CC program, and explanations of the written assessment component.

Location of the unit in the undergraduate degree

The EEU specifically chosen for this research project was a core third-year subject situated in a four-year teaching degree for specialist Outdoor Education (OE) pre-service teachers. The OE course outline stated in its outcomes that OE pre-service teachers were to increase their global awareness, develop adult critical thinking skills and effective outdoor and PE teacher practices. The pre-service teachers were also required to achieve the university’s graduate attributes as published in the university’s outcome statements. One of the attributes, in particular, requires all university graduates to become autonomous learners. Throughout the duration of the EEU pre-service teachers work on a university attribute and OE course outcomes, when they are given full responsibility of working with their peers to prepare real lessons for real school students in a supported learning environment. OE lectures consisted of many planning days to design a course that would develop university attributes and OE course outcomes sequentially across the OE pre-service teachers’ degree.
The OE teaching degree was divided into three sequential stages that progressively increased in academic rigour, and moved from predominately guided learning to autonomous learning experiences spread over the four years of the degree. The first stage involved core foundation units in the first two years that aimed at deepening the pre-service teachers’ understanding of their own learning styles and capabilities. The foundation units were based around understanding the body’s growth, development and functions, development of technique analysis skills, an awareness of themselves as learners, and an introduction to education philosophy and history.

The second stage of the sequence included only the third year of the teaching degree. This stage was to be a more in-depth focus on teaching practices and broader understanding of curriculum development including, for example, implementation of risk management processes within their OE lesson development and implementation. This shift was designed to encourage pre-service teachers to take their focus off themselves as learners, and transfer their understanding of different learners’ needs and varying teacher approaches toward developing their abilities to teach.

The third stage of the sequence included the final year of their degree. This was designed to advance their skills of teaching practices, by expanding their knowledge about their varying roles within schools, by interacting with outside agencies and by gaining more teaching experiences through longer practicum placements.

The EEU was one of the first units in the pre-service Outdoor Education teacher’s degree to focus on teaching and risk management processes for an outdoor classroom.
The unit was named Risk Management and students were required to learn about risk and risk management, implement their knowledge into a lesson plan, and then actually take the lesson with real students. OE pre-service teachers were required to implement risk management in a teaching context to develop good outdoor teaching practices under the watchful eye of experienced and effective OE lecturers before commencing their practicum in schools.

Design history of the EEU

Initial design and implementation of the unit was undertaken by Anthony Cross in 2004. He implemented the unit with an experiential learning and behaviourist approach and was multifaceted in an attempt to meet university and outdoor recreation industry requirements. Content of the EEU heavily relied on modelling via a two-day Challenge Course (CC) training session and one-day teaching session. All CC training was combined with theory, delivered through five lectures or tutorials spread over the 13-week semester. EEU outcomes focused on risk management policies and procedures to meet outdoor recreation industry requirements. There were two assessment items for this unit. The first assessment was an assignment based on risk management procedures. The second assessment required students to run a CC activity during a teaching session. The latter was based on a pass or fail criteria heavily influenced by attendance, rather than level of engagement and understanding.

Anthony Cross was the unit coordinator in 2005, and we team taught the unit. During the first preparation meeting we reviewed the 2004 unit outline and decided to change a few teaching aspects. According to Anthony the pre-service teachers felt
rushed, trying to learn to become a CC facilitator in two days, so a separate teaching
day was added. The unit was implemented with an extended version of Kolb’s
experiential learning model to help frame the learning experience for pre-service
teachers.

In 2006, the unit became my responsibility and I taught the whole unit. During the
preparation phase of implementing the unit, more lectures and tutorials were added to
include more topics about risk management and outdoor facilitation theory. The CC
facilitation extended to three days and also included two teaching days. The
assessment items included two assignments and criteria for teaching components of
the unit with assessment using a rubric. This year was also significant because the
whole degree was under review and all lecturers were encouraged to construct ideas,
rethink all outcomes for the education courses, and then plan the flow-on effect for
outcomes in each unit. The EEU was reviewed heavily during this period by
numerous lecturers. Those meetings led to the renaming of the unit and a new focus
on teaching, rather than risk management, and these changes were supported by
colleagues. The experiential education unit was reworked to include a combined
cognitive and constructivist approach.

In 2007 the unit was delegated to Rose Goldman who had full coordination and full
teaching responsibilities. The unit was slightly altered to meet the needs of pre-service
teachers, university undergraduate outcomes (2005–2008) and Victoria Institute of
Teaching requirements. In 2007 Rose Goldman was responsible for the unit content
and teaching, so that research could take place with the least amount of interruption or
influence on the research process as possible.
Theoretical underpinnings of the Experiential Education Unit

The theoretical underpinnings of the experiential education unit (EEU) were focused on developing an understanding of good OE facilitation practices, effective outdoor teaching practices, and outdoor recreation risk identification and management skills.

The EEU was deliberately set up by the lecturer to use the experiential learning cycle model that Kolb (1984) developed, because it is an appropriate and effective learning model that allows the outdoor educator to draw meaning from the experience and outdoor setting or context (Beard & Wilson, 2007; Boud, 1989; Illeris, 2007; Kraft & Sakofs, 1984; Rohnke & Butler, 1995; Smith & Knapp, 2011). Outdoor educators rely on effective experiential education theory to draw educational purposes out of their lessons. Kolb’s model was also chosen for the EEU because Rose Goldman wanted to demonstrate the effective use of the model, so that OE pre-service teachers could experience the model and try to use it in their own approach to teaching outdoors. The lecturer felt that Kolb’s model was applicable to the EEU because it requires OE pre-service teachers to develop cognitively, as well as honing their technical skills, and the learning also supports a constructivist approach to teaching. Goldman (2007) believed that a constructivist approach in any experiential education setting is important for safety and knowledge/experience development. A constructivist approach to learning prepares students with adequate knowledge and skills before placing them into situations that will require them to use it effectively; if this approach is not used, the outdoor educator risks placing their students into learning contexts that present real risk and harm.
Intended outcomes of the unit

Details of the unit guide with objectives and synopsis can be found in Appendix C.

The EEU outcomes as stated in the unit outline were:

This unit focuses on how risk management procedures and appropriate outdoor teaching approaches can support you to deliver a high quality outdoor experiential learning experience. It highlights your responsibilities, procedures for safe conduct of activities and for emergency situations in the outdoor environment.

The five objectives of the unit were as follows. Students will have acquired a working knowledge of:

- risk management strategies in the conduct of sport and outdoor recreation
- management tools in the identification, assessment, control and mitigation of program liability and risk
- specific case knowledge of local and international outdoor pursuit liability
- risk management in an experiential learning context and practical ability in first aid in the outdoors
- appropriate outdoor teaching approaches

Critical components of the unit

The critical components were those aspects identified prior to the learning experience that were included in the unit to support learning and help transfer theory into practice. Some of the components were included to gather summative and formative assessment of informants’ level of understanding of their teaching and risk management practices during the unit. The critical components included the micro-teaching phases that required informants to teach real students through problem-
based learning or experiential learning models of teaching. Informants were required to satisfactorily complete the following:

- Challenge Course facilitation training x three days
- teach peers for one hour
- teach first year Bachelor of Education undergraduate students for three hours
- teach Year 8 senior secondary college students for one day
- attend eight x one-hour lectures
- attend eight x two-hour tutorials
- submit two written assessment items (2000 words each)

Upon completion of these components the aim was that informants should be able to meet the objectives of the EEU. This includes further developing the informants’ understanding of their teaching practices from a mix of theoretical and practical (experiential) perspectives.

**Implementation of the experiential education unit**

The theoretical component was organised through face-to-face interactive teaching lecturers, tutorials and fieldwork that included presentations of risk theory applied to quality educational settings in a specific context. Pre-service teachers were required to plan lessons that would minimise real risk to participants in OE settings and these lecturers were supported by further readings. The experiential components were designed to provide opportunities for pre-service teachers to implement the theory into their own outdoor teaching practice in supervised environments in small groups. They were also required to undertake self-directed study by viewing the readings and develop their research skills to complete written assignments.
The lecturer noted that the main emphasis of this unit was on implementing appropriate risk management strategies to an outdoor experiential learning context. The lecturer also believed that by specifically using the CC facility, it allowed pre-service teachers time and space to practice teaching outdoors. The CC environment also allowed pre-service teachers to practice their facilitation skills. This unique teaching space allowed them to devise and implement appropriate teaching practices in the outdoors and identify risks associated with teaching in the outdoors. This teaching approach during the EEU has incorporated knowledge and skills that were suggested by Shulman (1986) “subject matter content knowledge, pedagogical content knowledge and curricula knowledge” (p.10-11) that should help the pre-service Outdoor Education teachers to learn to teach.

The experiential learning process, pedagogical content knowledge and curricular knowledge are all covered in lectures and tutorial discussions based on pedagogy practices. Rose Goldman taught both lectures and tutorials. She covered the following topics and content shown in Figure 3.1. Also note the concentration of lecture topics focused on risk management.

The lecturer covered the following topics and content shown in Table 3.1.
<table>
<thead>
<tr>
<th>Week of semester</th>
<th>Lecture topic</th>
<th>Tutorial</th>
</tr>
</thead>
<tbody>
<tr>
<td>Week 1</td>
<td>Terms and Concepts</td>
<td>Students were introduced to the unit guide and study guide/readings. Topics discussed were based on risk, risk minimisation through good effective outdoor teaching practices in particular experiential learning theory. They were given information about the research study and invited to take part.</td>
</tr>
<tr>
<td>Week 2</td>
<td>Perspectives on Risk</td>
<td>Students were taught how to use the productive pedagogy framework, rubric and explanation booklet</td>
</tr>
<tr>
<td>Week 3</td>
<td>Risk Taking</td>
<td>Students discussed elimination of risk and challenge by choice, full value contracts, experiential learning cycle and elements of experiential learning.</td>
</tr>
<tr>
<td>Week 4</td>
<td>Risk Management 1</td>
<td>Students were divided into two groups for ropes training course. Students also discussed Outdoor Education fatalities and methods to try to avoid the same mistakes in their own approach to teaching in the outdoors.</td>
</tr>
<tr>
<td>Week 5</td>
<td>Risk Management 2 and the Legal Framework</td>
<td>Group A in three-day training session to become competent CC facilitators. Including a peer teaching session on last day for an hour where they plan and implement one initiative on either a high or low CC.</td>
</tr>
<tr>
<td>Week 6</td>
<td>Readings Week</td>
<td>Group B participated in three-day training session to become competent CC facilitators. Including a peer teaching session on last day for an hour where they plan and implement one initiative on either a high or low CC.</td>
</tr>
<tr>
<td>Break</td>
<td>Mid-semester break</td>
<td>View footage of self and evaluate and redesign lesson plan. Revise their teaching approach and practices.</td>
</tr>
<tr>
<td>Week 7</td>
<td>Case Studies 1</td>
<td>Students designed a CC teaching session for university first year bachelor of education students. View footage of self, taking peers on CC and self-analysis teaching practice.</td>
</tr>
<tr>
<td>Week 8</td>
<td>Case Studies 2</td>
<td>Students implement, and evaluate teaching day with university students. Group A delivered a lesson on 26 April and Group B delivered their lesson to Bachelor of Education students on 27 April.</td>
</tr>
<tr>
<td>Week 9</td>
<td>Emergency Response</td>
<td>View footage of self, teaching again. Redesign lesson plan based on their feedback from footage. Also revise lesson/session plans and with other peer teachers in their team.</td>
</tr>
<tr>
<td>Week 10</td>
<td>Readings Week</td>
<td>Continue to plan lesson with their peer team teaching group for Year 8 senior secondary students.</td>
</tr>
<tr>
<td>Week 11</td>
<td>Risk Management Planning on an Organisational Level</td>
<td>Implement lesson plan to Year 8’s, and reflect with peers at the end of the day. Group A delivered their lesson on the 24 May. Group B delivered their lesson on the 25 May.</td>
</tr>
<tr>
<td>Week 12</td>
<td>A Safety Culture</td>
<td>Evaluate their own teaching footage, redesign and implement lesson plan again, teaching sessions for the preparation of teaching with the use of ropes CC.</td>
</tr>
</tbody>
</table>
Phases of the unit

The EEU was organised into three cycles of Kolb’s experiential learning model by Rose Goldman during the revision of planning stages three months before the unit was implemented. The following figure depicts Kolb’s actual model. This is followed by another figure of Kolb’s model with the EEU content inserted for the first phase or cycle as shown in Figure 3.2.

![Kolb's Experiential Learning Cycle](image)

Figure 3.1: A model of Kolb’s (1984) interpretation of Lewin’s experiential learning cycle (cited in Priest & Gass, 2005, p.154)

Kolb’s model was chosen because it was “identified and endorsed throughout history and remains the strongest and most enduring of the learning theories” (Beard & Wilson, 2007, p.44). Kolb and Kolb (2005) reported that “Since its first statement in 1971, there have been many studies using ELT to advance the theory and practice of experiential learning” (p.196). Upon analysing the EEU’s content, it was discovered that on a macro level the unit went through Kolb’s experiential learning cycle three times.
The first cycle occurred in Weeks 1–4. For the purposes of this research, this is called Phase One of the unit, and included the contents and practical that has been inserted into a model frame like Kolb’s (refer to Figure 3.2).

Figure 3.2: Phase one of the Experiential Education Unit, Weeks 1–5

**Challenge Course component of the unit**

The three-day CC facilitation program consisted of instruction on how to teach with high and low ropes activities safely. On day three OE pre-service teachers were asked to take one activity and present it to their peers for practice.

Rose Goldman, Jill and Ben conducted all the activities during the program to role model, demonstrate and teach OE pre-service teachers how to teach on the Challenge Course. The three-day CC facilitator training program was conducted in Week 3 for Group A and Week 4 for Group B was implemented by Rose Goldman and Jill and Ben, two fully qualified CC facilitator instructors. Rose held a number of meetings
with Jill and Ben to make sure they understood the aims and objectives of the facilitation training program. On the teaching days of the ropes (see Table 3.2) a support network of an experienced lecturer, two qualified ropes facilitators/instructors and two classroom teachers were present to closely observe the situation to avoid any real risk to school students.

Table 3.2: Challenge Course three-day facilitator training course schedule

<table>
<thead>
<tr>
<th>Day 1</th>
<th>Day 2</th>
<th>Day 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>9.00am Intro to storage and care of equipment</td>
<td>9.00am Pack low ropes, initiative and high ropes gear, set up course, inspect grounds</td>
<td>9.00am Pack low ropes, initiative and high ropes gear, set up course, inspect grounds</td>
</tr>
<tr>
<td>9.30am (Meet at the wall) Safety talk – low ropes Risk management procedures “Challenge by Choice” Questions to guide the session include: If you had to run a Challenge Course lesson, what do you need to know? What types of learning experiences can a CC program provide?</td>
<td>9.30am Safety talk – high ropes Guiding Questions for pre-service teachers to find the answers to: Why do I need to be an effective facilitator? What skills and knowledge do I need to know in order to be an effective facilitator? What does a safe CC program entail?</td>
<td>9.30am OE facilitate safety talk Guiding Questions for pre-service teachers to find the answers too: What is your current level of knowledge about a CC program? Is it an adequate level of knowledge to conduct a safe program?</td>
</tr>
<tr>
<td>10.00am Ice breakers/commonality games</td>
<td>10.00am Postman’s walk or Multi-Vine</td>
<td>10.00am – Group 1 – facilitate low rope element Review/reflection</td>
</tr>
<tr>
<td>10.30am Warm-up games/de-inhibitors</td>
<td>11.00am – 12.00 noon Flying fox</td>
<td>11.00am – 12.00 noon Group 2 – facilitate low rope element Review/reflection</td>
</tr>
<tr>
<td>11.00am – 12.00noon Full Value Contract</td>
<td>12.00 – 1.00pm Lunch</td>
<td>12.00 – 1.00pm Lunch</td>
</tr>
<tr>
<td>12.00 – 1.00pm Lunch</td>
<td>12.00 – 1.00pm Lunch</td>
<td>12.00 – 1.00pm Lunch</td>
</tr>
<tr>
<td>1.00pm – 2.30pm Introduction to Low Ropes elements – students to participate in some elements</td>
<td>1.00pm – 2.00pm Pamper Pole</td>
<td>1.00pm – 2.00pm Group 3 – facilitate a high ropes element &amp; Review/reflection</td>
</tr>
<tr>
<td>2.45- 3.00pm short break</td>
<td>2.45- 3.00pm short break</td>
<td>2.45- 3.00pm short break</td>
</tr>
<tr>
<td>3.00pm – 4.00 Continue exploration of low ropes elements 4.00pm – 4.30pm Review/reflection &amp; pack up</td>
<td>3.00pm – 4.00 Continue exploration two high ropes elements 4.00pm – 4.30pm Review/reflection &amp; pack up</td>
<td>3.00pm – 4.00 Group 4 – facilitate a high ropes element &amp; Review/reflection 4.00pm – 4.30pm Pack up</td>
</tr>
</tbody>
</table>

The Challenge Course was included in the EEU

Teaching on the CC allowed OE pre-service teachers to develop facilitation skills and also a number of technical skills such as setting up CC activities, risk identification in the outdoors, abseiling skills, knots and working with ropes, which they do not get anywhere else in the four year degree. According to Flood, Gardner, and Cooper.
(2009) “a commonly utilized program for experiential learning is the CC. CCs typically consist of a high CC and/or low element initiatives course in which activities are intended to challenge individuals and groups in order to bring about interpersonal and intrapersonal growth and development” (p.56). According to Goldman, there were a number of reasons for the inclusion of the CC in the EEU including context, practice new skills, safe on campus teaching tool, personal growth and learning, focus on education outcomes in the outdoors, and planned use of the CC to meet EEU objectives. These topics are further discussed.

The CC according to Rose Goldman provided a context for the EEU to be delivered experientially. She further mentioned that it also provided OE pre-service teachers with an example of effective outdoor teaching approaches, and risk management issues. Goldman believed that once pre-service OE teachers were taught how to identify and take steps to minimise risks associated with the outdoor CC environment they would apply the new knowledge accordingly. She also believed that if these teachers could be taught effective outdoor teaching principles, they would be able to identify the correct teaching style and appropriate activity and sequence of challenge levels, and this would aid in lowering accidents and incidents because they could choose appropriate activities. They would also set the activity up safely, use appropriate safety gear and tools, and manage most risky behaviour by choosing appropriate rules and story frameworks to aid in keeping future CC participants safe and engaged in the activities. These teaching principles could then be transferred to more risky activities conducted in more unpredictable learning settings in the outdoors. Furthermore, this component of the unit was an opportunity for OE pre-service teachers to build their understanding of teaching and presented an opportunity to research what they understood about content knowledge, pedagogical content
knowledge and curricula knowledge (Shulman, 1986, pp. 10–11) and what aspects of this experience was most beneficial to OE in the transference of learning to teaching.

Goldman explained that the CC was a safe ‘on campus’ outdoor teaching tool (with lecturers and staff shadowing in order to step in if any major errors were about to occur) that would allow for little errors like forgetting the description of a warm-up game. As opposed to teaching kayaking in an aquatic environment (e.g. a river), where there are many more uncontrollable risks to the novice teacher’s eye, little errors in giving instructions can cause a major catastrophe if participants were to fall out of a kayak at the wrong time, due to poor instructions, which could result in drowning.

Another reason for the inclusion of the CC for OE pre-service teachers was that they would personally gain something from experiencing the CC activities during the training days. According to Flood et al. (2009) research data the “results strongly suggest that a one-day CC program can have a significant impact on college students’, particularly females, life effectiveness skills” (p.55). These skills help pre-service teachers develop their own personal philosophy of risk taking, teamwork, cooperation, leadership, problem-solving and conflict resolution skills.

The CC was used to focus on education outcomes so that pre-service teachers develop their teaching skills in order to provide a successful program that school-aged participants can learn, or extend many valuable skills like teamwork, social skills, leadership or self-concept objectives, and life effectiveness skills. Also, most importantly to plan lessons with Victorian Essential Learning Standards (VELS)
outcomes so that high school teachers can achieve curriculum outcomes by bringing school students to the CC program.

Finally, I acknowledge criticism by leading researchers in the outdoor field who are wary of research conducted on CC programs (Hattie et al. 1997) and the need for rigorous research in this field. However, I also want to make it clear that this research is looking at the whole unit (13 weeks) and not just the three-day CC component. Both the lecturer and support staff were fully aware of the CC weaknesses (static environment). They planned to use it as a tool to support the rest of the unit content to aid pre-service teachers’ development of teaching skills in a controlled outdoor environment.

**Written assessment components of the EEU**

Two assessment tasks were included in the EEU that encouraged students to think critically about their outdoor teaching practices. The first task was a 1500 word essay on risk and risk management.

Details of the task as stated in the unit outline are as follows:

Much has been written about risk and risk management. There is considerable literature related to the role risk may or may not have, in recreational or educational experiences. Many theories, models and tools have been developed about how and why accidents happen and how to manage or prevent them from occurring. Using a specific context (e.g. sport, outdoor recreation, etc.), discuss the concept of risk in this context, and the implications your understanding of risk has for your approach to risk management.
The unit guide for EEU also contained assessment criteria for the first assignment that included:

This is an academic essay and as such requires use of appropriate language and referencing. Your assignment will be graded directly against the criteria outlined in the attached ‘assignment grading and feedback sheet’. It is in your interests to study the sheet closely and to present your assignment following the assessment criteria.

Refer to the unit guide in Appendix C and D for further details on the assessment rubrics used for both tasks.

The second task assessment on peer assessment and reflection involved two components, namely peer assessment (500 words) and a reflective journal (1500 words).

The peer assessment task required students to: Satisfactorily participate and contribute to planning the teaching days. Each group is required to work together to develop a comprehensive teaching and safety plan for the two days of teaching they will undertake in the Challenge Course. Prior to each teaching day the group will complete the assessment rubric below for themselves and for each member of the group. Scores will be averaged across the whole group.

The reflective journal was divided into two parts in the unit guide as follows:

Part A: Peer assessment (500 words)
Summarise either the Sullivan (2006) or Wolfe & Samdahl (2005) article and critically discuss their main argument in relation to your understanding of risk and risk management.

Part B: Reflective journal (1500 words)
Answer the following questions. Draw on appropriate literature to support your observations and reflections.
1. What new skills or knowledge did you learn from the experiential program?
2. How did the unit differ from other units taken for pedagogy development?
3. How did you change because of your participation in the experiential program?
4. How did the Challenge Course phase’s impact on the experiential program compared with the lecture/tutorial classroom setting?
5. Do you think the facilitation skills or knowledge learnt during the theory phases were directly transferable to a teaching situation in the outdoors?
6. What tasks if any do you think had the most impact on your development of pedagogical skills?

Assessment Criteria: Productive Pedagogies – Classroom Reflection Rubric. You will be introduced to this rubric during the unit and will use it to analyse your own teaching in the Challenge Course. Attach logbook for the practical experience as an appendix to your assignment.

Successful completion of these two pieces of written work plus satisfactory participation in all fieldwork was required to pass the EEU. Further unit information and additional handouts can be found in the Appendix C.

**Conclusion**

This chapter presents subject matter, pedagogical knowledge and curricula knowledge of the EEU that was taught to informants during the research data collection stage. The unit was implemented exactly how it is described in this chapter. While going through the unit information, content and schedule for learning experiences, I identified three natural occurring points for data collection labelled phase one, phase two and phase three. The details of data collection and analysis are discussed in the next chapter.
Chapter 4: Methodological Approach

In this chapter a description of the case study methods utilised to investigate the effects of an experiential education unit (EEU) on the development of teaching practice in pre-service Outdoor Education teachers is provided. The chapter is presented in two parts. Part One justifies a case study approach. Part Two outlines the research design that contains a detailed description and explanation of the data collection and analysis techniques.

Part one

A case study methods approach

Part one sets out a rationale for a case study approach in this thesis. As reasoned in previous chapters, there is a shortage of empirical research and theoretical basis in the field of Outdoor Education teacher knowledge, specifically in current complex pedagogical teaching knowledge. Consequently, I selected and designed a case study to address this void in the field and investigate the thesis problem. I now justify the application of a case study approach.

Justifying a case study approach

The case study has had a lengthy history of uptake in social science research and acceptance, particularly in education research (Anfara & Mertz, 2006; Burns, 2000; Denzin & Lincoln, 1998; Yin, 2003a). There has also been a lengthy debate about the
usefulness of scientific approaches when investigating human behaviours and thoughts. I have noted the differing spectrum of views on quality methodology from positivists to idealists, but it is the humanist scholars that I find the most appropriate for this study, because they recognised the important nature of empirical observation (Burns, 2000; Punch, 2005; Yin, 2003a).

The researcher of this study is a sociologist that spans Symbolic Interactionism social theory and Experiential Learning Theory. This philosophical background is appropriate when researching the phenomena of teaching teachers how to teach Outdoor Education. Further clarification is that “Symbolic interactionism is an American branch of sociology. It developed from the work of “John Dewey, William Thomas and George Herbert Mead” (Walker & Loughland, 1998, p.10). Symbolic Interactionism Theory and Experiential Learning Theory (ELT) have a similar significant influence from John Dewey’s thoughts and research work back in 1938, regarding learning theories. Walker and Loughland (1998) further stated that “Symbolic Interactionism is embedded in social theory or sociology. In particular “symbolic interactionism is a theory focused on everyday life and how the actions of everyday life contribute to the way we construct out world” (p.10). Furthermore in relevance to this case study it is important that “Meanings are constructed in particular settings; they are not fixed and may change according to the context and progression of the interaction” (Walker and Loughland, 1998, p.10). The EEU is a constructed setting designed to encourage Outdoor Education teacher to learn.

The main purpose of this study is to obtain the thoughts of the learners as they make their way through the EEU so that is why the study spans the Symbolic Interactions
Theory because “Symbolic Interactionists are interested in the way meaning is constructed” (Walker and Loughland, 1998, p.10). This will provide critical lens to view the EEU impact on the informants learning. In particular, Symbolic Interactionism theory provided the ‘self’ lens where in the process of role-taking an individual develops a concept of self and this occurs when people put themselves in the position of other people. This process includes the informants reflecting on themselves and then making judgements about themselves. In this case study informants reflect on their teaching practices and attempt to make changes to improve their teaching practices. So for this case study it is appropriate to use appropriate social theory because ‘Social theories should help us solve educational problems” (Walker and Loughland, 1998, p.13). Furthermore in this case study the informants are trying to change their practices but also the lecturer is trying to provide a subject matter and method of teaching that will support their journey. So for this case study “this is a journey in seeking understanding and, hopefully, changing practices” (p.15) which is a central role of social theory according to Allen (1998).

Social theorists are aiming to, as Allen (1998) states “My experience with this research project taught me the importance of not imposing qualitative/quantitative divisions on the research process” … “whilst the historical legacy of the division between positivist and anti-positivist research has impacted on the qualitative/quantitative split, these research methods can be used to complement rather than compete with each other” (p.25).

In the past, disapproving attitudes, limited generalizability and criticism of research techniques damaged the case study approach. However, these weaknesses have been
addressed through a number of avenues (Burns, 2000; Punch, 2005; Yin, 2003a). Firstly, since the 1960s, “the increased acceptance of qualitative research and, in particular, participant observation has, as a corollary, revived the acceptability of the case study” (Burns, 2000, p.459). Secondly, Punch (2005) stated that “properly conducted case studies, especially in situation where our knowledge is shallow, fragmentary, incomplete or non-existent, have a valuable contribution to make” (p.147). Thirdly, Yin (2003a) wrote in summary that “the case study, like other research strategies, is a way of investigating an empirical topic by following a set of pre-specified procedures…the basic goal, however, is to consider all the strategies in an inclusive and pluralistic fashion – as part of your repertoire from which you may draw according to a given situation to social science research” (pp.15–16). These three perspectives address the criticism by other scientific research fields.

A number of reasons exist for utilising a case study approach for this study. Firstly, because the main research question involved finding out how the informants were affected. Secondly, the research situation included a group of individuals who all experienced the same unique EEU learning environment. Thirdly, that the research was conducted in a real learning environment to answer the research question by capturing the experiences of school students and their teacher thoughts’, and that naturally generated a large amount of qualitative data. Finally, to answer the main research questions, I would have to use observation techniques to gather data of research informants in their learning environment.

Another reason for choosing a case study approach is because according to Yin (2003a) “the single case can be used to determine whether a theory’s propositions are
correct or whether some alternative set of explanations might be more relevant” (p.40). This allowed me to explore the learning situation with some flexibility and pick up any new themes that were not initially thought of in existing theory.

This case study was designed based on contemporary theoretical research ideas presented in Burns (2000), Creswell (2005), Gay (1996), Lankshear and Knobel (2004), Punch (2005), and Yin (2003b), so that a strong research process could support the implementation of a robust research design. Furthermore, the case study approach allowed me to address the complexity of the phenomenon and develop reliable and valid methodology best suited to addressing the research questions. Other researchers to influence the design include Borrie and Birzell (2001), Boyle (2002), Cutter-McKenzie and Edwards (2008), Fleer (2008, 2009), Gale (2006), Kolb (1984), Luke et al. (2001), Priest and Gass (1997, 2005), and the Queensland Department of Education (2001). Through the utilisation of a case study approach I was able to gain valuable insight into the pre-service Outdoor Education teachers level of understanding of their pedagogy practices (Allen, 1998; Bransford et al., 2000; Creswell, 2007; Yin, 2003b).
Figure 4.1: Phase of data collection in sync with unit content
In Figure 4.1, the funnels progressively grow in size to indicate the level of complexity of the unit growing with each experience of learning to teach. Each funnel represents a cycle of experiential learning phase of the EEU. The arrows indicate the direction of the informants’ progression through each phase of the unit.

The lecturer aimed to deliver the content of the learning environment through three major cycles of Kolb’s (1984) experiential learning cycle as detailed in Chapter 3. Therefore the collection of data also followed this rhythm in keeping with the natural cycle of learning, and thus did not interrupt the lecturer’s plans for the unit and the students’ learning experiences. These cycles align with each data collection phase in the case study (see Figure 4.1).

I obtained a deep understanding of how the EEU influenced informants’ thoughts of their pedagogy and also an insight to their thoughts of how they would implement these new teaching skills in an authentic Outdoor Education environment. That enabled an acquisition of the informants’ unique perspectives but also viewed them as a group of subjects in the same EEU, tracking their learning and thoughts about teaching practices and models over three phases of the unit (see Figure 4.1).

Due to the complexity of the real learning environment depicted in the previous Figure 4.1, a multiple source approach for capturing the informants’ experience was needed (Yin, 2003b). Therefore the data for this study was collected using a number of different ways including written, observation and verbal items. This idea was also recognised by Bailey (1991) that “data for a case study can be gathered in various ways” (p. 63). Furthermore, Yin (2003a), see also Bailey (1991), argued that the case
study gains strength in rigour through the use of multiple sources of data to inform the case.

In addition to the reasons given already, it is also important to acknowledge that this research design was influenced by past and current researchers in the experiential learning field, specifically the areas of OE and wilderness education. Teaching in the outdoors, according to experiential and OE discussed in Chapter 2, has its own complex influences on learning, therefore mixed sources of qualitative data collection has been utilised in these research areas too. Using the case study approach in the naturalistic setting of the EEU represented the best approach suited to the complex situation, without interfering in a real student learning environment. Furthermore, this approach was successfully utilised by Borrie and Birzell (2001), who recommended using a multiple data source approach for data collection, because the wilderness experience is a multifaceted phenomenon and a single method was not expected to adequately serve the needs of a researcher (or ‘the researched’).

Conclusion

This part justifies a rationale for the use of a case study approach. As recommended by Creswell (2005) and Yin (2003a, 2003b), the case study approach is used “in many situations to contribute to our knowledge of individual, group, organisational, social, political, and related phenomena” (p.1). The methods selected allowed me to address my ‘how’ and ‘why’ questions about the contemporary EEU over which I had little control. The method relied on the development of theoretical propositions discussed in Chapters 2 and 3, in turn allowing me to grasp how informants were impacted by the EEU. This also provided some themes for analytical codes for first interpretations.
of data. Therefore the case study approach provided a means for understanding how the EEU impacted pre-service teachers and their understanding about their own teaching practices. I now focus on part two, the research design, data collection and analysis techniques.

**Part Two**

I now turn to the methods utilised to collect and analyse data. This part is divided into the following sections: research design, informants, assessment instruments, data collection and analysis methods, data analyses through triangulation of all data sources, control of error, confidentiality and potential risks, and finally a conclusion.

**Research design**

When devising the research design the choice of methodology was based on the purpose of the research, and this meant that a number of consideration were examined. The research question “How does an experiential programme impact on development of pedagogy in pre-service Outdoor Education teachers?” would best be answered with an in-depth focus on the journey of learning undertaken by the pre-service teachers. Another consideration was the resources available, including gaining time to collect data, time allowed and cost of digital equipment. This situation required that I get close to informants so that I could get to know them and their context. Upon closer inspection of current education research designs this study needed information from interviews, observations, questionnaires (PP-CRS), written work, peer feedback and their own reflections of their learning, as much data about
the context to answer the research question as thoroughly as possible. During this stage I also found that experienced researchers suggested restricting the number of participants to 10 given the amount of data I would be collecting on each of those informants (Yin, 2003a). Furthermore based on current education researchers suggestions a case study design/approach was selected because it would provide valid research design that would best inform the study (Allen, 1998; Creswell, 2005; Parington, 1998; Yin, 2003a).

I chose a single case study design (see Table 4.1) with embedded units of analysis to gain valuable insight into how an EEU impacts the development of pedagogy practices of pre-service OE teachers (Refer to Table 4.1 for strengths and weakness of this design). This case study design is appropriate when the researcher has no control over teaching or lessons and will not make changes to the way the EEU is run over the period of the study. Suggested changes were provided to the lecturer at the end of the EEU and these occurred weeks after the end of data collection period. Informants only received feedback on observation data, filming data, peer feedback and feedback from their lecturer as this was a part of the EEU.

Table 4.1 provides an overview of the strengths and weaknesses of each of the sources of data for this case study (Yin, 2003a). I collected multiple qualitative data as performed by other researchers, such as Bailey (1991), Lomax and Casey (1998), and Luke et al. (2001), from the following items: 1) semi-structured interviews with informants, 2) observation through video analysis of teaching episodes by informants, 3) direct observation by the researcher, 4) journals and assignments produced by the informants, 5) lesson plans and journal log books from the informants and
Table 4.1: Sources of case study evidence: strengths and weaknesses

<table>
<thead>
<tr>
<th>Qualitative sources</th>
<th>Strengths</th>
<th>Weaknesses</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Semi-structured interview</strong></td>
<td>• Directly ask questions related to informant’s experience when teaching&lt;br&gt;• Able to adjust questions before each phase to incorporate any new findings from previous participant data&lt;br&gt;• Informant’s candid relationship with researcher</td>
<td>• Bias to informants who can think quickly about their teaching performance and new teaching theory&lt;br&gt;• Bias due to poorly informed informants&lt;br&gt;• Reflexivity – participant may give an answer they perceive is better than what actually happened, or what they thought</td>
</tr>
<tr>
<td><strong>Observations: Video analysis</strong></td>
<td>Participant&lt;br&gt;• Insightful – view of informants’ thoughts about their teaching episodes&lt;br&gt;• Stable – can review over and over&lt;br&gt;• Addresses recall problems</td>
<td>Participant&lt;br&gt;• Perception of their teaching skill may be bias&lt;br&gt;• Misunderstood the criteria when assessing their teaching performance&lt;br&gt;• Reflexivity – informants may act differently when being video taped</td>
</tr>
<tr>
<td><strong>Researcher</strong></td>
<td>• Insightful – view of informants’ teaching episodes&lt;br&gt;• Stable – can review over and over and addresses recall problems</td>
<td>Researcher&lt;br&gt;• Time-consuming&lt;br&gt;• Costly</td>
</tr>
<tr>
<td><strong>Assessment tasks including their journal</strong></td>
<td>• Insightful – capturing informants’ thoughts about their teaching as the program progresses&lt;br&gt;• Unobtrusive and broad coverage of program</td>
<td>• Written with positive bias, may not wish to disclose negative thoughts or experiences&lt;br&gt;• Fear of losing marks</td>
</tr>
<tr>
<td><strong>Lesson plans and logbook sheets</strong></td>
<td>• Insightful – capturing informants honest thoughts and frustrations about their teaching&lt;br&gt;• Informants not assessed on their thoughts and ideas for these items</td>
<td>• Written without fear of losing marks for negative or differing opinions to those held by the lecturer, or hired external staff</td>
</tr>
<tr>
<td><strong>Lecturer Semi-structured interviews</strong></td>
<td>• Directly ask questions related to conduct of learning environment&lt;br&gt;• Able to adjust questions before each phase to incorporate any new findings from previous lecturer data&lt;br&gt;• Lecturers’ candid relationship with researcher</td>
<td>• Bias to lecturer who can think quickly about the learning environment&lt;br&gt;• Bias due to poorly informed lecturer&lt;br&gt;• Reflexivity – lecturer may give an answer they perceive is better than what actually happened, or what they were thinking</td>
</tr>
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</table>
6) semi-structured interviews with the lecturer. When collecting the data, I was aware of the limitations of each data collection method, and subsequently planned to counteract the weaknesses of one method with the strengths of another.

**Selection of informants and their lecturer**

**Informants**

Following recommendations for a robust case study I utilised a purposive approach to select informants (Burns, 2000; Gay, 1996; Yin, 2003a). A number of criteria were used for the selection of an appropriate EEU taught in a university undergraduate degree. The researcher specifically wanted to research the effects of an outdoor based EEU on pre-service Outdoor Education teacher’s development of their pedagogy practices. Thus I chose a specific university that offered an *EEU in teacher education* to a *large number of pre-service Outdoor Education teachers*. I chose a third year EEU unit from a suite of units, because it involved specifically pre-service teachers learning to teach outdoors. It was important to select informants who were about to learn new theories and practices about teaching outdoors (For a more detailed description of the EEU refer to Chapter 3.) Once I had chosen the university and the undergraduate degree, I then respectively approached the Associate Dean of Education, Head of Program, Lecturer and the ethics division for permission to conduct this study on their EEU. Subsequently I was granted permission by all to conduct this case study.

The informants comprised three males and seven females aged 21–35 years who were pre-service Outdoor Education teachers. This robust sample allowed all informants
(regardless of their appreciation for teaching) to convey their thoughts and overall sense of their teaching confidence. Throughout the data collection stages the informants were invited to provide video analysis of their teaching, journals and assignments, lesson plans, logbook worksheets and to participate in one-on-one semi-structured interviews with the researcher.

Recruitment of the university, lecturers and pre-service Outdoor Education teachers

After receiving approval from the University of Wollongong Ethics Committee the researcher then approached the Associate Dean of Education, Head of Program, the Chief Examiner of the program and the university A’s Ethics Committee, and finally the pre-service Outdoor Education teachers. The researcher sent information and consent forms to the Head of Program, Lecturer, and pre-service Outdoor Education teachers. The information forms outlined the requirements of the study for both lecturer and pre-service OE teachers, including the need for the consent form to be signed and returned before data collection could begin.

All informants were advised that they could withdraw from the study at any time without prejudice or fear of negative effects to their assessment. Initially, the lecturer was contacted by the researcher to organise the first stage of the study; the session included information about how informants would enter their information and use of codes for identification later by the researcher. A mutually convenient time was organised for a pre-research information session in the first tutorial in orientation week of semester one.
The second stage of the research process involved selecting 10 informants from 45 who voiced their interest in participating in the study. Once the 10 were selected, they were advised in the following week. The informants were aware of the qualitative data collection for phases one, two, and three. If any of the selected informants declined or dropped out, I planned to replace them with another participant from the volunteer list. Finally, all the informants and their lecturer in this study were from the same university and year group in each stage of data collection.

**Assessment instruments**

As shown in Table 4.1, five types of research instruments were used to gather data for the case study. These included semi-structured interview schedules with informants and the lecturer, participant observation through video analysis, assessment items one and two including their journals, non-assessed lesson plans and logbook worksheets, and my direct observations of the informants’ teaching sessions. I will now explain each assessment instrument, justify its use, and explain how it was implemented in this study.

1. *Semi-structured interview schedule*

The researcher chose semi-structured interviews because “It [semi-structured interviews] facilitates access to events and activities that cannot be directly observed by the researcher” (Burns, 2000, p. 425), in this case capturing informants’ thoughts about all their learning experiences taking place in the EEU.
Semi-structured interviews were conducted in face-to-face settings with the same questions given to each participant in the same order at the end of each phase (see Appendix B) to maintain consistency. An open-ended semi-structured interviewing technique was utilised to incite in-depth and complex answers from informants (aged 21–35 years) (Priest & Gass, 1997, 2005). Furthermore, every participant was encouraged to elaborate on their views, so that further emerging themes could be added, without bias to favoured or right or correct answers. Informants were encouraged to speak freely of their teaching without fear of losing grades/marks or negatively reflecting on them as a teacher.

The design of the semi-structured interview questions was intended to incorporate descriptive, contrast, and structural type questions to obtain a full account of the informant’s experience (Burns, 2000). The questions were crafted from the influence of experiential learning and teacher education theory, previously discussed in Chapters 2 and 3. In particular, I used Kolb’s (1984) experiential learning cycle to guide formation of research questions that would prompt informants to provide feedback on the learning experience throughout the EEU. One question was based on what they had learned from the concrete experience (their teaching episode), which is one of the phases of Kolb’s experiential learning cycle. Another question was based on the informants’ analysis of their teaching performance, which directly relates to Kolb’s observation and reflection phase. A third question was shaped by Kolb’s formation of ‘abstract concept phase’, and another question was guided by Kolb’s generalisation and testing implication of the new situation phase.
As shown previously in Figure 4.1, informants were asked to answer questions relating to each of the four stages (Kolb, 1984). The semi-structured interview schedule started with descriptive questions because as Burns (2000) states:

…usually descriptive (questions), requesting informants to describe experiences…is useful at the start of an interview as general non-threatening questions. They [questions] allowed the informants to control the flow of information… (p. 427)

Akin to this type of questioning is the funnel questioning technique (first level), which is to ask a question that is easy enough for everyone to be able to answer. This technique is used by most facilitators/teachers in the outdoors (Priest & Gass, 1997, 2005). I asked informants descriptive questions because I wanted them to be able to answer the question and relax. This required the participant to reflect on their learning experiences in the EEU so far and report. As the semi-structured interview schedule progressed, either contrasting or structural questions were asked, which were better suited to gathering information about informants’ ideas. In particular, I wished to capture original ideas about their teaching and how they tried to implement new ideas when going through the different phases of the EEU.

I also included three contrast questions in the design of the semi-structured interview schedule because as Burns (2000) claimed, “[informants] focused on emotional responses” (p. 427) which encouraged them to be more open and discuss anything about their teaching without judgement. By using three contrasting questions I encouraged informants to share their interpretations of their emotions or feelings.
towards (in this instance) their teaching sessions and lecture/tutorials. This meant that the technique was appropriate for this research.

Finally, I also added a structural question because Burns (2000) indicated, “The structural question is used to discover how a person organises their information/experiences”, which provided an opportunity for informants to share their knowledge of their teaching episodes and, therefore, was deemed highly appropriate for this research (p. 427). The information provided by informants after the first phase of interviews ultimately led to the formulation of additional questions for phases two and three. This questioning approach allowed for more investigative flexibility to explore new ideas and develop an understanding of relevant issues for informants.

The last question in the interview schedule for informants was designed to allow for further comment on a particular issue that was unique to their situation. The semi-structured interview questions were developed with the main research questions and teacher education and experiential learning literature in mind. I will now discuss the digital video observation technique and computer tasks.

2. Digital video analysis of teaching episodes

The reason to video the informants teaching sessions was an attempt to capture the whole teaching episode for closer observation and analysis. This also allowed numerous viewings of the informant’s footage to obtain rich source of evidence. Also, the digital video and analysis of teaching technique had successfully been utilised in other teacher education research (Cutter-McKenzie & Edwards, 2008; Fleer, 2008, 2009; Lomax & Casey, 1998; Websoft Technologies, 2005). In this
study, the observation was captured on digital video (film), which allowed both informants and I to analyse all teaching sessions carefully, with the ability to rewind and watch the footage numerous times. At the end of Phase One I showed all 10 informants how to use SNAPPER software during their tutorial. They were then asked to watch their video and simultaneously conduct self-analysis with the aid of SNAPPER software, which I had already encoded with the different sections of the productive pedagogy classroom reflection sheet. The SNAPPER software allowed for slow, reverse and replay of video images of informants until they were satisfied that they had fully analysed their own teaching performance. This process usually took up to an hour for all to complete. All data was recorded in an electronic format and collected at the end of each data collection phase of the EEU.

3. Assessment tasks one and two including journals
The informants supplied a copy of their first and second assignments (incorporating their journal) which provided insight regarding their thoughts about particular questions derived by the lecturer of the EEU. The first assignment was due to be marked mid EEU based on readings. The second assignment comprised two parts. The lecturer wanted informants to demonstrate their understanding of risk in part A, and reflect on their learning for the whole EEU in part B. These assignments were devised by the lecturer to meet the objectives of the EEU. The second assignment was due at the end of the unit.

4. Lesson plans and journal logbook worksheets
Informants were asked to devise lesson plans during tutorials. These were revised and updated as they progressed through the EEU. They also reflected on their teaching in
a fieldwork logbook that contained worksheets to fill in. This logbook was designed to encourage informants to keep track of their fieldwork experiences, which also included teaching experiences. This resource was to be used from the start of their first year and updated with their fieldwork and teaching experiences throughout the four-year course.

5. Lecturer interviews

The lecturer of the EEU was interviewed using a semi-structured interview technique for the same reasons given for participant semi-structured questioning. These were conducted pre, during and post the EEU to obtain information about the learning experiences. During these interviews I aimed to collect information regarding the EEU history, design, implementation and evaluation to inform the EEU description in Chapter 3. I also collected this information to triangulate the lecturer’s intentions for each phase of the unit with participant’s thoughts about their learning. I will now discuss the data collection process.

**Data Collection**

The case study has an education focused research question that is best answered by the use of a triangulated mixed method research. “The strength of the design is that it combines the advantages of each form of data; that is quantitative data provides for generalizability, whereas qualitative data offers information about the context or setting” (Creswell, 2005, p.515).
Morgan (2007 as cited by Pearce, 2012) stated that “names and describes the emergent pragmatic paradigm explicitly to provide justification for mixed methods research, acceptance of this paradigm does not require one to commit to the practice of mixed methods research. It only requires a pluralistic approach, or the acceptance that no one set of research tools is categorically better than another, and encourages us to acknowledge the strengths in a variety of methods and approaches’ (p.834)

There are plenty of examples of successfully conducted research using the mixed method approach according to Pearce (2012) “mixed methods investigation designed to answer a focused question” (p.840) and therefore acceptable to use in social theory research design. According to Pearce (2012)

Sociologists continue to draw upon a wide range of data collection and analysis techniques, often combining these multiple methods to counterbalance each methods strengths and weaknesses and to develop rich layers of data to shed light on key sociological questions. Although not a particularly new approach, its popularity has resurged in recent years, therefore this reflection on from where we have come helps contextualize the relatively new term mixed methods research in the history of our discipline (p.841).

According to Pearce (2012), Creswell (2005), and Yin (2003a) a mixed method research approach compliments the case study design and it imparts rigour to the research design through strengths gained from both types of data sources. The strengths from qualitative data addresses the weaknesses of quantitative data research by providing more information that can explain the context. The quantitative data can
add strength to the research by providing a level of measure for example what the informants feelings or thinking on a scale, which can addresses weaknesses found in qualitative research alone. Pearce (2012) reported that “current sociology research methods suggest that the use of mixed method is rising and that some solid rigours study have provided important findings that have helped understand a complex situation better” (p.841).

The preparation for data collection for this case study started in 2006, when the semi-structured interview schedules were piloted on a small group of pre-service OE teachers who were not participating in the study. All unclear questions were reworded and re-presented to informants before the schedules were subsequently used. Conducting a pilot study process, for example, by asking a small group of informants and the researcher’s supervisor to check the questions helped to eliminate errors (Cozby, 1997). This process was used successfully by Philpott (2005) in a previous study to control question error or misinterpretation. Furthermore, research by Cozby (1997) indicated that the use of a pilot study allowed the experimenter to become familiar with their role and to regulate their procedures, which helped eliminate error. With all permission granted, planning, and piloting of questions completed in 2006, I was able to commence data collection in semester one, 2007.

As shown in Figure 4.2, there were five qualitative sources of data collected for this case study: interviews, journals, assignments, video self-analysis and direct observation. Informants were not asked to produce any extra written work above and beyond what was already required of them in the EEU, because the amount and
Case study: How might EEU affect pre-service Outdoor Education teacher’s development of pedagogy practices?

Proposal designed. Ethics and appropriate approval sought and granted

Lecturer and participants informed of research, consent sought and granted

Phase 1: February – March (Week 1 – Week 6, semester one, 2007)
- Semi-structured interviews with participants (pre-service OE teachers)
- Participants’ lesson plans
- Participants’ logbook worksheets
- Direct observation of ropes fieldwork by researcher and work in computer lab by participants, who worked with video footage of their teaching
- Video taken and analysed of first teaching episode by participants

Phase 2: March – April (week 7 – week 10, semester one, 2007)
- Semi-structure interviews with participants
- Participants’ lesson plans
- Participants’ logbook worksheets
- Direct observation of ropes fieldwork by researcher and work in computer lab by participants, who worked with video footage of their teaching
- Video of second teaching episode by participants & analysed by researcher & participants

Phase 3: April – May (Week 11 – 13, semester one, 2007)
- Semi-structured interviews with participants
- Participants’ lesson plans
- Participants’ logbook worksheets
- Direct observation by researcher
- Video taken of third teaching episode & analysed by researcher & participants
- Participants’ journals, assignments and self-assessment of teaching episodes
- Participants volunteer any other self-assessment of their teaching

Analysis through triangulation of data from interviews, journals, assignments, video self-analysis and direct observation and analysis by researcher to address initial research question

Figure 4.2: Diagrammatic representation of research design

variety of artefacts met with the recommendation for case study data collection methods as suggested by Yin (2003a, 2003b). Refer to the first phase in Figure 4.2 to see the breakdown of the items used in each phase of the study. You can see that the data collected in phase one is the same for phase two. However, you will note that
there are similar techniques used in phase three and a number of other artefacts were collected in the final phase of the research process. Furthermore, from studying Figure 4.2, it is apparent that the case study involved the collection of data over a five-month period during 2007, which met the suggested current trends in case study research application by education research theorists (Gall, Borg, & Borg, 1996; Yin, 2003a).

When recording data, great care was taken to collect subjective understandings of each participant’s information, which avoided manipulating their data in any way (Bailey, 1991; Gay, 1996; Yin, 2003a). I used pre-existing codes/themes already identified by Gore et al. (2001) and also had flexibility within my research design to incorporate new themes gleaned from insights of informants during all data collection phases throughout the study.

Participants’ responses to semi-structured interviews were collected during the data collection period at the end of each phase. The interviews lasted up to 15 minutes, depending on the brevity of interviewees’ responses. The interviews were tape-recorded, transcribed, coded for key words, and comments were assigned in terms of specific components of the study (Burns, 2000) (Refer to figure 4.2, triangulation of data.).

The teaching sessions were captured on digital video by informants. Videoing the teaching sessions made it possible to record the behaviour of informants as they taught, which strengthened the research design (Burns, 2000, p.411). Video observations were made by all 10 informants in the study. As previously mentioned, they attended an information tutorial in week 3 to explain the use of the camera and
the techniques involved in capturing their comments and analysis in electronic format via SNAPPER software. The tutorial also included instructions on using the productive pedagogy reflection sheet and scoring manual, accompanying the self-assessment teaching rubric, as previously mentioned. I also addressed questions and gave clarification while allowing informants to practice operating the video camera.

Direct observation of teaching sessions took place, so I could collect any anecdotal evidence of the Challenge Course program, from the lecturer, as well as CC instructors’ comments to informants and capture informants’ comments about their teaching. This also allowed me to help informants with any technical problems with video cameras. During these teaching sessions two informants taught students while a third video recorded the session. During the three-hour teaching episode, these three informants rotated from being camera operator to teacher. This allowed them to average two hours for teaching and one hour camera operation per episode. This recording technique was repeated in phases two and three of the observation data collection schedule. (Refer to Figure 4.2 depicting the phases of data collection and rotation of roles.)

The collection of artefacts for the program and documentation of the EEU also provided other sources of evidence. In particular, the two assignments, which included their journal, were evidence required by the lecturer to pass the experiential program. All 10 informants provided an ungraded electronic copy of their assignments at the end of the unit. Assignment two, part B required informants to address five key questions devised by the lecturer to obtain a running commentary of their progress throughout the EEU.
Control of Errors

A number of control factors were considered when I designed the study. Firstly, the multiple sources were designed to collect data through written and verbal formats to allow all informants the opportunity to provide information about their experience as accurately and clearly as possible. Each phase of data collection helped to control errors in different ways throughout the study, for example, the semi-structured interview schedules helped to control errors, misunderstandings, and enhance reliability. (Refer to Table 4.1 for strengths and weaknesses of this case study.) Furthermore, the semi-structured interviews are advantageous as Burns (2000) suggests:

The informant’s perspective is provided rather than the perspective of the researcher being imposed; the informant uses language natural to them rather than trying to understand and fit into the concepts of the study; the informant has equal status to the researcher in the dialogue rather than being a guinea pig. (p. 425)

Nonetheless, semi-structured interviews have disadvantages, such as issues of disparity between interviewees, which can lead to difficulties in assessing and response coding (Burns, 2000). Burns (2000) stated that:

A major disadvantage is that the researcher is open to the vagaries of the informant’s interpretation and presentation of reality. This is a problem of validity, but, of course, if the informant genuinely perceives events in the way stated, then their behaviour follows as a corollary. (p. 426)
The interview schedule in this study sought to offset this problem, to some extent, by carefully crafting questions. This method of data collection keeps both interviewer and interviewee on topic and on track and allows a different way of reporting that favours the participant who likes to verbalise their response.

The observation technique required the use of digital video cameras to capture informants’ teaching sessions. I attended teaching sessions as a non-participant in a direct observer role, which allowed me to collect data and blend into the background without informants becoming self-conscious. Also the way in which the video observation task was set up allowed the focus to be diverted to a trusted peer to operate the camera while the other conducted teaching sessions. This allowed me to move from one team teaching group to another with little effect on the participant’s teaching performance. Through the course of the day I was also able to observe up to three groups at one time. My interaction with informants was minimal during teaching sessions, but when they did happen to interact with me or ask for help with the camera, I took on a role that would elicit cooperation, trust, openness and acceptance (Burns, 2000).

The video technique also allowed for a verbal response, but unlike the taped interview, it required the participant to know how to use a more complex process of analysis through the use of SNAPPER software and the productive pedagogy – classroom reflection sheet. The use of video footage to obtain observation data allowed me to address two possible errors. Firstly, the participant’s recall of their teaching sessions was enhanced, because they could watch themselves over and over, to assess their teaching capability and demonstrate their level of understanding of
their pedagogy practice. The second reason for use of the video footage was that it allowed me to analyse the participant’s teaching performance and compare it to their self-analysis.

Another data collection method to help control errors was the collection of assignment two, part B (Journal). This item helped informants identify concepts about their teaching over a longer period of time. This process gave them time to think and reflect over their pedagogy practice development, unlike the interviews which required informants to think more quickly, due to the verbal nature of the information gathering technique. Informants had more time to collect their thoughts and ideas during the concluding weeks of the EEU and they were able to refer to resources to help explain their thoughts. This method of data collection favours the participant who likes time to experience, reflect, and write.

As a result of these critiques in chapter 2 of criticism of Kolb’s (1984) research highlighting the limitations of his study. A conscientious effort was made in this case study design to address those criticisms of Kolb’s research. Hence adjustments were made accordingly to the design and selection of an appropriate learning theory that would suit the experiential learning setting. The selection of Kolb’s learning cycle model was based on the fact that Kolb’s work involved adult learners in particular university/college participants. His ELT reflects an experiential learning cycle that is still relevant in current times but latest researchers have highlighted the need for other social theory that does not require a background in psychology (Allen, 1998; Beard and Wilson, 2007; Illeris, 2007; Kolb and Kolb, 2005; Rogoff, 2003). The current times calls for use of social learning theorist like Rogoff (2003) who provide a strong
guidance for further robust research into social theory in particular the learning experience phenomena. Rogoff (2003) contributed to social theory research technique by suggesting the four lenses approach to analyse the learning experience. Rogoff (2003) is more appropriate theories who built on the works of Vygotsky to make social theory more relevant to today’s knowledge and practices of how people learn because she takes in the environment as another level of impact on the learning experience.

Neither the researcher nor this study was substantially disadvantaged by the lack of a “real” context because the research was directly applied to a real outdoor learning environment. My grounded academic and professional knowledge was acquired through conducting and observing many types of OE lessons in Tasmania (2001–2004), Victoria (2005–2011), New York State (1997) and Massachusetts (1999–2000) in the USA. Thus through years of grounded professional knowledge combined with academic knowledge of EEU, this allowed me to understand the context in which the study took place. This background also enabled me to possess a deep knowledge of experiential learning programs and intended outcomes for informants by having a grounded, contextualised understanding.

This research technique uncovered data from informants who had disparate experiences and capabilities. Having anticipated that their backgrounds varied markedly, I incorporated some flexibility to shape some of the semi-structured interview questions for phases two and three of the data collection points. All interviewees were given the opportunity to provide input for each question before the researcher moved on to the next question.
In terms of data entry, each participant was coded, so that multiple sources could be entered together as an embedded unit of data. Codes were given to male and female informants, so a correlation could be obtained for any issues that were gender specific. The gender of the lecturer was also recorded for the same purpose.

**Confidentiality and Potential Risks**

All informants, lecturer/ tutors, the head of program and the university were assured that ethical considerations and total confidentiality would be maintained at all times. Hence, only the researcher and their supervisor viewed the raw results. All informants’ data were coded, so only the researcher could decipher which embedded unit of data belonged to a particular participant. As stated earlier, informants were reassured that their grades were not affected by the researcher’s analysis. The researcher maintained an open, honest and unbiased communication with informants that encouraged them to be candid in their responses. I will now discuss the analyses of each data source and the overall analyses of all data sources in more detail.

**Data Analysis**

Triangulation mixed methods design for interpretation was selected for this study because both qualitative and quantitative data was given equal emphasis (Creswell, 2005) and researchers like Kolb and Beard and Wilson from the ELT research field have successfully used a mixture of qualitative and quantitative based research into
the experiential learning phenomena. They also suggest that future researcher into ELT should consider collecting both qualitative and quantitative data.

Creswell (2005) provided a number of designs for collection and interpretation of data when using a mixed method approach. When assessing what and how the qualitative and quantitative data would be collected in this study. It was important to answer the research question as in depth as possible so both data sources were viewed equally important to informing the study. By collecting both data from both qualitative and quantitative sources a full view of the informants thoughts that could be interpreted and discussed further in chapters 5, 6 and 7 of this study. Due to both data collection methods being treated equally according to Creswell (2005) then a “triangulated mixed method design” was chosen (p.514). The triangulated mixed method design would involve coding qualitative and quantitative date with themes that immerged from the data during analyses of the results. Refer to figure 4.3 for further

![Figure 4.3 Creswell’s (2005) suggested triangulated mixed method design with sources of data from this study inserted into the appropriate boxes.](image-url)
clarification of the data collection and analyses process, this figure depicts the quantitative data and qualitative data sources used during this study.

Furthermore according to Mathison (1988) “Data triangulation refers simply to using several data sources, the obvious example being the inclusion of more than one individual as a source of data. … to study the effect of an in-service program on teachers, one should observe teachers at different times of the school day or year and in different settings such as the classroom and the teachers' lounge” (p.14). The research design enabled me to use a formative evaluation approach to capture the development of teaching practices of OE pre-service teachers over time. Priest and Gass (1997) argue that this is a complex phenomenon to capture. Patton (1997) claims that the key purpose of a formative evaluation of this type is to improve a program—in this case formative evaluation was used to discover the impact of a program on the pedagogy practices of OE pre-service teachers “…rather than rendering definitive judgment about effectiveness” (p. 67).

“The value of triangulation is not as a technological solution to a data collection and analysis problem; it is as a technique which provides more and better evidence from which researchers can construct meaningful propositions about the social world. The value of triangulation lies in providing evidence such that the researcher can construct explanations of the social phenomena from which they arise” (Mathison, 1988, p. 15). This mixed method approach to capturing a view of the phenomena can lead to a worldview of the situation (Creswell, 2005; Mathison, 1988)
All informants provided their qualitative data sources before, during and at the end of the EEU, so that it could be formally analysed. By implementing a multiple data collection process Yin (2003a) stated that “the most important advantage presented by using multiple sources of evidence is the development of converging lines of inquiry, a process of triangulation…” (p.98). Therefore a case study design with a triangulated mixed method approach to research the EEU effect on informants is supported by education and ELT researchers such as Allen (1998), Bransford et al. (2000), Burns (2000), Cochran et al. (2008), Creswell (2005), Illeris (2007), Kolb and Kolb (2005), Pearce (2012), Punch (2005), and Yin (2003a). I coded both qualitative and quantitative data and they were equally important in the interpretation process to inform the narrative of the learning environment.

I imported interview data, electronic copies of participant’s assessment items including their journal, lesson plan reflections and logbook worksheet reflections, self-assessment of teaching from video footage using SNAPPER software (2006), my direct observations of teaching sessions and video footage of teaching performance into the NVivo 7 (2007) program. I sorted each participant’s data into folders in the internal sources section of NVivo. These themes formed a basis for possible nodes (meaning ‘codes’ in NVivo) for the data analysis project. Through this process I became immersed in the evidence.

The qualitative data was analysed using triangulation of unitising or themes, which involved the extraction of a word, sentence, paragraph or concept from each unit of information (Yin, 2003a). This technique enabled the entire text from an interview to be divided by, for example, the themes from each dimension that emerged from the
raw data. In other words, the individual transcripts from each interview and video observation along with the journal and assessment items were cut into separate nodes electronically using NVivo 7 software (2007), enabling those specific responses to be used in a variety of ways without becoming totally divorced from the original source. In fact, the multi-perspective analysis enabled changes to themes and codes as a deeper understanding of the data emerged over the course of the three phases (Burns, 2000). My supervisor also checked the transcriptions and data analysis, which added to the study’s strength.

Conclusion

This single case study with multiple embedded units (informants) of analysis employed a triangulated mixed method approach. This was due to the purposively selected informants providing the means for testing the research questions and theoretical model discussed in Chapters 2 and 3 (Bailey, 1991; Gay, 1996; Kolb & Kolb, 2005; Yin, 2003a). Therefore, the data had to be appropriately analysed without manipulation, using descriptive techniques. Multiple sources of qualitative data were used because of the complex nature of the outdoor teaching environment and the multiple ways in which informants preferred to report their respective journeys. This methodological approach allowed data to be collected from the same informants at different phases of the EEU. Support for a mixed method research approach in ELT field is also espoused by Kolb and Kolb (2005) when they identifying key aspects from Lewin’s research suggestions for future research in ELT that included a quantitative and qualitative look at the phenomena, adequate description of the phenomena and valid measurement and a capture an world view of findings (Kolb and
Kolb, 2005). Kolb and Kolb (2005) reported that “A theory developed by this process can be a powerful instrument for stimulating and focusing scholarly research conversation” (p.195). This supports the choice of research design and the choice of triangulated mixed method approach. This chapter also justified and described the nature of data collection, codification and analysis. I will now deliver the data analyses in Chapter 5 for phase one. Phase two is covered in Chapter 6 and phase three is presented in Chapter 7.
Chapter 5: Phase One of the Learning Experience

Phase one captures the first initial account of 10 informants’ transformation as they learn to teach over the duration of the first six weeks of the EEU. The aim of this chapter is to provide multiple realities of comprehension of teaching practices and offer a vivid picture of the informants’ experiences. The data were obtained from various qualitative sources during the informant’s class or natural setting. The sources include: one-on-one interviews, log book sheet reflections, informant’s self-analyses of teaching, my analysis of their teaching and my observations of their first lecture, tutorial and the three-day CC held outdoors, as described in Chapter 4. The data was triangulated between the informants’ many sources of artefacts and my observations and analysis of their teaching DVDs. There are also vignettes of each informant and some of their learning experiences that will be provided throughout Chapter 5 and again in Chapter 7.

Vignette of the start of the Experiential Education Unit (EEU)

It is the start of a new academic year and fifth semester for 48 third-year undergraduate students. I am standing at the back of the classroom talking to the lecturer and waiting for the pre-service Outdoor Education teachers to start wandering in. I’ve arrived 15mins early so that I can get all my research information and consent forms ready. I also discussed the lecturer’s final plan for the lesson with her and then placed myself in a discreet location to observe the lesson. During our discussion the lecturer decided that it was best that I observe the lecture and tutorial, and then towards the end of the session I could have the last 20mins to explain my research and my need for participants.

There were various reasons to observe the first lesson, which included collecting data on the logistics of the unit, and also to capture the explanation of the key components of the unit, to inform my research and also allow me to collect data with the least amount of disruption to the class schedule. I also made notes of my observation of the student’s reactions and behaviours towards the lecturer in this class for further understanding of where the students were starting their transformative journey.
In the pre class time I observed students walk in and sit down next to peers, smiling and joking with each other. There were many animated groups of excited students around the room, some giggling and laughing, and other groups were deep in conversation. The lecturer walked to the front of the classroom and did her final prep of lecture notes and adjusted the overhead screen, so that it would display a copy of the unit outline ready to start, and then talked to a number of students sitting close to the front of the classroom. Finally, around the time the lecture was due to start, the last of the students made their way in and sat down.

I sat quietly at the back as the lecturer started the lesson by welcoming everyone back from the summer break. Outbursts of excited comments started but the students were soon quiet and allowed the lecturer to continue. That is when I was introduced and a quick explanation was given as to why I was sitting at the back of the classroom. Some of the students were familiar to me from previous classes I have taught and now they were seeing me in the role of a researcher. It was then explained by the lecturer that I would talk to those interested in participating in my research in the second half of the tutorial.

The lecturer informed the students of all that was required of them during the unit. From a social constructivist point of view she framed the learning that was to take place over the next 13 weeks of the EEU. The framing of the learning involved the coverage of the unit aims and objectives and then she explained each of the major tasks involved. The students asked plenty of questions and already had a friendly rapport with their lecturer as she had taught them in their second year. I observed a number of students react excitedly to the news of teaching on the Challenge Course and that it would be filmed, so they could analyse their teaching. Other students were not so keen to see themselves on film and questioned the lecturer as to whether they could choose to be filmed or not. The lecturer allowed anyone who felt uncomfortable about the filming process an option of not being filmed and that seemed to address the students who looked uncertain. The lecturer explained the filming process and tried to address any concerns of privacy, reassuring her students that none of the teaching footage would end up on Facebook or any other internet media source. She asked the students to remain open-minded to the experience before they made any judgements about partaking or not.

The lecturer then started to discuss the unit topics and elaborated on the main focus of the lesson, which was risk management. She scrolled through her power point slides giving the students a lecture on risk and the outdoor industry and teaching. Once the power point slides were finished the students were given a 10min break. After break, the lecturer ran a tutorial that provided more opportunities for the students to talk and explain their own experiences in dealing with risk and risk taking behaviours, or risk in their classrooms. The lecturer then introduced the students to the concept of the ropes CC and its use as a tool to help them understand risk. Finally, for the tute, the lecturer gave the students a copy of the Productive Pedagogy Rubric and Handbook so that they could use this as a resource to help improve their outdoor teaching practices. She explained each of the areas and encouraged the students to read the handbook before their first teaching episode.
The final 20mins of the lesson soon came around and the lecturer handed the class over to me to discuss my research. I firstly invited anyone who did not want to participate or hear anything about my research to leave and four people left the room. I was not prepared for so many to stay. I went on to discuss the research and that I wanted to capture their thoughts about their teaching. I handed out participation forms, explained the logistics of data collection and that the only thing extra was to answer some interview questions about their teaching when they viewed their teaching footage.

Thirty-two informants filled in the form and gave it back to me before they left. I then had another nine forms returned over the coming week via internal mail. I explained the final points to consider and that they could pull out of the study at any time without any repercussions. Their lecturer stepped forward and reminded them to do their readings before the next class. I thanked them for their time and thanked the lecturer for allowing me to come into her classroom.

And so the journey of learning to teach began for the pre-service Outdoor Education teachers (informants of this study).

**Week 1: informant’s introduction to the EEU**

The first lecture and tutorial provided informants with an introduction to the unit, along with expectations, objectives, explanation of assessment items, and introduction to fieldwork days. They were each given a copy of the unit outline, the Challenge Course manual containing technical skills (like knot tying and handling ropes safely) and facilitation tips, the Productive Pedagogy Framework Handbook and Productive Pedagogy Rubric. They were also given instructions on how to access a copy of the lecture notes on MUSO (web-based classroom system). A vignette of each informant is provided throughout week one via observation notes.
The informants were given time to ask questions regarding any of the unit outlines or content and further explanations of assessment tasks with a brief overview of organisation for group teaching on the Challenge Course. Details of the unit guide, including assessment tasks, assessment rubrics, fieldwork expectations and unit schedule of topics and PP-CRS rubric can be found in the appendices C and D. When this information was covered thoroughly and informants had exhausted questions the lecturer started the introduction lecture on the topic of risk.

Vignette of Paul’s starting point
Paul was a 24-year-old and he sat towards the back of the classroom, next to a couple of his peers, and they talked while waiting for the lecture to start. He was quiet throughout the lecture and asked three questions during the tutorial. He participated in all activities during the lesson and paid particular attention to the use of video cameras that would be used in the teaching situations.

Vignette of Lola’s starting point
Lola was living in the local area of the university and was able to ride her bicycle to class in around 15mins. She was 22 when she participated in this study. She came into class and sat at a desk near the middle of the room. She also had dreadlocks. She sat and talked with a peer while waiting for the class to start. She took notes and asked three questions during the lecture and tutorial, but participated fully in all activities.

The lecturer finished the lesson with instructions on the use of the reading list containing current articles for informants to read before the next class. This week’s readings included Chapter 1 from the prescribed text “Outdoor safety: risk management for outdoor leaders” and a chapter based on experiential learning theory.
The lecture contained discussions on terminology of risk and a full discussion of implications of risk management.

Vignette of Tina’s starting point

Tina was early to class and chose to sit near the back. She was a 35-year-old mature age student and was returning to study after a 10-year career in a different field. She had driven to campus with two other peers in a carpool from Melbourne and was now sitting next to them. When class started Tina asked questions throughout the lecture and tutorial and participated in activities; she also demonstrated that she had already completed some of the readings and was asking questions from her comprehension of these readings.

The lecturer invited me to talk in the last 20 minutes of her class to explain my study and my need for informants. I offered clear instructions: informants would be asked to participate in a one-on-one interview, if they wanted to, otherwise they were already doing assessment tasks, journals, logbooks, videotaping, and peer teaching. All of these artefacts were ideal for obtaining their level of understanding and thoughts about their teaching practices. I also handed out a consent form and gave them time to think about whether they wanted to participate.

Vignette of Mark’s starting point

Mark was another student who had travelled from Melbourne to class. He had a slightly different study focus and was working on a double degree in management and education. He explained that he was going to pursue a career in sport and outdoor recreation management, but he was also keen to build up his teaching skills, in particular his facilitation skills, just in case he wanted to change his career to one in teaching at a later date. The 21-year-old had less teaching experience than other informants to date.

Some informants signed straight away, while others filled in their permission form over the coming week. I was then left with the task of selecting 10 informants from the 41 students who were willing to participate in the study. All students were given an option of whether they wanted to be videotaped and the majority were eager to use this new technology to view their teaching performance.
Vignette of Betty’s starting point
Betty wandered into the first EEU class after a two-hour drive from Melbourne. She sat down towards the front of the classroom and started to chat and laugh with two of her peers. When the lecturer started the class, she stopped her chatting and directed her attention to the front of the classroom. She had a copy of the unit outline in front of her and proceeded to make notes. The 22-year-old female pre-service Outdoor Education teacher had dreadlocks and dressed in clothes suitable for working outdoors. When I collected the consent forms, she was friendly and willing to share her thoughts about her teaching.

Vignette of Mary’s starting point
Mary had driven to campus from a country town 45mins from campus. She sat with peers and quietly chatted while waiting for the lecturer to start the class. Mary was 22 and asked a number of thoughtful questions during the tutorial and lecture to obtain clarity on assessment items and task requirements. She took notes and showed interest in class activities.

Vignette of Bronty’s starting point
Bronty was the second youngest in the class at 20 years old and she sat with Jackie and another peer. She was quiet throughout the whole lecture and tute but took notes. She had travelled in from a farm that was an hour away from campus.

Vignette of Lesley’s starting point
Lesley sat closer to the front of the class with two other peers. She was 22 years old and asked a lot of questions and displayed full engagement in the lecture topic. She organised peers into a group when they had certain activities to complete. She was showing a great deal of interest in the EEU subject. She had driven from Melbourne with two others.

Vignette of Jackie’s starting point
Jackie was early to class and took a seat at a desk in the middle row of the room. She had not driven far, in fact, she lived in the local area to the university campus. She was 20 years old and was the youngest in her peer group. She was joined by two others not long after she arrived, so they sat quietly talking. Once class started they stopped talking and turned their attention to the lecturer. She was quiet throughout the whole class and did not ask any questions, but was jotting some things down on her notepad.

Vignette of Steve’s starting point
Steve was 10 minutes late to class. The 21-year-old looked dishevelled and took a seat at the back. He quietly sat on his own and placed his bag on the ground as he sat down. He had just driven up from a small coastal town, one hour and 45mins from campus. He sat throughout the lecture and tutorial without taking any notes or asking any questions. He did partake in activities in class and joined a group when the activity required it.
Table 5.1: Informants demographic details

<table>
<thead>
<tr>
<th>Pseudonym Name of Informants</th>
<th>Age</th>
<th>Gender</th>
<th>Prior teaching experience</th>
</tr>
</thead>
<tbody>
<tr>
<td>Paul</td>
<td>24</td>
<td>Male</td>
<td>Practicum during Year 1 and 2 B.Ed degree. Coaching for 6 years.</td>
</tr>
<tr>
<td>Lola</td>
<td>22</td>
<td>Female</td>
<td>Practicum during Year 1 and 2 B.Ed degree</td>
</tr>
<tr>
<td>Tina</td>
<td>35</td>
<td>Female</td>
<td>Practicum during Year 1 and 2 B.Ed degree.</td>
</tr>
<tr>
<td>Mark</td>
<td>21</td>
<td>Male</td>
<td>Nothing formal. Coached for 2 years</td>
</tr>
<tr>
<td>Betty</td>
<td>22</td>
<td>Female</td>
<td>Practicum during Year 1 and 2 B.Ed degree</td>
</tr>
<tr>
<td>Mary</td>
<td>22</td>
<td>Female</td>
<td>Practicum during Year 1 and 2 B.Ed degree. Coaching for 5 years</td>
</tr>
<tr>
<td>Bronty</td>
<td>20</td>
<td>Female</td>
<td>Practicum during Year 1 and 2 B.Ed degree</td>
</tr>
<tr>
<td>Lesley</td>
<td>22</td>
<td>Female</td>
<td>Practicum during Year 1 and 2 B.Ed degree</td>
</tr>
<tr>
<td>Jackie</td>
<td>20</td>
<td>Female</td>
<td>Practicum during Year 1 and 2 B.Ed degree</td>
</tr>
<tr>
<td>Steve</td>
<td>21</td>
<td>Male</td>
<td>Practicum during Year 1 and 2 B.Ed degree</td>
</tr>
</tbody>
</table>

The demographic details of the informants of the study are included in Table 5.1. Please note that as stated in Chapter 4 all informants of the study were given pseudonyms to protect their identity. Also note that there were seven females and three males included in the study. The average age range was in the 20 – 22 age bracket but there was two older students also involved in the study. Nine out of the 10 informants were currently studying a bachelor of education degree and had participated in 15 – 20 days of practicum during their first and second years. Although there are 10 informants in the study they have a variety of differences which help to represent a variety of views and this is reflected in their data.
Week 2 of Experiential Education Unit

The second lecture was focused on ‘Perspectives on Risk’. The lecturer and informants explored the concepts of risk, risk taking behaviour in adventure and acceptable / unacceptable levels of risk. The levels of risk were explained further to informants by expanded discussion on the meaning and application of absolute risk, residual risk and perceived risk. Further discussions focused on how these risks impacted on rational and linear thinking, technical knowledge, and decision making as a teacher / leader and students’/clients’ perceptions. Details of Week 2 lecture notes and the readings list is located in the unit guide and both artefacts can be found in appendices C and E. Finally, informants were prompted to review readings on the subject of fatalities in OE in Australia. The lecturer finished off the lecture notes by asking students to think about “How might this information change your practice, if at all?”

The tutorial topic for the day was dedicated to reviewing the assessment task one. The informants were given time to ask further questions about the assessment task. The assessment rubric was discussed and a copy of the type of referencing expected in their paper was also given out and explained in great detail. Informants were instructed to form groups of four with their peers, ready for the CC facilitation training days, and the two teaching days. Participants were provided with a copy of the schedule of the “Introduction to CC Elements and Facilitation Days” (refer to the Appendix C) so they could start preparing for the experience by completing readings, and acquiring the right equipment and clothing to participate in the CC activities.
At the end of class I spoke to informants who had agreed to participate in the study. I gave them a form to record their levels of interest in teaching and their current ability to teach. Table 5.2 depicts the perceived level of how important it was to them to develop their teaching practices. This table also shows the rating that informants gave their own teaching ability at the start of the EEU.

Table 5.2: A self-analysis by the pre-service Outdoor Education teachers of their teaching ability and desire to improve their teaching in Week 2

<table>
<thead>
<tr>
<th>Informants in Week 2 of semester</th>
<th>Pre EEU self-assessment of teaching ability</th>
<th>Pre EEU level of interest to learn new teaching abilities and expand their understanding of teaching</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tina</td>
<td>4</td>
<td>6</td>
</tr>
<tr>
<td>Betty</td>
<td>3</td>
<td>6</td>
</tr>
<tr>
<td>Bronty</td>
<td>3</td>
<td>7</td>
</tr>
<tr>
<td>Jackie</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Lesley</td>
<td>5</td>
<td>7</td>
</tr>
<tr>
<td>Mary</td>
<td>3</td>
<td>7</td>
</tr>
<tr>
<td>Paul</td>
<td>4.5</td>
<td>6</td>
</tr>
<tr>
<td>Steve</td>
<td>4.5</td>
<td>7</td>
</tr>
<tr>
<td>Mark</td>
<td>3</td>
<td>5</td>
</tr>
<tr>
<td>Mean (SD) n=9</td>
<td>3.78 ( 0.79 )</td>
<td>6.22 (0.83)</td>
</tr>
</tbody>
</table>

Note. The scale for the results of this table is as follows; Teaching ability scale: 1 = very weak ability, 2 = mostly weak ability, 3 = some weaknesses, 4 = average some strength, 5 = mostly strong ability, 6 = strong ability, 7 = very strong ability. Additionally the scale for the results of Importance of developing their own teaching skills is as follows: 1 = not important, 2 = very little importance, 3 = little importance, 4 = some importance, 5 = mostly important, 6 = important, 7 = very important.

Nine out of the 10 informants completed this part of the study, with the exception of Lola who was absent. Table 5.2 indicates that all informants perceived on average that they had some weaknesses and rated their teaching ability in the mid-range of the Likert scale (1–7). This rating is realistic as they are only third year pre-service teachers at the beginning of the EEU. Table 5.2 also shows that the informants rated learning more about their teaching abilities and practices as important or very important to them already, which matches with all informants’ ambition to become a
teacher in the future. Jackie also said that “teaching is certainly not easy, confidence is very important and this experience is going to help me develop my teaching skills”.

**Week 3 of Experiential Education Unit**

The third lecture explored the topic of ‘Risk Taking’ in an adventure setting and its role, if any, in the education setting. The question was “Have adventure programs and OE programs eliminated too much risk?” The tutorial followed on from the lecture and included a discussion on the Adventure Education philosophy from Project Adventure, which involves the use of a full value contract to help with devising rules of behaviour for the day as well as defining outcomes the program participants would like to achieve. The Challenge by Choice philosophy was also discussed and examples were given.

The Experiential Learning Cycle was explored and this lead to the discussion on “Elements of Experiential Learning” so that informants could start thinking about their own teaching practices in the outdoors and how they might apply these theories to a learning environment. The implications of these theories were discussed and informants were asked to explain how this would impact their teaching practices and facilitation approaches in the coming weeks.
**Week 4 of Experiential Education Unit**

The topic ‘Risk Management 1’ was covered in the fourth lecture. The tutorial had informants access their CC manual and start to practise some of the knots required on the teaching days. The whole class was divided into two groups, ready for the CC elements and facilitation days. Group A went through the three days in Week 5 and Group B went through the same three-day experience in Week 6.

I attended the last 30 minutes of this class to teach informants how to use the video camera and how to capture the image of informants teaching. Most informants were familiar with the operation of the camera and were confident they could avoid capturing images of any CC participants including both high school and first year university students. The informants had time to practice full operation of the camera and conduct mock scenarios to gauge how close they needed to be in order to capture good audio levels.

**Week 5 of Experiential Education Unit**

This week all members from Group A attended class. They had two instructors and their lecturer, who led the activities and also taught theory of the content in the schedule (see in the unit guide in appendix C) for lecture and tutorial notes for Weeks 5 and 6. The instructors and lecturer taught for the first two days and gave plenty of examples of managing risks on the CC. They also provided examples of some different ways to teach specific activities and what some of the possible outcomes could be for groups. The instructors and lecturer also showed the group how to adjust the level of challenge for each element, if they were too hard or easy for their
students. On the first day, in the last 30 minutes of the day, group A members were asked to get into their teaching groups. They were told to prepare for peer teaching time on the third day. On the second day of the course, further instructions on how to prepare for their peer teaching session were given. On the third day the teaching groups were asked to teach one warm-up game, an initiative game and an element to their peers. I handed out cameras and at the end of the day informants returned the cameras to me and I processed the footage by slicing it up, so that it only contained one informant’s teaching on a DVD for viewing later. I also observed the lecturer provide informants with time to practice their teaching skills in this new skill/context, and also provide further instructional practice on each of the CC elements as a revision for the whole class. The lecturer also allowed time for peers to learn from each other and share ideas, and finally, the lecturer and instructors provided informants with immediate and specific feedback on their teaching practices.

**Week 6 of Experiential Education Unit**

The lecturer declared that this would be a reading week and no formal lecture would be delivered due to the extra time informants were putting into teaching days. Group B still completed their three-day CC and facilitation program (3–5 April 2007).

Group B had the same lecturer and CC instructors and received the same activities and content (Appendix C) as Group A in Week 5. Again, the lecturer and two instructors taught for the first two days and gave plenty of examples of managing risks on the CC. They also provided examples of how to teach and facilitate specific activities and indicated what some of the possible outcomes could be for groups.
Again Group B was shown how to adjust the level of challenge for each element. On the first day Group B members were asked to form a teaching group (maximum of four people), and prepare for their peer teaching on the third day of the course. Further instruction for their preparation was given on the second day as for Group A. On the third day it rained, so the teaching groups were asked to teach one warm-up game, an initiative game and an element to their peers in the gym, and they received support in adjusting their programs for indoors. The lecturer provided group B informants time to develop their teaching skills in this new skill/context, and also provided further practice on each of the CC elements as a revision for the whole of group B, and then provided time for peers to learn of each other and share ideas (the same as provided to group A). The lecturer and instructors provided feedback to group B informants.

The EEU impact on the informant’s learning

The EEU impacted on the informant’s thinking and various themes were identified from within their data. Themes such as risk (physical or mental, and real or perceived) and facilitation were the two main concepts and teaching practices to be mentioned by most informants. Some informants also discussed sequencing, acquiring ropes ‘hard’ skills (technical skills like tying knots and putting harness on safely), planning, and to feel confident and comfortable in their new teaching role.

Betty, Tina, Mary, Jackie, Bronty, Paul and Steve all acknowledged that the first theme of risk, risk taking and perceived risk were a new concept to them. They mentioned that they had already started to think about risks associated with everyday activities but in particular within outdoor activities. The informants also
acknowledged that risk management was an important skill to have as an Outdoor Education teacher and this was also the objective of the first six weeks of the unit.

Betty and Bronty acknowledged that they felt quite worried about the risks involved with teaching in the outdoors. Bronty said “Risks are quite scary” and Betty further explained her uneasy feelings about teaching outdoors as “I’m scared of risks, nearly makes me turn off teaching outside activities with all the worry about risk for peoples safety! Just makes me more careful,” thus both felt uncomfortable about teaching outdoors. This whole concept of teaching outside on the CC was stressful for some of the less experienced informants and nearly prevented them from continuing.

Informants were exposed to information in lectures, tutorials and readings on planning that would lower the risks of outdoor activities. These concepts helped the informant develop an awareness of the importance of good planning. Good planning incorporated good understanding of the strategies to manage and lower the chance of mental or physical injuries or harm. Informants discussed their understanding of how they could lower risks in their lessons. Tina, for example, mentioned that she “acknowledge[d] that there is real and perceived risk…and I plan to incorporate ideas to deal with and minimise risk”. Furthermore, Mary stated that “Challenge Course days were intense, long and hard but I learned a lot from it. Risk plays an important role.” Finally, Jackie said “I’ve learned that there are a lot of risks involved with running outdoor activities and I’ve learned how to run safe activities on the Challenge Course ”, which highlights that some informants had learned to run outdoor CC activities safely.
The EEU has also alerted some informants to risk and how to manage it better. One informant in particular stated that his teaching practice would change in the future because he has now learned about risk and its importance in planning. Steve stated that he identified “Risk and how to manage it better” and, in particular, “I will consider the risks about an activity more; in the past I’ve been ‘not unaware’ but I guess not thought about it”. Here Steve is showing here that he has a deeper understanding of the concept than he previously thought.

The EEU first six weeks aimed to prompt informants to think about risks involved in outdoor activities, but also the stress that they will be asking their outdoor participants to endure when undertaking challenging activities, and to also acknowledge that there are acceptable (positive stress) and unacceptable (negative stress) levels of risk. One informant, in particular, demonstrated his deeper thinking about risk by making connections to risks placed on his outdoor participants. Paul mentioned, “I’m also thinking about how much is too much risk, how it affects the individual participants”. This indicates an awareness and deeper consciousness of how his planning activities may affect participants in a stressful way. This informant identified the complex decision of choosing the right level of challenge for participants and he was grappling with how to manage it in his teaching practices.

The second theme to be highlighted from the data was informant’s thoughts about teaching practices and theories that would improve their facilitation of the CC activities. During phase one of the EEU informants learned a few theoretical and practical concepts that would improve their teaching practices.
Some informants noted that they learned new concepts and ideas, for example, Paul mentioned “I’ve learned about theoretical concepts like challenge by choice, extrinsic motivation, risk as an educational tool, group dynamics and also the role of reflection and debriefing during experiential activities”. Paul’s awareness of teaching concepts was also identified by Lola who commented “I learned about theoretical concepts like experiential education, challenge by choice, adventure experience paradigm, and leadership style like autocratic-democratic-abdicratic”. Both identified key ideas from the theory and practical components of the EEU.

Another informant detailed her thoughts on facilitation and teaching and demonstrated a deeper level of understanding. Lesley for example considered that:

Themes (framing) are creating a more exciting experience, create a great adventure… use of imagination to motivate students… Pedagogies for various learning needs, physical abilities like different body types and competencies, mental abilities like fear and challenge by choice, communication variation so verbal instructions supports demonstrated instructions.

Lesley identifies some aspects that Lola and Paul also identified, but she also applies a level of creativity, taking the learning needs of her future students into consideration.

Two other informants had different ideas about how to improve their teaching practices. Tina, for example, mentioned: “Getting my teaching points succinct and generally feeling comfortable in the role of a teacher”. Betty also made a brief comment: “I have learned about facilitation of initiatives and potential or perceived risks, yeah and real risk” and she recognised two concepts that can improve her outdoor teaching practices during the EEU.
The teaching practice of being able to sequence activities was a third theme identified in the data. Informants made comments on the activities they were asked to participate in, when they were doing the CC facilitation training days. Two of these informants identified sequencing as a major part of planning activities and Lesley pointed out, “I’ve learned that progression of activities can play a major role on the effect an activity has on students learning.” This was because they had learned that it would impact their CC participants. Furthermore Betty revealed that during the EEU “I was able to explore the concept of sequencing especially the aim of each type of activity whether it is a socialising game or group initiative (problem solving), then there’s a low rope element to build teamwork, or you can use a high rope element to encourage individual growth and empowerment” thus combining sequencing and the objective for each type of activity to produce a suitable learning experience for her future students.

Acquiring ropes hard (technical skills, such as tying knots, and safe practices, for instance, putting harnesses on safely) skills were the fourth theme to appear in the data. Two informants, in particular, pointed out that they felt they had acquired some new technical skills that would help their teaching practices. Tina and Betty highlighted that the EEU had taught them a lot about teaching on a CC (Challenge Course). Tina said, “I learned a lot about challenge course hard (technical) skills” and this was supported by Betty’s comment: “I have learned about ropes skills” which is what the EEU was designed to do. This component of the unit was a major learning point but only two informants commented on the significance of learning the technical skills.
The final teaching practice theme identified from within the informants’ data related to their feelings of confidence and comfort in their new teaching role; this theme will be discussed further in the second underpinning question of the informants’ learning during phase one of the EEU. Tina for example said she would “try to feel comfortable in my role as an Outdoor Education teacher!” and adjust her teaching approach to “…become more confident but I’m possibly too analytical”. This line of thinking was supported by Betty’s response: “I need to practice how I will introduce an activity to a group so that I can be more confident”. Betty also commented that she would try to “relax more, don’t look so worried, and be confident in what I’m saying” before her next teaching experience. Other informants in the study mentioned this aspect as well, and that it influenced their thoughts about teaching or showed them ways to improve their teaching next time. This will be discussed in more detail in the next section.

EEU influence on informant’s thoughts about pedagogy practices

Lectures and tutorials had an influence on informants’ thoughts about risk planning. However, the peer teaching session on the third day of the CC had the most influence on informants’ thinking about their current pedagogy practices (PP). A variety of teaching practices were discussed by informants during this session. These related specifically to teaching to peers on the CC as practice for the two other teaching days when they would teach real participants. Some informants reported a number of aspects that influenced their pedagogy practices, while others felt that this was a great opportunity to build confidence in the teaching role, on the other hand others could
see that they needed to work on clear communication as a result of the their experiences so far in the EEU.

The first theme to emerge from the data was informants’ own reflections about learning teaching practices during the EEU. Lola commented on a variety of aspects to improve her teaching practices:

Facilitating the experience after each activity was far too often, even though we were learning how to run the activities, however a debrief (reflection) at the end of the day is beneficial…I won’t say that I changed dramatically as a result of participating in the program as a person, but I feel that I have definitely changed in terms of leadership.

After the first teaching session Paul was asked to identify whether his approach to teaching changed. He answered “I don’t believe so” but then he went on to explain that he would consider changing:

More group participation, rather than simply instruction from leaders…maintaining eye contact and possibly improving body language and stance…Yes I have reflected a little on the experience and I have recognised some key ‘professional points’ that I need to build on, to be at a personally acceptable level.

He was aiming to make these changes before his next teaching session. Paul wrote many in-depth answers upon reflection of his teaching in his Outdoor Practical Log book work sheet. I have included one example: “Only from the use of the video did I realise that I needed to give clearer instructions and also do a little more thought and justification about type and sequence of activities”. Another informant also found the filming of her teaching performance beneficial. Betty stated that she was

…not going to be so self-conscious or look like I’m not confident; the video made me look like I was scared, I probably felt uneasy…I let others take over
and avoided teaching but I will do better next time! I also need to think about better sequencing of activities, which is important.

This was how she aimed to improve her teaching. Betty felt that it was important to think of the comfort level of participants and stated that “when you help participants with harnesses/helmets, you should be sensitive of their personal space by asking them if they mind if you help adjust the harness” before assisting participants with their climbing harnesses.

Mary felt completely at ease with teaching during phase one. She said: “… no change to [my] teaching approach. I’m still focused on improving my teaching… and I felt comfortable teaching” so she remained focused on improving her teaching. From my observations of the CC teaching session, she was very focused and competent at teaching, but was unsure of implementing some of the new outdoor activities.

While Lesley briefly stated: “I need to work on a variety of pedagogies for all needs, and the use of debriefing” which is all encompassing. She specifically identified debriefing (reflecting) as a skill to further develop.

Lesley is at one end of the spectrum and advancing her teaching ideas while Mark is at the other end, developing teaching ideas from the beginning. This is demonstrated in that Mark identified a couple of aspects to improve his teaching after his first teaching session. He planned to improve his teaching: “I’m going to be better planned and won’t try to wing it. I’ll try to get activities that not only progress [my teaching practices] but are also fun.” Mark describes a very basic or introductory level of understanding pedagogy practices and the role of the teacher. Steve did not suggest
any improvements to his teaching at this time: “Yes I will plan to manage risks”,
which shows that his focus at this point is on management, rather than teaching
practices.

The EEU provided informants with an opportunity to build their confidence as
teachers. This confidence building was not stated in the objectives of the unit but it
happened over the course of six weeks. Some informants already felt they had
increased their levels of confidence as teachers by having to teach in front of peers.
For instance, Tina stated:

Yes I want to work on my confidence—speaking in front of peers and others
(instructors and lecturer) is quite challenging… I felt awkward and clumsy
teaching in front of peers, but I think it was good for me, and I felt better about
it once I had done it.

This shows that she is challenging herself and feels quite awkward in front of peers;
but now that the teaching session is over she feels that she has really overcome her
fears and feels better within herself. Tina was not the only informant to find the peer
teaching session challenging. Lola reported:

I have more confidence in my own abilities to lead a group on the challenge
course, in all elements. The majority of this confidence in my abilities was
developed and then also proven to me during the teaching days because it was
dependant on me and my abilities. I felt I planned my section of the day well
with my partner and the session ran smoothly, so I now have confidence in my
ability to work with others and plan a challenge course session for participants,
which have only come about through my participation in the experiential
program.

Lola has gained confidence through practising her teaching ideas and applying her
planned sequence of activities and now she knows they will run smoothly; she is
relieved that she was able to practise on her peers first. Lola added: “I feel more able to work with others on the CC or in an experiential activity lesson”.

Another perspective that was shared included views of not being confident enough. Bronty specifically said: “I will try to improve and build my confidence” before the next teaching session. Here Bronty has identified having confidence as an important aspect to having a good teaching ability.

Finally, Jackie noted from another perspective that “I found it hard to teach peers—it was very scary because they know if you make a mistake”. Accountability of accuracy of content to peers was a challenge at this point for Jackie, but she felt that it was an important issue to overcome in order to improve her teaching ability.

The final theme identified in this data focused on the importance of clear communication to improve teaching practices. Two informants noted the importance of clear communication by committing to changing their level of communication before their next teaching session. Bronty stated: “I need to practise my explaining and be clear”. This was also supported by Lesley, who also identified “clear communication between peer teachers and my clarity of explanation of the task to participants needs work.”
How the experience contributed to development of pre-service teachers’ understanding of quality teaching practices

Informants reflected on their peer teaching session with the instructor and lecture immediately after the session. However, it was not until they saw film footage of themselves teaching that they started to make connections between what they think they do, what peers, the lecturer and instructors say they do, and what they actually do when teaching.

They identified several themes that contributed to their understanding of quality teaching practices during the first phase of the EEU. Various themes emerged including clear instructions, confidence, facilitator skills, more preparation time, and management considerations for participants’ safety, use of problem solving, considerations for teaching outside, and team teaching, but especially its effect on confidence. Another factor identified at this point is the importance of knowing what good teaching practices encompass, before conducting self-analysis of teaching.

Informants identified aspects of their teaching performance that they aim to work on and improve before their next teaching session, which involves teaching first year university students from the Bachelor of Primary Education degree. Some informants identified giving clear instructions so their sequence of educational experiences would run smoothly as an important teaching skill they would work on before their next teaching session. Lola said:

“I’m going to make sure I know the activities I want to run, they are set up in advance and I have run through them. I’m going to use a palm card, so it can help me keep on track and the activities run smoothly.
Mary identified that she needed to work on framing: “I’d like to work on my stories to frame the activity… and give a simple, clear intro to activities” and that she would try to implement this approach in her next teaching session. Betty, Steve and Tina all identified that they would work on clear communication before their next teaching session. Betty’s response was “I need to practice how I will introduce an activity to a group so that I can be more confident… and this will help me give clear instructions”. Steve said that he would “be more concise and direct in instruction”. While Tina also identified “clear communication for the activity” and “not rushing through content – I have a tendency to want to blurt everything out, rather than relax and let it flow”.

Another aspect of teaching identified by the informants was “enacting strategies to improve confidence and use body language” that emits confidence. Bronty confided “I’m going to practice my explanations so I can be more confident in my presentations. I looked so serious and stressed in my video”. And Betty made similar remarks: “relax more, don’t look so worried, and be confident in what I’m saying”.

Mary felt that this practice session was “hard with peers but it should be easier with school groups”. The lecturer thought it would be easier to practise the new CC activities with peers so they could help each other, if they got stuck, or forgot a safety aspect. Some informants found teaching peers quite confronting, even those who felt confident about their teaching from the start of the EEU.

Improving facilitation skills was another aspect informants suggested would improve their overall teaching skills. Improving facilitation skills was a way to encourage
them to engage with their thoughts and share ideas while partaking in CC activities
and teaching their peers activities. Betty commented:

As a facilitator, I need to watch for all participants contributing and listening
to ideas and be aware of people’s physical safety, but also their psychological
safety.

While Mary gave another perspective: “I have to be flexible…be more assertive at
times” in order to change roles depending on group needs as they tackle challenges.

Another aspect of teaching acknowledged by informants was to give more time to
preparation. According to Jackie, the aspects she would change before her next
session of teaching in the EEU, was to do “more preparation, know what I am
teaching, not just ‘winging it’”, and recognised the need for further planning: “make
sure you have a backup plan”. Mark stated:

I would like to know content before taking it, be more organised and spend
more time in the planning process, researching different aspects that need to be
covered. Also going over content I’m supposed to know for the subject.
These participants have identified important aspects of teacher preparation skills.

One more important aspect identified by Mary and Lesley was management of
participant’s safety during teaching. Mary suggested that she would “keep an eye on
participants on high ropes at ALL times and I need a lot more practical experiences”
while Lesley stated that she aimed “…to be safety conscious, but not emphasising it
too much, so as to take the focus off the activity; I needed to decide on what safety
components I would mention to peers, although there were many—sequencing of
activities is important too”. This aspect is the main focus of the unit and it has only
been alluded to by two informants at this stage of phase one.
Only one informant identified a need for using appropriate problem solving in teaching technique. Mary suggested that she would change aspects like “don’t give away answers” when she is setting up a challenge for participants to solve. Another aspect included consideration for teaching outside. Again, this was mentioned by only one informant. Jackie said that “by doing the challenge course you need to be aware of your surroundings. I find now I like to know what is going on around me”. Interestingly no other informants mentioned any special consideration for preparing to teach outside, other than Jackie, who noted wet weather, for example, as a planning aspect for her to work on before her next teaching session. Furthermore, learning to teach with a problem solving approach is a fundamental teaching skill for teaching many outdoor experiences, because experiential learning is dependent on activities based on problem solving.

Learning to team teach has its own problems to overcome and most informants commented on the fact that they felt it was very challenging to teach in front of peers. Bronty, in particular, said “Yes after teaching in front of peers I think it will be easier to teach others, so yes I’m relieved but feel more confident”. Also Jackie after reflection said that “I was pretty quiet so I will try to be more enthusiastic, but that was because I felt uncomfortable teaching with peers”. Mark also suggested that he needed to “appear more confident” for when he teaches next time. Even though the lecture specifically allowed informants to form their own teaching groups in tutorials in Weeks 2 and 3, they still found it quite challenging to teach in front of peers.
Other factors that affected team teaching experiences included using thinking skills like decision making, conflict resolution and sharing the teaching load. Paul mentioned a scenario that took place in his group which “allowed for some lively discussions in our group about types of questions to ask during reflection of an activity; some peers disagreed and this bogged us down when trying to decide on our approach to reflection of an activity”. The aspect of sharing the teaching load and team teaching without taking over was explained by Steve when he acknowledged that he would “Try not to interfere too much with others’ teaching” at the next teaching session.

The final theme arising from the data is just as important as the other themes identified so far. This theme focuses on the issues that can arise from the informants’ lack of understanding of what good teaching practices encompass and can lead to an inaccurate perception of one’s ability to teach.

One informant, in particular, gives a good example of what can easily happen in this teaching situation. When asked to comment on how he will improve his teaching performance next time, Steve replied: “My teaching performance was good, I was happy with my teaching performance but I guess I could... [pause] I’ll think about it a bit more. I don’t like the challenge course setting; it’s a bit static but anything that doesn’t involve surfing is a bit static for me”. From direct observation of Steve’s teaching it was clear that he had a number of aspects to work on to improve his pedagogy practices and his teaching ability. Steve is giving his full account of the situation but his limited knowledge of good teaching practices is hampering his ability to identify where he can improve or areas he needs to work on.
Discussion

This section will address question one of this study obtained from phase one data. First, it will explore informants’ thinking about risk at this stage and then facilitation, followed by sequencing of lesson plans, acquiring ropes CC skills and finally, an unplanned objective that was obtained during phase one.

At this stage of the study the productive pedagogy teaching practices explained in full in the handbook and the rubric were only slightly mentioned by informants but not directly referenced at any time during this phase of the study. Informants had received a copy of the handbook and rubric in Week 1 and it was referred to in tutorials when discussing ways to develop good outdoor teaching practices. None of the informants used it to guide self-analysis of their teaching or in providing feedback to peers.

During phase one many informants felt they could manage the risks involved in the activities they intended to use in their teaching. However, it must also be noted that two female informants felt stressed about teaching activities outdoors and they were nearly ‘put off’ teaching outdoors. A couple of informants were also nervous about teaching in front of peers in the outdoors, especially with new activities, but they managed to overcome their fears and felt more prepared for their next teaching experience. Informants expressed fears they held before tackling a teaching scenario.

Over this six-week time span informants became aware of the possibility of too much risk if they did not plan their lessons well. A couple of informants recognised the significance of getting the right level of challenge or the learning experience could
contain more negative, stressful situations that would outweigh the objective of the experience. So they were finding it difficult to find an appropriate level of challenge for their participants.

Also during phase one an informant highlighted that he had run other outdoor activities and admitted he paid little regard to safety procedures or processes because he was unaware of them. Even though safety was implied by doing the activity; it is not always appropriate to assume outdoor students learn about safety unless it is specifically mentioned in the learning experience. This is a good example of a third year pre-service teacher who has completed over 45 days in the field to date. Yet some still miss the many points to risk management, if they do not do the readings and make links between theory in the class room and theory in an experiential setting, where safety is directly applied as it is discussed.

The next theme discussed by many informants centred on facilitation skills. At this stage of the study informants provided insight into their level of understanding of facilitation skills adding to their overall teaching ability. A couple of informants recognised that facilitation could develop their teaching ability by helping them understand theories like ‘challenge by choice’ in their approach to teaching challenges. A couple of informants made advanced observations of their teaching by identifying the need to use extrinsic motivation techniques to cater for their students’ needs. Also the need for a variety of teaching approaches was necessary to cater for various learning needs or abilities—either physical or mental—of their students.
Another theme identified by a couple of informants focused on sequencing and lesson planning; this theme (along with previous themes) was strongly covered in their lectures, tutorials and CC preparation days. These informants explored sequencing of activities and came to the conclusion that it was important and could play a vital role in enhancing their future students’ learning. Informants also mentioned that concepts during most of the CC activities could encourage students to learn about building trust and confidence during socialising games; they could then move on to more challenging tasks that build teamwork or encourage individual goal setting or other personal growth skills. From my own personal observations of informants during their whole group reflection of the CC facilitation days, sequencing of activities was discussed in-depth and how these activities link to certain outcomes which need to be considered in the equation.

A fourth theme mentioned by informants during this phase of their learning was the significance of learning or acquiring new ropes skills and new CC technical knowledge, which was a major reason the CC was used in this unit. Learning new technical skills, applying risk management techniques and having a place to practise outdoor teaching skills in controlled environments was the aim of the CC days. Some informants were pleased to pick up a new skill set of teaching in a different outdoor activity. Only two informants however referenced that they had learned a lot from the use of the challenge course. One informant did not like teaching on the CC and found it a challenge to not get bored. This highlights the fact that Steve has not realised at this stage that teachers need to try to avoid their own bias because it can negatively influence the learning experiences for his students.
A fifth theme to emerge from informants’ data, as mentioned, was an unplanned outcome for the unit. The EEU did not specify that it would provide informants with an opportunity to build their confidence levels. Informants however felt they had been able to build their confidence, especially when practising their teaching in front of peers. This stage was designed to be easier for informants, but almost half found it challenging. This was because peers already knew what the lesson and activities were and could pick out whether the peer teaching had the right framing /instructions. Some informants also shared that they felt very shy, uncomfortable and lacked confidence in front of their peers. This is a future consideration for micro teaching and for when the EEU is taught again.

The data provided information that addressed question two of the study. There were many influences on informants’ thinking about their current pedagogy practices during phase one and they will now be explained. The EEU influenced informants’ understanding of teaching practices in a number of ways included planning and preparation for lower risks, teaching in front of peers, viewing the video of their teaching performance, self-analysis of strengths and weaknesses and being aware of personal boundaries when working with students.

Some informants noted that the EEU highlighted the importance of thorough planning and preparation of lessons that will reduce the risks for students. These informants aimed to implement more thorough planning before their next teaching session. All the lectures, tutorials and CC learning experiences to date have focused heavily on preparing good lesson plans in order to minimise harm to participants through lack of foresight.
As mentioned, teaching in front of peers was quite a challenge for most informants, but most felt they had built some confidence in teaching in front of a group. Other participants were okay with teaching in front of peers, but they were challenged because their peers knew about the activities they were teaching, so they could easily detect inaccuracies or mistakes. The other aspect gained from this learning experience was the chance to practise their sequence of planned activities before applying them in a real teaching setting with secondary students. Knowing whether the sequence would work or making adjustments to the program to make it work in a real setting increased confidence.

Many found viewing their teaching performance very helpful with self-analysis and enabled them to see what peers, instructors and the lecturer meant in their feedback about teaching performance. This step allowed simple vices to be identified, such as poor body language and repetitive use of words be corrected so that they could move onto more complex teaching practices that included facilitation of problem-based learning (PBL) teaching approaches or improving debriefing.

Beth articulated that during the CC experience she learned about the student’s personal space when adjusting gear, especially in this setting. When adjusting climbing harnesses and helmets that require a teacher to get physically close to their students, for example, or when adjusting the climbing harness in close proximity to the student’s genitalia. Beth acknowledged that she found it helpful to have a number of appropriate methods at her disposal and to seek students’ help when putting these
pieces of safety gear on correctly, including adjusting the gear to the right tension for each student.

The third question of the study was how does the learning experience contribute to the development of the pre-service Outdoor Education teacher’s understanding of quality teaching practices? This question was addressed by informants in phase one. Only a couple of quality teaching practices were identified or implemented by this group of informants during the first six weeks of the EEU. Those quality teaching practices mentioned were using a PBL teaching approach, improving their facilitation skills, and having planned, sequenced lesson content. Also some informants demonstrated a lack of understanding of quality teaching practices which need to be noted and this has real implications for self-analysis.

Most informants have a limited knowledge of quality teaching characteristics at this stage, demonstrated by a lack of in-depth analysis of their own teaching, but also areas they could work on to improve their teaching practice. Two informants were able to understand the importance of PBL, catering to a variety of student needs, motivation and facilitation.

Three informants demonstrated a limited understanding of quality teaching practices. This was of real concern because they were unable to accurately assess their own teaching. In one case, in particular, the informant could not suggest any good teaching practices, but he did point out two management strategies instead. When asked to assess his teaching he gave a very positive, glowing review, but when I observed his teaching, he displayed inexperienced teaching ability and was lacking in
a number of teaching skills for a third year student. If the informant was aware of quality teaching or productive pedagogy aspects, he would have been able to identify and explain his teaching performance accurately. This is problematic when informants do not do the readings, are asked to assess themselves and give false assessment of their teaching. This may not be intentional, because it is a proper analysis in their eyes, but it is based on their limited understanding of quality teaching practices.

This is the end of phase one for informants. Phase two will be discussed in Chapter 6, which follows on from this learning cycle, and explores informants’ thinking after another set of learning experiences and includes further data analysis of Weeks 7 to 10 of the EEU.
Chapter 6: Phase Two of the Learning Experience

The informants’ journey unfolds as they continue to build knowledge of their teaching practices throughout the next phase of the EEU. Phase two of the study involved more content delivered through comprehensive lectures, tutorials and a teaching day that was spread over Weeks 7, 8, 9 and 10. The data in this chapter was obtained from multiple artefacts supplied by all informants. The data was triangulated, similar to Chapter 5, between material supplied by informants such as a copy of assignment one, the outdoor practical log book work sheet, self-analyses of their teaching performances from the DVD, and one-on-one interviews about their teaching and the EEU. This also included my analysis of their teaching DVD, and my observations of their teaching day, and of informants analysing their teaching. During this phase informants were asked to make an educated adjustment to their teaching practices including a focus on the content of their lesson plans. The data in this chapter reflects their thoughts about their teaching.

Week 7 of Experiential Education Unit

The lecture for this week focused on the reasons behind risk management policies and procedures. Informants were exposed to valuable insights from a case study based on an OE school group accident, in an attempt to avoid the situation occurring to them while teaching future outdoor classes. The lecturer covered the case study of the 1995 tragedy at Lyme Bay. This case study involved a canoeing accident with multiple deaths on an OE trip. The lecturer covered the follow-up case study completed by
experienced outdoor educators that provided guidance to informants, as novice outdoor educators, on best practice to prevent or manage the circumstance in the case study, titled ‘Lyme Bay – What are the lessons?’ A third case study was also discussed in class and was based on the article in The Age newspaper in 2005, titled ‘Death on the menu’. The lecturer provided the informants with a risk management framework to help identify risks. The framework was included in the EEU so that informants could make decisions based on appropriate procedures. The risk procedures and policies are designed to help informants identify potential risk and take steps to eliminate them. If the risk is not removable, the informant must try to minimise harm in their outdoor class setting. In essence, some risks cannot be eliminated thus the responsibility of decisions made to proceed or cancel an activity is placed on the Outdoor Education teacher. Therefore, identifying risks and using skills and knowledge (experience) to minimise harm or eliminate potential risks and hazards associated with teaching in the outdoors is an important ability for Outdoor Education teachers to effectively implement and possess.

Informants were instructed by the lecturer to work on their lessons plans in preparation for Challenge Course (CC) teaching day. They received guidance from the lecturer that helped them plan a lesson suitable for teaching first year Bachelor of Primary Education students. The lecturer instructed them to think about and incorporate risk management ideas into their lesson plans and teaching practices.

During this tutorial, informants were given ample time and support from their lecturer, who gave feedback on appropriateness of ideas about suitable activities and elements to insert into their lesson plans. They were advised to work in groups of four.
for their peer teaching component. The lecturer explained that it was a long teaching
day and they had a lot to think about and organise. With four members in the group
they were able to have someone free to operate the video camera at all times. They
were expected to organise themselves appropriately for their teaching and were
encouraged to hold extra meetings to create and animate their lesson plans. Groups
could also use the time to delegate tasks and teaching time equally amongst
themselves. They had full control over who they team taught with; according to the
lecturer this was important to aid pre-service Outdoor Education teachers in feeling
comfortable and confident with those they taught alongside. This was implemented to
avoid any extra stress that may be caused by teaching with a peer they did not
cooperate or work well with.

Assignment one was an essay task to be handed in during this week. The essay was
based on the topic of ‘Risk and risk management’ with a 1500 word limit. They were
instructed to explore the role that risk may or may not have in the outdoor recreation
and Outdoor Educational setting. Informants were also asked to research theories,
models and tools used to inform good risk management practices. On completion of
the collection of new risk information, they were asked to apply their newly
discovered risk management practices to an outdoor lesson scenario. They had to
demonstrate their understanding of current risk management practices by writing
about what they had learned and develop an outdoor teaching scenario that allowed
them to apply the processes they would undertake to manage or minimise risks to
their future OE students.
The informants demonstrated their level of understanding by using risk and risk management theories, models and tools to answer the questions raised in the assignment one essay. Lesley noted that, depending on the article she reviewed, risk varied from being solely a negative outcome, to a more balanced view that risk could have a positive or negative outcome. She also preferred the definition that risk in situations could be a loss and gain, or a positive and negative experience for participants. Steve had also come to this conclusion in his essay. Both Lesley and Steve acknowledged that participants could gain personal growth from a negative situation and backed their statements up with the use of appropriate references from current authors. Both informants demonstrated a level of critical thinking by stating both sides of the risk argument but making a clear connection to their own personal values and experiences of risk.

Lesley stated the perceived risk should be in the outdoor lesson because it provides students with an opportunity to develop “virtues” or personal growth. Steve acknowledged personal growth as an outcome for OE participants in taking risks, but also felt that risk can have an effect on group dynamics in teamwork, and it can lead to a physical high from achieving something they did not think they could do. Lesley viewed development of virtues as an important outcome, which is a cognitive based achievement, while Steve mentioned physical highs, which is a physical based achievement.

Steve and Lesley both agreed that risk in the outdoor educative setting provides motivation through the flow theory. Both informants explained flow theory and applied it to an OE setting by acknowledging that outdoor educators needed to choose
the right challenge for their participants’ physical and cognitive abilities and aim to engage their students in meaningful learning situations. Lesley further supports her argument by introducing another theory of risk in adventure to produce a peak experience which relates to motivation.

The knowledge built by informants in completing the first assignment is captured in the scenarios they provided. Steve explained a personal growth scenario of his own development and he wrote:

I have now had three experiences on high challenge courses. I approached my first encounter in a very slow and careful manner. I had the perception that I was in real danger. Toward the end of the encounter I became more adventurous and began to stop worrying about falling, and actually testing and pushing my own physical and mental capabilities. My second encounter was very different. I approached the course with no perception of fear. In my mind I knew that there was no chance that I was going to get hurt. I tried to conquer the elements as fast as possible. There didn’t seem to be enough challenge; I needed either harder elements or that perception of danger to build my personal character. My third encounter with the elements remained at the same difficulty, so instead of focusing on what I was doing, I focused on what people were doing around me, the encouragement and feedback that I was receiving and how it was affecting me. In this sense I was able to better myself in the way in which I could offer feedback to my students in the future. In these three different encounters I improved on my physical and psychological levels. I was able to benefit myself and also the people around me. I most certainly gained through these events.

This is an example of Steve’s level of understanding after the three-day facilitation CC and many weeks of lectures and tutorials. He based his reflection on the CC scenario and favoured physical challenge to begin with, but progressively moved towards trying to improve his cognitive skills of communication to his future students.
Lesley experienced personal growth too, but she was able to make complex connections to how risk management might apply to her role as an Outdoor Education teacher in the future. She stated in her assignment:

What resonates through this model [i.e. Priest’s (1999) peak experience model] is that the facilitator is central to the experience and there is an underlying assumption that they can and will be able to match risk and competence for the participant. This is indeed problematic, as it requires the facilitator to make judgements about the inherent risks of activities, which as previously highlighted can only be subjective at best. The implications of this as an outdoor educator are multifaceted and how to balance risk remains a prominent question. On one hand we seek out adventure and risk, yet we may tend to favour safety and security.

Both informants demonstrated their cognitive level of interaction with the subject matter, both obtaining a satisfactory level of understanding of risk and risk management application to an outdoor experiential learning environment. However, Lesley was able to apply the new knowledge to the role of an outdoor educator capable of considering the dual paradigm that outdoor participants have a need for safety, but at the same time actively seek out adventures that have an inherent amount of perceived and real risks.

**Week 8 of Experiential Education Unit**

The lecturer provided another case study for informants to review for homework. The rest of the class time was dedicated to group work with peers that they would teach with, and they were encouraged to access the library and equipment shed to finalise
their lesson plans and teaching approaches (for either Thursday 26 April for Group A, or Friday 27 April for Group B teaching days).

I observed Thursday’s program and had video cameras ready to hand out to informants. Group A (half of the usual class) informants met at the equipment shed and collected their gear. They held a group meeting to discuss any last minute details on how the day would run. This session was led by two informants (different from previous ones) who volunteered to convene the overall logistics of the program for the day. All informants carried their equipment and gear over to the CC, proceeded to set up their element and checked the immediate area for unsafe debris.

At 9am the two convening informants greeted the first year Bachelor of Primary Education students who were participating and took them through the safety talk. The students were recommended to the program by their lecturer as a part of their unit of work on experiential learning. They were to think about how they felt doing activities and would later report their experiences back to their lecturer.

The conveners prepared the education faculty students for the CC activities by conducting a couple of ice-breaker activities to get them warmed up and laughing. The last activity required the students to divide into groups with 10 members. From this point on, the students were assigned a group of pre-service Outdoor Education teachers (informants).

Peer teaching groups (informants) were allocated a group of B.Ed. students to work with for the entire program. One informant from each teaching group came to collect
a camera from me as each group walked to their own grassed area to work with their students. One informant from each group started the session off by getting their participants to do some warm-up games. This was followed by another informant teaching the warm-up and initiative (thinking) games. Then the third informant rotated into the teaching position and facilitated initiative games. The fourth informant then team taught on the low element (a thinking and physical based challenge that has CC wires or logs low to the ground and requires a lot of teamwork) with the first informant.

At the end of the activity, both first and fourth informants ran the reflection and review session. After a snack break the third informant started teaching the high element (thinking and physical activity where the wires and ropes are 20 meters above, which is mainly an individual challenge with group support from below) for the first 30 minutes, but then the second informant stepped in to teach, and again both informants ran the reflection session at the end of the activity.

Some peer teaching groups team taught with two instructors taking the whole hour of activity and then they switched with the other peer instructors. Regardless of how the informants divided up their teaching, this still left one or two to teach the activity/element, while one was able to set up or prepare the next activity, and the other operated the camera. All switched their role in a natural break in the program so that the B.Ed. students experience on the CC would not be interrupted by logistical matters, such as operating the camera, or setting up equipment. A couple of teaching approaches were attempted but, for example, teacher directed approaches were used the most by informants even though they claimed that they were attempting to run
experiential learning teaching approaches that would be more appropriate for the activities scheduled.

The program ended with a small group reflection and revision on their learning. Then all groups were amalgamated into a big student group. The two convening informants ran a whole group reflection and commonality game to conclude the program for participants. The B.Ed. students were sent back inside to continue their university first year classes.

During the last part of class, all group A informants' gathered in a circle with their instructors and lecturer to reflect on their program and review their teaching practices. I observed informants as they received encouragement by the lecturer and instructors to share their successes and failures with the group and activities they thought worked or failed. The instructors and lecturer provided the informants with ideas on how to improve their teaching but did not single out anyone in particular. Once the reflection was finished and all informants had a chance to speak about their teaching performance, they gathered up equipment, chatted to their peers as they deconstructed the low elements, checked gear and packed it away in the shed.

The Friday program run by Group B (second half of the class) was conducted in the same manner as Group A. The conveners for this day were not as organised or experienced but they still managed to run the day on time and all safety aspects were covered. The groups of informants teaching together ran their pre-planned sequence of activities for their students. They used a couple of teaching approaches but experiential learning was the dominant teaching style attempted throughout the day.
The informants from both Group A and B reflected on their teaching day in their *Outdoor Practical Log Book Worksheets*. Jackie, Bronty and Betty all reported that experiential learning underpinned their theoretical approach to their teaching day. Paul and Mary mentioned that they were focused on debrief concepts, while Lesley was focused on the discovery of alternative pedagogies. Jackie considered that other theoretical concepts that include the adventure experience paradigm and challenge by choice philosophy also applied to her teaching scenario. Jackie demonstrated a wide knowledge base of the major theories that impacted on her teaching as an outdoor educator.

The informants were asked to make further comments on the learning opportunities, in particular, focusing on critical observations of leader, teaching and facilitation from their teaching day. One theme to emerge from the data was that Bronty, Mary, Jackie, Paul and Betty discussed a need to work on their skills to frame an activity, so that they did not give away the solutions to the challenge. Betty, Bronty and Paul also made reference to improving their respective ability to clearly communicate instructions throughout the whole teaching session. Teaching styles were also mentioned by Jackie and Paul. They observed other peer teachers use autocratic, abdicratic and democratic styles while teaching. Betty and Paul identified a need to be an enthusiastic teacher who can inspire and motivate outdoor students. Lesley felt that she learned about making adjustments to a challenge to suit the needs of her students. Paul also mentioned trying “to develop a lesson that meets the outcomes of your students”. Jackie was the only informant to highlight that she found the experience helpful in her own development of technical skills. She made the
The third section of the log sheet requested that informants describe environmental factors that may have influenced their teaching experience. The first theme to arise from the data was that Jackie, Mary, Bronty and Lesley were all concerned with wind or water on elements that made them a little more challenging than in calm or dry conditions. Mary and Jackie also acknowledged that debris needed to be removed from the activity area in order to make the environment safe for their students. Insects were identified as another environmental factor to consider when running activities outside. Both Betty and Jackie had to deal with a participant who had been bitten by a bull ant and felt this could have been avoided if they had run the activity in another area. Jackie and Paul also acknowledged that an instructor needed to limit their students’ exposure to the sun and to watch for dehydration.

On a more personal level, Bronty suggested that she would dress more appropriately for teaching outside because she felt cold, and this affected her thinking and overall enthusiasm to teaching.

The final section of the log sheet asked informants to think about the specific procedures they needed to do in order to safely manage their teaching experience. Jackie, Betty and Bronty specified that a safety brief was an important part of an outdoor educator’s role to avoid possible accidents caused by clothing and jewellery or loose flowing hair catching in belay devices. Jackie and Betty also identified that
setting up equipment and checking the area for debris is an import step to prepare the outdoor area for teaching. They also mentioned that they would encourage their students to use safety calls, clear communication and spotting techniques to avoid harm to participants when engaging in low and high ropes elements. Paul and Lesley added the need to consider emotional safety for students as important to this teaching environment. The use of the EEU’s *Challenge Course Manual*, provided to all informants in Week 1, could inform them of what to expect when teaching different activities or help them correctly set up activities was utilised by Lesley, Betty and Jackie. Betty demonstrated a thorough understanding of the safety involved with teaching on the CC and added a number of considerations including extra information about caring and keeping a log of the time the ropes are used on the course. Finally, Mary suggested that teachers should rotate around activities so that they did not lose their concentration, as she found that she was teaching outside for a long time and had to stop herself from becoming distracted.

**Week 9 of Experiential Education Unit**

The lecture content was based on the topic ‘Emergency response’. The informants were directed to specifically cover the issues raised in their prescribed text. During the tutorial time informants reviewed their teaching performance on DVD from the previous week, and they were asked to share their views of their real teaching experience from Week 8. After viewing their DVD informants were advised by the lecturer to make ‘educated adjustments’ to improve their teaching practices. They were then instructed to apply this new understanding of pedagogy to their teaching practices. The informants were encouraged to prepare their lessons and themselves
using the feedback they gleaned from their DVD to be ready to teach Year 8 secondary college students on the CC in Week 12.

Informants were instructed by the lecturer to use the Productive Pedagogies-Classroom Reflection Sheet (PP-CRS) rubric and SNAPPER software to guide their analysis of their teaching. This allowed me to observe the informants as they conducted their self-analysis of their teaching day. I also viewed each DVD teaching performance and captured a detailed account of the informant’s pedagogy development (using Snapper software and PP-CRS) coded into themes. Informants were thus able to form detailed views.

They were asked to report on four fundamental teaching dimensions from PP-CRS that applied to their teaching performance. Another self-analysis of their second teaching day is presented in Chapter 7.

The PP-CRS four dimensions: *Intellectual Quality, Connectedness, Supportive Classroom Environment* and *Recognition of Difference* (Gore et al., 2001, p.1) provided informants with lengthy examples of how each teaching practice would play out in a classroom setting. These dimensions were divided into 20 items that further assisted with analysis of teaching performance via DVD.

The lecturer gave me the tutorial time to allow all informants access to the SNAPPER software in the computer lab. They viewed and analysed the DVD of their teaching and they reported their observations onto the SNAPPER program pre-set with PP-
CRS items as codes. The responses varied between informants and they also differed from my analysis of their teaching.

Mary, Lesley, and Betty were the only informants to recognise that they had met all 20 items on the PP-CRS. They rated themselves at a low level of application and had ticked the first or second box for 19 of the 20 items on the PP-CRS. The inclusivity item of the Recognition of Difference dimension was rated higher by Mary, Lesley and Betty, ranging from 3 to 4. Betty made further comments about teaching on her PP-CRS which included the following thoughts:

My teaching involved name games and safety briefs. Teaching was mostly instructional and deep level thinking of participants wasn’t required…I found it difficult to instruct over students talking… I think I covered the inclusivity dimension. Everyone participated, although we didn’t have much choice… As for narrative, we didn’t have a theme to link activities or justify the activity… We did cover group identity during name games, but group identity was not yet formed… I noticed I appeared uncertain of what I was saying, repeated myself, said ‘um’ and ‘guys’ too many times. I need to be louder or just get the groups attention. Otherwise, I could do less talking (be more concise) so that informants don’t lose focus. I could also relax more, as I had quite a worried expression on my face.

Lesley, Betty, and Mary displayed a greater understanding of their teaching abilities by recognising that they had met all the items for Intellectual Quality, Connectedness, Supportive Classroom Environment and Recognition of Difference dimensions of the PP-CRS to some level in their teaching. Also, from my observation of their first real teaching session notes, Lesley was confident with a strong teaching ability and her confidence improved as the session went on. She also asked students to set their own goals for activities and was good at keeping the educational conversation going with
students in a relaxed manner. Whereas Mary was capable and confident in her approach to the teaching situation; however, she just needed to know the new activities and content better. Betty gave clear instruction for safety and knew her content but was quiet or lacking confidence in speaking in front of the group.

The other informants had very different views of their teaching practices. Bronty identified five items on the PP-CRS for her whole teaching day. She thought that she held substantive conversations throughout her teaching, possessed background knowledge of content, allowed her students to tackle challenges and chose a teaching approach that allowed them to direct their own learning. Bronty also believed that her teaching practices allowed for inclusivity and the formation of a group identity among her students. Steve viewed his DVD and identified three items out of 20 that he used in his teaching practices. He identified that he had used PBL, that he provided social support during his lesson and provided educational settings that encouraged his students to learn citizenship ideals. Jackie identified three items of her teaching practices during the viewing of her DVD. She recognised that she had held substantive conversations with her students, that she had a good understanding of background knowledge of content, and was using techniques to support an inclusive learning environment for her students.

Mark identified two items on the PP-CRS including Inclusivity and Narrative and rated himself as 1. All of the informants identified the Inclusivity element from the Recognition of Difference dimension on the PP-CRS in their teaching practices. From my direct observation of Mark’s teaching he used some inappropriate activities which displayed his lack of cultural knowledge, in particular, sexual connotations of
an activity he conducted. He was confident giving instructions but did not ask any questions or conduct reflection with the students. He also missed a number of teachable moments during some of his activities. Mark is a fairly inexperienced teacher at this point in time.

Paul, Lola and Tina missed this tutorial, so they did not get a chance to complete an analysis of their first teaching day. I have added my analysis of their teaching at the end of this section on Week 9.

I observed informants’ teaching performance from their DVDs when I returned to my office. I also used SNAPPER with PP-CRS items as codes to analyse their teaching performance. Furthermore, I was unaware of the rating the informants had provided of their self-analysis when I analysed their teaching performance.

Once I had completed my analysis I triangulated data and noticed there were a few differences between the informant’s analysis of their teaching practices and my analysis of their teaching practices. Firstly, from my observation of their DVDs, all informants displayed teaching practices across the scale of 1 to 4 out of 20 items from all dimensions on the PP-CRS. Mary, Betty, and Lesley’s self-analysis of their teaching was the closest to my analysis of their teaching. I observed that they had met all 20 items on the PP-CRS and they also reported having met these 20 items. However when I took a closer look at individual rubric scores, Lesley rated herself mainly 1 to 2 levels and gave herself four items in the 3 levels on the PP-CRS, compared to my analysis, where I rated her in the 3 to 4 levels for all items. Mary rated herself in the 1 to 2 levels on the PP-CRS and I rated her in the 3 to 4 range.
Betty rated herself mainly in the 1 to 2 levels, but she also gave herself a 3 and a 5, compared to my rating her in the 2 to 3 levels for most items.

I then conducted an analysis of Bronty’s teaching performance analysis. Bronty rated herself in the 1 to 2 levels for the five items she identified in her teaching practices. Bronty rated between 2 to 3 levels on the PP-CRS for all items. On viewing and reviewing her DVD there were many teaching practices that Bronty did not identify, even though she was clearly demonstrating these practices during her teaching performance.

On reviewing Jackie’s teaching performance I also found some discrepancies between the items she identified in her teaching and what I observed. Jackie rated herself at level 2 in three of the items on the PP-CRS, in contrast to my observation that she met all 20 items in her teaching practices. Based on my observations Jackie rated between 2 to 3 levels for all items on the PP-CRS. Jackie was shy, quiet and unsure of her knowledge and some of the activities. She had to defer to some of her peers to help her remember the instructions. She was not confident or comfortable with giving instructions and was unclear at times. She set tasks and left her students to it; this is opposite to what everyone else was grappling with in their teaching, by giving too much information out. However, Jackie was good at logistics and prepared and set up all the activity areas ready for her group to teach in.

Furthermore, on reviewing Steve’s teaching performance, I found that he had rated only three items out of 20 and that he gave himself a rating of between 2 to 3 levels. I rated Steve’s teaching performance across 15 items and he received scores between 1
to 2 levels on the PP-CRS. I observed Steve’s DVD and he had omitted the connectedness dimension and did not cover one item from this section, however he thought that he had incorporated problem-based learning. On reviewing his DVD, I observed that Steve has confused using a challenging activity as problem-based learning, but he told the students how to complete the task, thus taking away the problem, which then became a focus on how to physically overcome the challenge with coaching, for example, providing instructions instead of allowing students to work it out for themselves. He demonstrated a teacher directed approach instead of an experiential learning approach, and a number of other informants also made this error. From my direct observations of his teaching on the day I noted that Steve was not confident: he talked to his teaching partner more than he talked to the students, he had very little conversation with his students, he instructed students on what to do rather than asking them questions to gauge their understanding of the activity, he did not know all the safety aspects of his activity, and his teaching partner Betty had to help with putting on harnesses, and he was unclear and nervous and had trouble finding words to explain activities.

The data obtained from informants using SNAPPER to analysis their teaching has provided an informative view of the majority of informants’ ideas about their teaching at this stage during the EEU.

Tina, Paul and Lola, did not complete a self-analysis at this stage, but I was still able to view their teaching performances and analyse this data. Tina was able to display a number of teaching practices across the PP-CRS 20 items. She was able to obtain a level 1 to 2 rating on the rubrics for 15 of the PP-CRS items. She was also able to
reach level 3 for social support to her, level 4 for academic engagement and level 5 for Cultural Knowledge, Inclusivity and Group Identity on the PP-CRS. This puts her in the stronger teacher category. Tina was able to ask some questions that required her students to think but she also asked a lot of questions about logistics.

Paul also displayed a stronger teaching ability and he met all 20 items between levels 2 to 3 on the rubric sheet. He is one of the stronger teachers in the group of informants and he was confident and comfortable in front of his students. He provided encouragement and lots of specific feedback, which gave away the answers to his challenge and activities. He also played an elimination game with non-competitive students.

Lola however was mainly achieving level 1 on the PP-CRS for 15 items and level 2 for the remaining five items and this has put her in the weaker teacher group of informants. In her teaching session Lola ran loads of activities confidently, but had limited knowledge of the purpose of the activity. She made no link to questions to prompt her students to think about what they were doing, and she also seemed to lack confidence when it came to initiating education conversation with her students about their performance.

Table 6.1 illustrates the comparison between OE pre-service teacher informants’ first attempt at teaching in this study compared to the study on novice and early career teachers completed by Gore et al. (2001). Table 6.1 is a modified version of a table used by Gore et al. (2001) to depict informants’ self-analysis of their teaching practice scores. I have only included one column of their data sample to gauge an
idea of results. A direct comparison should not be made between the cohorts because the informants of this study are pre-service Outdoor Education teachers and the Newcastle cohort in the study by Gore et al. (2001) are already teaching. It does allow for a comparison between pre-service and novice teaching practices. From a constructivist point of view, we should expect to see that the scores obtained by informants should be lower than the others. This is because they are still learning about teaching and lack experience in the classroom.

Table 6.1: Research results to gauge self-analysis scores

<table>
<thead>
<tr>
<th>Dimensions</th>
<th>Items</th>
<th>Mean (SD) Newcastle (n=25)</th>
<th>Mean (SD) informants T1 (n=9)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Intellectual Quality</strong></td>
<td>Higher order thinking</td>
<td>2.40 (1.00)</td>
<td>1 (1)</td>
</tr>
<tr>
<td></td>
<td>Depth of knowledge</td>
<td>1.96 (0.64)</td>
<td>1 (1)</td>
</tr>
<tr>
<td></td>
<td>Depth of students’ understanding</td>
<td>1.88 (0.44)</td>
<td>1 (1)</td>
</tr>
<tr>
<td></td>
<td>Substantive conversation</td>
<td>1.48 (0.71)</td>
<td>1 (1)</td>
</tr>
<tr>
<td></td>
<td>Knowledge as problematic</td>
<td>1.76 (0.72)</td>
<td>0.6 (0.9)</td>
</tr>
<tr>
<td></td>
<td>Meta-language</td>
<td>1.48 (0.59)</td>
<td>0.8 (1.2)</td>
</tr>
<tr>
<td><strong>Mean for Intellectual Quality</strong></td>
<td></td>
<td>1.83 (0.41)</td>
<td>0.74 (0.11)</td>
</tr>
<tr>
<td><strong>Relevance</strong></td>
<td>Knowledge integration</td>
<td>2.24 (1.61)</td>
<td>0.6 (0.9)</td>
</tr>
<tr>
<td></td>
<td>Link to background knowledge</td>
<td>2.64 (0.91)</td>
<td>0.8 (0.8)</td>
</tr>
<tr>
<td></td>
<td>Connection to world beyond the classroom</td>
<td>2.16 (1.34)</td>
<td>0.4 (0.7)</td>
</tr>
<tr>
<td></td>
<td>Problem-based curriculum</td>
<td>2.20 (1.04)</td>
<td>0.6 (0.7)</td>
</tr>
<tr>
<td><strong>Mean for Relevance</strong></td>
<td></td>
<td>2.31 (0.95)</td>
<td>0.6 (0.14)</td>
</tr>
<tr>
<td><strong>Supportive Classroom Environment</strong></td>
<td>Students’ direction of activities</td>
<td>1.44 (0.65)</td>
<td>1 (1)</td>
</tr>
<tr>
<td></td>
<td>Social support for student achievement</td>
<td>3.32 (0.56)</td>
<td>1 (1)</td>
</tr>
<tr>
<td></td>
<td>Academic engagement</td>
<td>3.44 (0.65)</td>
<td>0.4 (0.9)</td>
</tr>
<tr>
<td></td>
<td>Explicitly quality performance criteria</td>
<td>2.16 (1.03)</td>
<td>0.3 (0.7)</td>
</tr>
<tr>
<td></td>
<td>Student self-regulation</td>
<td>3.56 (0.71)</td>
<td>1.4 (1.7)</td>
</tr>
<tr>
<td><strong>Mean for Supportive Environment</strong></td>
<td></td>
<td>2.78 (0.36)</td>
<td>0.7 (0.4)</td>
</tr>
<tr>
<td><strong>Recognition of Difference</strong></td>
<td>Curriculum knowledge values culture</td>
<td>1.12 (0.33)</td>
<td>0.2 (0.4)</td>
</tr>
<tr>
<td></td>
<td>Public representation of inclusive participation</td>
<td>4.72 (0.89)</td>
<td>1.8 (1.9)</td>
</tr>
<tr>
<td></td>
<td>Narrative</td>
<td>1.88 (0.67)</td>
<td>0.4 (0.5)</td>
</tr>
<tr>
<td></td>
<td>Group identities in learning community</td>
<td>1.32 (0.56)</td>
<td>0.8 (0.8)</td>
</tr>
<tr>
<td></td>
<td>Active citizenship</td>
<td>1.12 (0.60)</td>
<td>0.9 (1.2)</td>
</tr>
<tr>
<td><strong>Mean for Recognition of Difference</strong></td>
<td></td>
<td>2.03 (0.33)</td>
<td>0.8 (0.6)</td>
</tr>
</tbody>
</table>

Table 6.1 contents depict informant’s mean scores for every item and there is a significant difference between the Gore cohort and the informants of this study. The informants of this study are consistently lower than the teacher’s scores in the Gore et al. (2001) cohort of participants. This is expected because the Gore cohort is out in schools and this was done in their first year of teaching after they had graduated. I
conducted an interview with the informants at this time to obtain their thoughts of the
EEU and also collected their teaching performance. I asked informants to rate their
teaching ability and their interest level to improve their teaching on a Likert scale of 1
to 7 for the teaching day in Week 8.

Table 6.2 contains these scores on the level they think they are at in phase two. The
data in Table 6.2 has provided similar data to that in phase one. (See Chapter 5, Table
5.2.) The mean score of teaching ability of informants has increase by 0.11; however,
the desire to improve their teaching has dropped by 0.1 between phase one and two.
Overall, informants have assessed their teaching ability to have some weaknesses,
while maintaining a strong desire to improve their teaching practices.

Table 6.2: Second self-analysis of teaching ability Week 9

<table>
<thead>
<tr>
<th>Pre-service informants in Week 1 of study</th>
<th>Phase two self-assessment of teaching ability</th>
<th>Phase two EEU level of interest to improve understanding of teaching</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tina</td>
<td>4</td>
<td>6</td>
</tr>
<tr>
<td>Betty</td>
<td>3</td>
<td>6</td>
</tr>
<tr>
<td>Bronty</td>
<td>3</td>
<td>7</td>
</tr>
<tr>
<td>Jackie</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Lesley</td>
<td>5</td>
<td>7</td>
</tr>
<tr>
<td>Mary</td>
<td>3</td>
<td>7</td>
</tr>
<tr>
<td>Paul</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>Steve</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>Mark</td>
<td>3</td>
<td>5</td>
</tr>
<tr>
<td>Mean (SD) n=9</td>
<td>3.89 (0.93)</td>
<td>6.1 (0.78)</td>
</tr>
</tbody>
</table>

Note. The scale for the results of this table is as follows: Teaching ability scale: 1 = very weak ability, 2 = mostly weak ability, 3 = some weaknesses, 4 = average some strength, 5 = mostly strong ability, 6 = strong ability, 7 = very strong ability. Additionally, the scale for the results of Importance of developing their own teaching skills scale: 1 = not important, 2 = very little importance, 3 = little importance, 4 = some importance, 5 = mostly important, 6 = important, 7 = very important.
Week 10 of Experiential Education Unit

This week was declared a reading week to allow informants time to catch up on readings and work on their second assignment. The lecturer mentioned the reason for not running a formal lecture and tutorial this week. This is because informants spend so much extra time on fieldwork in other weeks. Therefore this week is catching up on theory and study or working on tasks that are coming up.

The EEU impact on informants learning at the end of phase two

Phase two has seen some similar themes emerge from those in phase one data. Informants made reference again to their confidence levels, some facilitation/teaching practices, and risk management. The data also contained other themes such as being organised, CC technical skills, and team teaching but these were less important to most informants.

The first theme explored in this section is confidence. This theme or outcome was unplanned for the EEU. It has however been mentioned many times throughout phases one and two over the last 10 weeks of the unit. Jackie offered a good example by stating: “teaching is certainly not easy, confidence is very important…more experience will help me…I have increased in confidence but I feel I have a long way to go in that area”. Even the stronger teachers like Tina said “I found that as I grew in confidence in what I was explaining or trying to teach, so too does my ability to communicate clearly”. This is similar to Betty, who is also a capable teacher, who mentioned: “I need to practise how I will introduce an activity to a group so that I can
be more confident”. All three informants identified that they grew in confidence via the teaching day experience during the EEU.

Mark however commented, while watching his DVD, that “I seem to appear uptight in my DVD, so I am going to try to appear more in a way that makes me look like I want to be here…watching my body language and tone of voice…” Here he was alluding to wanting to look more confident in what he was saying and doing. From observations, Mary is a very capable teacher, but she said: “I think I still need a lot more practical experiences, I found it hard to teach my peers but much easier with the uni students”. She still had fears of making a mistake in front of peers and this made the experience more challenging than with other university students from Week 8 teaching day.

*Knowledge and skills of their teaching practices* was the second theme identified by informants that they had learned from the EEU. This is explained in greater detail in the next section of this discussion that informs question two of this study. Informants give specifics about their thoughts of pedagogy practices implemented in their teaching. Informants also referred to another part of their teaching which was improving their facilitation skills during the EEU.

The third theme to be identified in the informants’ data was *risk management*. There were three main points raised by informants. Firstly, they were learning that the risk they talked about in the lectures and case studies discussed in tutorials were real documents that directed Outdoor Education teachers’ planning, especially the choice of acceptable outdoor activities in their outdoor classroom, and this was supported by Paul’s recognition:
The importance of risk management procedures and also having a key understanding and also recognising the implementation of risk documents, that they are working documents and dynamic documents rather than static…

Paul highlighted the fact that risks are real and this affects the choice of teaching approach and lesson content. Informants were asked to explore risk and role of risk in an OE setting in their first assignment. Most of the informants explored the meaning of risk and came to the conclusion in their discussion that risk can have a positive or negative impact on their students’ learning. Most also came to the conclusion that some level of risk can lead to positive personal growth in students. Informants covered both sides of the positive or negative outcomes debate, and acknowledged that there are negative consequences to risk in an education setting. If they get this decision or activity level wrong, it can lead to real, permanent harm or lasting paralysing fear.

Some informants acknowledged that theory, such as flow theory and peak experience in challenging situations, can be used to motivate their students to engage in activities. However, other informants applied the risk scenario to their own practical experience as learners, instead of applying it to a scenario that put them in charge of the learning experience, and applying their knowledge to the teaching role and having to consider the safety of their students. For example, Steve applied the risk to his own learning from the CC experience which is a less complex application of theory. Lesley, however, applied theory to a more ‘thought out’ situation where she had to place herself into the Outdoor Education teacher role and manage the risks, acknowledging the balance between safety and risk taking behaviours.
The balance between risk and safety was also highlighted by Mary when she discussed having to balance providing a learning environment that is fun for her students and being able to manage risk. Mary stated: “I have found it is a balance between worrying about safety aspects in my lesson but I also want to still have fun with my students…” Most informants identified a number of practices that would help them manage this balance in their lessons. They noted that they would conduct a safety brief, correctly set up equipment, encourage students to use safety calls and clear communication, use the Challenge Course manual, and consider emotional safety of their students to reduce risks in their lessons.

The use of professional terminology was applied by some informants but they were not able to give specific details of how they would actually implement a risk plan in their lesson. Steve for example stated: “I have learned the importance of implementing a risk management plan… the use of risk and how it affects the learning experience…” This misses the point of providing how the risks would be managed in his outdoor learning environment.

A number of environmental factors were enunciated by some of the informants which impacted their teaching performance and presented risks to their students. As mentioned earlier, wind and water made it hard to communicate with students. They also identified the need to remove debris from elements and activity areas. One group of informants had to deal with bull ant issues, while others had to consider protecting their students from too much exposure to the sun and the associated risk of dehydration. Bronty suggested that she needed to be dressed more appropriately so she was not cold as this affected her thinking and teaching performance.
A minor theme that was identified was the need to be organised for many reasons. This was especially noted by Mark:

I’m going to try to be more organised; I looked at my peers and they seemed to be two steps ahead of me in this area, so I am going to spend more time in the planning process researching different aspects that need to be covered. Also go over content I’m supposed to know for the challenge course activities… I’m also going to try and engage in more general conversation with the students…a girl got bitten by a bull ant in another group, but I feel I wouldn’t know how to handle it, so I need to be more prepared.

The final theme that was less prominent in this phase as compared to phase one was the impact or effectiveness of the CC to help informants obtain technical skills and practise facilitation skills. Only Lesley noted: “I didn’t think I learned much theory but I did learn about knot tying and setting up Challenge Course and…lots of leading tips and instructions”. The Challenge Course helped her acquire practical skills in facilitation and technical skill in rope handling.

**Influences on informants’ thoughts about their pedagogy**

Informant’s perception of their teaching practice is discussed further in this section. Underpinning theory, framing and sequencing of activities was a theme that emerged from the data. In fact informants made many more references to their facilitation/teaching practices during phase two. They commented in their log sheet reflections, interviews, and self-analysis of their teaching practices using the PP-CRS and SNAPPER software. I also used the PP-CRS and SNAPPER software for my observations of their teaching in the field and to view DVDs.
Jackie, Bronty and Betty were the only informants to state upfront that experiential learning theory underpinned their theoretical approach to their teaching day. These three informants made clear connections between their teaching practices in the field, and lecture topics and tutorial experiences over the past four weeks in particular. Other improvements to teaching practices were also identified by a variety of informants and these included framing, teaching from directed to problem-based or experiential learning approaches, clear communication and enthusiasm/motivation.

The theme of being able to frame an activity was discussed in lectures and tutorials and training days. Bronty, Mary, Jackie, Paul and Betty made the connection for the need to improve their skills in framing an activity so they did not give away the answers to the challenge. Mary shared her thoughts about wanting to facilitate effectively. She identified some aspects that she felt were important to improve her teaching practices and gave the following example:

I have learned so much…especially more about practical experience. I think I have learned the most, also the teaching day allowed me to practise my facilitation effectively, and I learned some new ideas for debrief questions…

Furthermore, Mary made a reference to changing her teaching approach from a teacher directed to a problem based / experiential learning approach. Betty, Bronty and Paul further discussed a need for improving their facilitation skills so as not to give away answers in their instructions. They wanted to improve their questioning so their students could come up with the answers, and improve their skills of framing the activity so they did not give away the solutions. Bronty’s response was: “I do not want to give too much away in my instructions” and Mary said: “I have to work on
being more flexible and to give simple, clear introduction to activities so that I don’t give too much away…”

Another teaching practice theme identified by half the informants was the need to practice their communication so that they could give clear instructions. Betty, Bronty, Mary, Tina and Paul suggested they needed to work on their ability to clearly communicate their instructions. Bronty wrote that “Good facilitation takes practise and forethought… I’m thinking of reducing instruction time by clarifying my instructions”. Paul also supported this teaching point by stating:

   I need to improve my instructions to make them clear…it would have been great if we could practice a scenario where a student has freaked out on a high element and we have to try to deal with it, using clear instructions to talk the student down.

Paul and Bronty were supported by Tina’s comments about the need for clear communication: “I’m going to work on getting my teaching points succinct…” Tina, Betty, Lesley and Paul also identified that teachers need to be enthusiastic and motivated. This is a new teaching characteristic and theme possibly linked to the fact that informants could see their body language and it was not as motivating or enthusiastic as they had expected. Lesley provided a good example of body language by stating:

   After seeing myself on DVD I thought I was boring, I’d be bored listening to me… I need to include more and more fun for students… I also need to work on talking more about goals rather than what the activity is.

Mark also wrote about his experience in the same tone. However, from a different angle, Tina remarked that if her students were excited, this helped her stay motivated:
“I found my students seemed to enjoy themselves and this helped me to motivate myself to keep my energy level up”.

They have learned that being an enthusiastic teacher is important to their students’ motivation, and they are trying to implement enthusiasm and motivation within their teaching practice to make the learning environment better for their students.

An ability to teach and plan in a way that 

meets the needs or outcomes of students 

is the next theme identified in the data. Two stronger teachers were able to go beyond just thinking about the sequence of activities to a focus on their student’s needs and meeting curriculum outcomes, which also led to thoughts about assessment. Lesley and Paul both mentioned the need to adjust activities or goals to suit outdoor students’ needs. Paul explained:

I am going to give a little more thought and justification about type of activity to choose and sequencing of activities so that the goals meet my student’s needs.

Other consideration about teaching experiences and the use of the CC in particular was that Betty found: “I wasn’t really taking engaging activities, just name games and safety briefs” and Lesley noted:

When I was teaching the university students I felt like I was patronising them because they already know a lot of stuff about teamwork and cooperation. Having just been through it myself in the training days… I don’t like copying how others present, so I felt bored with repeating it.

These points highlight that the CC is an effective teaching setting that provided time and space for informants to practise their teaching, but it does not always test informants’ teaching abilities all the time.
The last theme identified by Mary, Paul and Tina found the teaching experience within the EEU helped them work on their chosen teaching approach. They knew before teaching students that their approach would work, but they wanted to improve it. I observed Mary, Tina and Paul teaching in Week 8 and report that they displayed stronger teaching abilities than their peers. Thus Mary stated: “I need to have more practice and become more fluent but my approach to teaching has not changed as I think I have chosen the right approach to teaching.” Paul stated: “I don’t believe the teaching day changed my teaching approach. I think I picked an appropriate one to use previously that worked well” and this was also supported by Tina’s comment: “I have become more confident in my teaching approach so I haven’t made any changes to the approach but I’m possible too analytical of myself”. All three informants had chosen the correct teaching approach that fit the content and students straight away. Evidence of their ability to teach was displayed again when they recognised what teaching approach needed to be applied to each activity.

The informants were able to identify strengths and weaknesses in their teaching and made suggestions to improve their teaching ability before the next teaching day. Some displayed stronger teaching ability than others during the teaching day. All informants were concentrating on something different about their teaching practices compared to those around them.

However, while some informants were able to identify their strengths and weaknesses others were still focused on technical teaching aspects such as improving their body language. For example, Bronty suggested that to improve her teaching she would “not wear sunglasses whilst teaching as my students couldn’t see my eyes and some
even looked away… I am also going to work on decreasing the amount of times I say okay. I must have said it a thousand times in just 30 minutes”. Mark aimed to improve: “After seeing myself I need to appear more confident and know the content before taking it”. And Betty remarked: “I really need to relax more, not look so worried and be more confident in what I’m saying” and both informants aimed to espouse a more confident demeanour.

Mary and Jackie identified the need to work on their motivation and enthusiasm to teach outdoors, which is a technical skill and demands a level of fitness to teach on your feet all day as well. Both informants reported that the teaching day was long and they found it hard to stay focused and motivated, even though the length of the day was the equivalent to a real teaching day. For example, Jackie stated: “it was a long day and quite a few people were a bit over it, tired and unmotivated, myself included”. However, this point overlooks the fact that teaching outdoors can be all day or all week on your feet and constantly moving from one activity to another. They could also be required to travel great distances by walking, cycling, paddling or running to apply lesson content.

Most informants identified some teaching practices including preparation of lesson plans and sequencing of activities that they would work on before their next teaching session. Lesson planning was a priority for Lesley who stated:

I will definitely do more planning so I know exactly what to do and say, and so I have more chance to be creative with presentation and letting students have more input. My competence is up there, but fun and creativity should improve conciseness… I want to improve my teaching and I think I have much to learn.
Being able to teach with a PBL approach and incorporate clear and appropriate safety aspects were in Mary’s thoughts about how to improve her teaching:

I am going to work on my teaching instructions. I want to be able to tell the students what the activity is about but I have got to stop giving away the answers to solving the challenge. It’s hard to not step in and help students think though… I am also going to work on keeping my eyes on participants on the high ropes when belaying at all times.

The PBL teaching approach was also in Paul’s thoughts: “I am going to work on getting the group members to participate in the decision making more, rather than simply me giving instructions to them on how to complete the challenge”. Paul will also attempt to improve the implementation of his teaching approach to better his overall teaching ability and practices. Tina aimed to “…work on not rushing through. I have a tendency to want to get everything out, rather than relaxing, and let it flow and have fun with the students”. This approach will also convey clear communication.

Bronty, Mark and Lesley aimed to improve their pedagogy practices by improving their sequencing of activities. Bronty stated: “I have looked at improving my sequencing, it’s very important, I didn’t realise how important it is for the students” and Lesley also agreed by identifying that:

I need to definitely work on my sequencing and it has interested me before, but in the Challenge Course the links between activities are very important too, and having ways to involve fun so that engagement and enthusiasm are high among my students…”

Whereas Mark was more focused: “I’m going to be better planned and don’t try to wing it… try to get activities that not only progress but are fun” thus taking a basic approach to improving his teaching by actually having a plan, and sequencing
activities instead of taking an ad hoc approach. These points raised are similar to some informant’s ideas about their teaching in the first phase (see Chapter 5).

Discussion

This discussion will focus on the impact of EEU content on informants’ thinking from Weeks 7 to 10. Their thoughts about their current pedagogy practices are discussed at length. Then the development of informants’ understanding of quality teaching practices is elucidated.

The EEU impacted informants’ thinking in a variety of ways over the four weeks. They were learning about assessing their own teaching for strengths and weaknesses, redesigning lesson plans, risk management procedures and policies, and theory underpinning risk and the role of risk in education settings (in their lectures, tutorials, readings and teaching days). The informants were honing their skills of applying risk management strategies and teaching approaches. Themes from the data emerged from content covered in the unit during Weeks 7 to 10. The major themes to emerge were risk management and teaching practices. Other minor themes including organisational skills and team teaching were also present but to a lesser degree of importance.

Informants discussed many aspects of risk management that became important to them because they had studied the topic in this EEU. Most gained an understanding of real risk and perceived risk through the first assignment. They also identified key theoretical aspects of why people participate in risk taking behaviour in outdoor activities. The assignment also informed most students’ awareness of how theory,
such as policies and procedural documents, actually impact the real outdoor teaching setting. All informants performed safe practices on their teaching day and learned through direct hands on experience to apply risk management strategies including those who were less experienced. They became proficient in applying safe CC and group management skills.

These informants were also able to identify that CC activities could be physical while others found these activities could also affect emotional or cognitive levels. They also realised that these risks could have negative or a positive effects. Some stronger teachers also identified that they were responsible for making important decisions to minimise real risks to their students. These informants also recognised that they could minimise risk by planning an appropriate activity aimed at the right level to challenge their students but also maintain learning in a fun and motivating environment.

During phase two informants were prompted to identify environmental factors that impacted their outdoor classroom. Many were able to suggest that factors, such as sun, wind and wet conditions, can make teaching more difficult and also make the activities harder for students. Many informants found it hard to speak over the top of wind noise and be heard when their students were 20 meters off the ground. They also found it hard to support their students emotionally or cognitively because the wind factor made it too hard to communicate. They recognised that the sun also presented problems like sunburn or dehydration in their students. According to informants there were other factors that affected the outdoor learning environment which they had not considered until teaching in the EEU, for instance, insects that bite, correct equipment set up, clear safety briefs and clearing the activity area of debris. These are all critical
considerations when planning to take a class outside, and they require extra preparation and planning when compared to teaching in a classroom.

The final consideration when teaching outdoors was on a more personal note regarding informants looking after themselves. One reported feeling fatigued from teaching outside for too long and found it hard to remain focused when spotting her students on a high ropes element. Another reported she was cold because the gear she was wearing was not warm enough, and this affected her teaching and she found it hard to concentrate or be enthusiastic.

The teaching practices theme was also discussed at length by informants. Importantly, at this point in the study, informants have provided data that indicates a lack of ability to accurately assess their own teaching performance. There are many examples provided where informants have attempted to assess their teaching performance but they are still grappling with their understanding of theory and how this relates to quality teaching practices. Upon further analysis, it is important to note that informants are still developing their ability to assess their teaching practices and this skill is not fully developed at this stage. This is highlighted by the findings in that all informants reported some inaccuracies in self-analysis of their teaching performance. They could only identify a few aspects of their teaching practices on the PP-CRS. Informants with stronger teaching practices however tended to identify more items on the PP-CRS than their peers.

An informant with less understanding could only identify a few teaching items in their teaching practices. For example, Bronty thought she had only covered five items from
the PP-CRS. However, she also covered the other 15 items as well at a low level. Jackie was only able to identify three and Mark only identified two from the 20 items listed on the PP-CRS.

Steve was a weaker teacher from my analysis of his teaching. He was the only informant to cover 15 out of 20 items listed on the PP-CRS in his teaching practices. He identified that he had met three items for those identified for inclusion of a ‘PBL’ teaching approach, but he taught with a teacher directed approach, so he had inaccurately identified one of his teaching practices. Steve admitted: “I haven’t thought about my teaching practice in great depth but the video definitely helps me process though I will reflect upon that”. Here he has displayed a need for extra guidance with his depth of understanding of teaching approaches and choice of appropriate teaching practices that allow PBL to occur. My observation of Lola also put her in the weaker teacher group.

Lesley identified that she had covered all 20 items of the PP-CRS in her teaching session. But she scored herself low on the scale of 1 to 5, giving herself mostly 1 and 2 for teaching ability. This was similar to Betty and Mary, who were also able to identify that they had implemented 20 items of the PP-CRS in their teaching but also scored themselves low. Even though Paul and Tina did not assess their teaching at this point; from my observations they also fall into the stronger teacher category at this stage of the study.

All informants who conducted self-analysis were able to identify that their teaching catered for Inclusivity. Six informants accurately identified the items they exhibited in their pedagogy practices. All who completed self-analysis at this stage made a
mistake in assessing their teaching performance, either by ranking themselves really low, or not identifying the practice in their teaching or identifying teaching practices that they were not doing but they thought they were.

Another aspect to consider in the data is the scores informants received for their teaching on the PP-CRS. These were consistently lower than the cohort of teachers in other research studies (Gore et al., 2001). The results reflect that informants are only third year undergraduate teachers with another eighteen months of the teaching program to complete before graduation and these are novice teachers or early career teachers out in schools. This difference in scores is to be expected as these informants have had less teaching practice or experience than those teachers in the Gore study.

There was universal agreement that with the use of the DVD they were able to better understand feedback on their teaching. The use of the DVD for teaching performance enabled students to assess their teaching from a strengths and weaknesses aspect, but also identify less complex issues like voice control, and repetition of word use or poor body language, to more complex issues such as the teaching approach matching the activity and lesson outcomes.

Finally, it is important to note that informants reported feeling more comfortable and confident in their role as teachers. Some informants with stronger teaching ability appreciated the extra time to hone their teaching approach, while others were still grappling with the idea that there are teaching approaches other than teacher directed. Some informants who were still working on their teaching ability valued the time to present in front of people for extra practice. This gave them a sense of personal
growth by helping them feel more comfortable and confident with speaking in front of peers, instructors, the lecturer, and students.

Informants also provided data during phase two on their thoughts about their current pedagogy practices to address question two of the study. They discussed mainly concepts that they had identified in phase one, but the main focus was on their teaching ability, and catering for environmental factors that do not occur in a classroom.

They identified a need to again work on technical aspects. Body language, voice control, not wearing sunglasses when giving instructions, being organised, and repetition of certain words were the main skills they wanted to work on. None of these aspects are directly a part of the PP-CRS but they do add quality to their teaching abilities. Stronger teaching informants however had mastered the technical aspects, and were now working on perfecting their chosen teaching approaches.

All informants felt they still needed to build confidence and practise their communication skills. A number of the stronger ones were still trying to build their confidence, even though they already possessed a good teacher presence. This links back to the informant’s ability to accurately assess teaching performance. Some assessed themselves as having inexperienced or low ability on the PP-CRS when they were more in the mid-range of the scale, which is an advanced level.

Informants were not as focused on learning facilitation skills or activities or elements of the CC this time. Only one informant mentioned that she had appreciated the time
to learn about knots and learned more about how to make adjustments to the activity so that it would suit the needs of her students. She also made more complex connections between sequencing certain activities that can lead to students meeting curriculum outcomes as well as their own needs.

They identified many environmental factors that affected their lesson plan when teaching outdoors on the CC. These factors had not been considered until they were placed in a situation where their teaching was affected by something going on in the environment around them. Group B’s teaching day was affected by the rain and most informants found that the activities they had organised had become more challenging, so they had to adjust their activities to fit the students and conditions on the challenges. One informant also became cold and found it hard to concentrate. The inability to concentrate can lead to making mistakes and this situation can become serious because the informant has the potential to put school students at risk of real injuries. Group A was affected by the sun and some informants became fatigued and also found it hard to concentrate at times. Both groups were affected by insects, debris and setting the low elements up correctly. Informants were finding that teaching outdoors has its own unique considerations to implement in planning as well as what is normally required to plan for effective teaching in a classroom.

The final section of this discussion will explore the informant’s current understanding of quality teaching practices. They shared what they discovered about quality teaching practices over the past four weeks of the EEU.
Informants that were stronger teachers during the teaching day focused on improving their teaching practices by addressing complex aspects. They tended to already have their teaching approaches ready and used the EEU teaching days to make improvements to their already effective teaching abilities. They tended to have all the technical aspects of teaching under control, for example, enthusiastic body language and level of voice, did not repeat too many words, and made adjustments to challenges effortlessly because they had extensive planned for the lesson. They also considered more complex issues that involved not only choosing the right activities and putting them into a sequence, but they had also thought about the outcomes. Activities had the potential to generate and make links to meeting educative outcomes appropriate for the students’ needs.

These stronger informants displayed a greater level of understanding of quality teaching practices through their ability to identify many of the 20 items on the PP-CRS dimensions in their teaching. Having a greater level of understanding of quality teaching practices led them to think about ways in which they could improve their teaching practices. For example, some informants worked on asking better debrief questions that would require their students to think at a higher level. These informants also recognised a need to lift their own motivation levels, but also to lift the motivation levels of their students and create excitement in the content.

Informants with weaker teaching abilities during the teaching day focused on making improvements that were less complex; they tended to comment about making improvements to their body language (so they did not look bored or unenthusiastic), eye contact, voice projection, and giving clear instructions. These informants also
mentioned a need to lift their own motivation levels and yet they made no reference to motivating their students. They had limited knowledge of lesson plans and sequencing of ideas and no connections were made to outcomes for their students at this stage. Furthermore, these informants could only identify a couple of items from the PP-CRS in their current teaching practices.

Informants attempted to improve their quality teaching practices. Many identified that they needed to take a PBL approach or experiential learning teaching approach to their teaching day, but few actually implemented this approach. Many who thought they were taking a PBL teaching approach ended up with a teacher directed experience. They tended to direct the learning environment by providing too many helpful hints and instructions that ended up solving the challenge for the students and instead the activity became a physical challenge. Many stronger teaching informants identified this issue from within their teaching approach and made suggestions on how they avoid this mixing of teaching approaches, because they realised the effect this would have on student outcomes. Those with weaker teaching abilities remained heavily focused on sequencing and clear communication skills. They did not think about how they would change their teacher directed teaching approach to a PBL or experiential teaching approach.

This completes the discussion for phase two. The third and final phase of the study will be explored in Chapter 7, and continues to follow informants as they complete the final learning cycle of the EEU.
Chapter 7: Phase Three and Reflection on the Experiential Education Unit

This chapter continues to build on information presented in chapters 5 and 6. The pre-service Outdoor Education teachers convey thoughts about their learning experiences aimed at developing teaching practices. This chapter encapsulates final thoughts as informants endure the third and final experiential learning cycle of the unit. This chapter also summarises informants’ critical reflections of phase three and offers an overview of the EEU learning experience. Informants explain the experiences that enabled them to learn about pedagogy and discuss changes they made to their teaching practices due to new levels of understanding. The data was sourced from all informants and triangulated with my analysis of their teaching, my observations of their teaching day and interpretation of the EEU artefacts.

Week 11 of Experiential Education Unit

Today’s EEU class started with a tutorial that provided informants with feedback on assignment one. The lecturer covered points such as a reminder to reference quotes using APA formatting, to avoid plagiarising and tips to write a reference list in the correct format. The lecturer also provided further notes on the blackboard to give extra feedback on common errors and how they could improve their essays.

They were assigned two readings on risk management documents that guide organisations and support the lecture topic on Risk management planning on an organisational level. According to the power point notes for the lecture, today’s topic
was how can everyone be involved in safety, organisational culture, safety reviews, organisational risk management, and the use of forms and documents relevant to teaching outdoors. The second part of class was dedicated to final preparation of lesson plans and organisation of teaching in peer team teaching groups. Informants were reminded that the school students would arrive for their CC program in Week 12—one week away.

**Week 12 of Experiential Education Unit**

The lecture topic was on ‘Risk and Safety: What is it all about and challenging some assumptions’. A focus for this week’s lecture was Challenge Course research, including a discussion on the risks and benefits, and the idea of transference of skills both positive and negative. See the appendix E for a copy of lecture 12 power point notes. The readings included two articles: “The dangers of safety in Outdoor Education” and “Challenging assumptions: examining fundamental beliefs that shape CC programming and research”. The lecturer aimed to encourage informants to critically think about their safety practices and to not just believe what they were told.

The tutorial for this week was replaced with the teaching day. Group A taught their program to secondary students on 24 May 2007 and Group B taught their program to secondary students on 25 May 2007. Refer to the *Ropes CC Program for High School Students* in the Appendix Cs. The rotation of teaching among informants and filming responsibilities duplicated the organisation from previous teaching days in the EEU. Both Group A and Group B informants were highly organised and the programs ran smoothly. A vignette of the EEU second real teaching day follows.
Vignette of the teaching day with secondary students from Week 12

Informants arrived at 8am at the university equipment shed, where the lecturer and instructors stood drinking coffee and waiting. This was the informants’ planned time to prepare and set up one hour before high school students were scheduled to arrive. They arrived in waves and talked amongst their group until eventually everybody from their group arrived. At 8:05am each group collected the equipment and gear they needed to use in all their lessons, so this meant everything had to go out to the course for low or high ropes elements, initiative games, warm-up games and icebreaker activities. They carried the equipment and gear down to the CC and started to set up their areas. They also conducted a safety check of the environment by checking the cables and bolts, and they removed any rubbish and sticks from all of their activity areas.

All activities including low and high ropes elements were set up safely, and were double checked by the instructors and lecturer. Informants held one more team meeting with their peer teaching group. Then the convening informants for the day called everyone in to hold a whole group meeting to remind everyone of the day’s events and organise the last tasks in preparation for the students who were about to arrive in 15mins. This included a brief on the location of the first-aid kit and bottle of sun block. These two informants convened the day and made sure the schedule ran on time. The lecturer had prearranged with the teacher from today’s school to meet at a particular place on campus to make it easy for the school students to be dropped off. The two informants convening the day met the students and their teacher at the drop-off point and walked them through the university campus to the CC area.

The students were taken through a brief introduction game and then divided into groups of 10 and assigned a peer teaching group (informants). Each group of secondary students were led to their activity area by their informants. Once the informants had completed a personal safety check on all their students at their activity area they showed them the location of the bathrooms. The students were then walked into a flat-grassed area and the next informant stepped up to teach some icebreakers and warm-up games. The informants again switched roles after approximately 30mins and the next informant implemented an initiative game. This maintained momentum for the most part for a majority of school students, who looked happy and were enjoying the activities. The informants kept switching their roles at appropriate times throughout the morning. The program stopped for a lunch break. After lunch informants took their groups onto more challenging high ropes elements. They were very busy teaching, belaying or managing the odd school student who wandered off task. The fourth informant was able to keep the camera operating.

Just before 2pm all informants allowed the last student through on their high ropes element, and then gathered all their students into a circle and conducted a review/reflection of their program. After the informants had finished their reflections they encouraged their group to join in with everyone else to combine into one whole group for the final activity of the program. Once informants had completed the concluding activity they thanked the school students and their teacher for participating in their
program. The teachers from the school thanked the informants and commended them for running a wonderful program for their students. At 2:15pm the students and their teacher followed the two convenors back to the pick-up spot for the bus, so that they could return to school in time to go home.

This teaching day was delivered twice, once by informants from Group A on Thursday and again on Friday by Group B informants. The CC program was conducted for two different high school groups.

**Week 13 of Experiential Education Unit**

This lecture was dedicated to reviewing the unit. The lecture material covered the following content: what matters, peer teaching rubric, pointers on facilitation, the use of professional bodies to acquire more knowledge about safety (e.g. Victorian Outdoor Education Association conferences), and further readings on the use of high challenge course elements. A handout with a peer assessment rubric was distributed to informants. Refer to appendix C for the unit guide including rubric handouts and assessment explanations and appendix E for an example of a power point lecture notes.

Informants were interviewed and asked to analyse their teaching day during this tutorial time. Some of the informants’ data collected from this point in the study are presented in the following vignettes.

**Mark’s vignette**

At the beginning of the unit Mark rated his teaching ability at a 3 = *some weaknesses* and this rate went up by the end of the EEU to a 4 = *average with some strengths*. He also rated his level of interest to improve his teaching skills. He gave himself a 5 = *important* for developing his teaching skills and this remained at 5 during and post the EEU. Mark had the least amount of teaching experience, because he
was a double degree student who had been exposed to a majority of management units to date in his degree, compared to the other informants. His knowledge of teaching theory was very limited. By the end of the EEU he had realised that planning of content was important.

Steve’s vignette
Steve reported that his teaching ability was at a 5 = mostly strong and this changed to a 6 = strong after the second teaching session at the end of the EEU. At the beginning of semester Steve rated his level of interest in developing his teaching skills at 6 = important and this changed to a 7 = very important after the second teaching session. Steve had limited knowledge of risk and teaching practices at the beginning of this unit, but over the time, he became more aware of risk and its presence in a lot of outdoor activities he participates in outside the education setting. He found the application of risk knowledge far more useful for his outdoor activities than applying them to his teaching practices. Steve did comment that he liked the EEU because it allowed him to apply theory to practice but he did not clearly demonstrate that in his theoretical or practical work. He wrote that he learned to apply risk to an outdoor activity with very limited explanation of how he would do that.

Lesley’s vignette
At the start of semester Lesley rated her teaching ability at a 5 = most strong ability but she found that the more she learned about teaching the more she realised that she had much more to learn about teaching. Thus she dropped her teaching ability back to a 4 = average some strength by the end of the unit. Lesley did maintain a high level of interest in improving her teaching skills and rated herself at a 7 = very important to her to improve her teaching practices throughout the EEU. The second teaching impacted Lesley’s thoughts about her teaching approach. She reflected on her teaching technique and thought that she had effectively facilitated her group and that her teaching group had managed the students well, because they did not have any issues in that area with their students. Lesley did note that her group was lacking enthusiasm and she found it difficult to change this situation to raise the enthusiasm level, so this scenario really tested Lesley, and she felt frustrated and felt that she was not meeting all the needs of her students.

The informants’ rating of their teaching ability was collected again at this point and was added to the table containing the pre and during data so that a direct comparison could be made. Table 7.1 depicts each informant’s level of perceived teaching ability pre, during and post EEU. Most thought they had improved their teaching ability slightly. Only Tina’s pre and post results stayed the same and Lesley felt she went backwards in her teaching ability. Lesley thought the more she knew about teaching
the less she could do. She did actually improve her teaching when analysing her teaching from the video.

Table 7.1: Pre-service Outdoor Education teachers’ self-analysis

<table>
<thead>
<tr>
<th>Informants’ self-analysis of their teaching ability</th>
<th>Phase one</th>
<th>Phase two</th>
<th>Phase three</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tina</td>
<td>4</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Betty</td>
<td>3</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Bronty</td>
<td>3</td>
<td>3</td>
<td>5</td>
</tr>
<tr>
<td>Jackie</td>
<td>4</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Lesley</td>
<td>5</td>
<td>5</td>
<td>4</td>
</tr>
<tr>
<td>Mary</td>
<td>3</td>
<td>3</td>
<td>4.5</td>
</tr>
<tr>
<td>Paul</td>
<td>4.5</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Steve</td>
<td>4.5</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Mark</td>
<td>3</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Mean (SD) n=9</td>
<td>3.78 (0.79)</td>
<td>3.89 (0.93)</td>
<td>4.5 (0.5)</td>
</tr>
</tbody>
</table>

Note. The scale for the results of this table is as follows: Teaching ability scale: 1 = very weak ability, 2 = mostly weak ability, 3 = some weaknesses, 4 = average some strength, 5 = mostly strong ability, 6 = strong ability, 7 = very strong ability.

Table 7.1 indicates that informants felt on average at the beginning of the unit that they had some weaknesses in their teaching ability in the pre EEU, but there is a shift from some weaknesses (M = 3.78) to some strengths (M = 4.5). This finding was also supported by individual interviews data where eight out of nine informants thought that their teaching ability had improved, solely due to participation in the EEU. However, not all informants felt their teaching ability improved. In fact Lesley said:

I think it has diminished since last prac… I was too relaxed and [there was] not enough communication between leaders [pre-service Outdoor Education teachers] about when to take their role, and what everyone’s role was.

She also realised that there is a lot more to teaching and that she did not know as much as she first thought. On further inspection of her data, she did actually improve her teaching practices, especially when comparing her first teaching attempt to her third attempt on video. The mean scores of all the informants show a significant shift in improvement of their teaching skills. Especially when you compare their Phase One
score at the beginning of the EEU to Phase three score at the end of the EEU 3 months later. The teaching improvements from these Phases are significant and support the comments and themes discussed in Chapter 8.

Betty’s vignette
At the beginning of the EEU Betty reported that she thought her teaching ability was around 3 = some weaknesses. At the end of the unit she felt that she had progressed to a 4 = average with some strength teaching ability. Betty also reported that developing her teaching skills was a 6 = important and this level remained throughout the EEU. Betty utilised the opportunity in her second teaching experience to work on implementing the ‘challenge by choice’ philosophy in her teaching approach. She experimented with not giving the students a goal on one of the activities and found this approach really helped the students to think about their own goal and apply it to the situation. She also identified the issue of “social embarrassment” or peer pressure amongst her students and implemented strategies to lessen this impact on the groups’ overall social development. This approach by Betty emphasised the critical reflection she has put in to this particular issue with her students. She also encouraged her peers in her teaching group to work on cooperating better, so they supported each other’s teaching, and Betty thought this helped the overall flow of activities and provided “a better continuity in terms of how the participants were developing as a group”.

Paul’s vignette
At the beginning of semester Paul indicated his teaching ability was around 4.5 = average in some strengths to mostly strong and he changed his rating to a definite 5 = mostly strong by the end of the unit. Paul rated that developing his teaching skills was a 6 = important to start with, but the support and enthusiasm to develop teaching practices in the EEU he changed to a 7 = very important, especially after the second teaching session where he became quite passionate about improving his professional practices. The second teaching session prompted Paul to reflect on his teaching practices and he noted, in particular, that he had not implemented the “challenge by choice” philosophy because he thought that students had to have a choice of activity in this scenario. His perception meant that he was not implementing the challenge by choice ethos, whereas this philosophy is about the individual’s choice to partake in an activity and their level of participation. So Paul has misinterpreted the philosophy because he actually gave his students the choice as to the level of challenge they would tackle and the roles they would engage in during the activities Paul taught. Paul noted that another point that he had learned from the second teaching session, in particular, was “social learning in the form of tackling a problem and finding the outcome, working together as a team to negotiate the low and high ropes elements”.

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Tina’s vignette
At the beginning of the unit Tina thought her teaching ability was a 4 = average some strengths and at the end of the unit she rated it a 4 again. Furthermore, Tina rated the importance of developing her teaching skills at a 6 = important and it remained at that level throughout the unit. Tina was very motivated to improve her learning and, similar to Lesley, she was very critical of her own teaching. She acknowledges this in herself after one of the DVD analysis sessions. She did show improvement in her teaching although she did not think she had. In Tina’s first teaching session she displayed good teaching approach but was a little apprehensive about her new content material. On her second teaching session she was able to apply the PBL or experiential approach much better, and she was happy with the way the lessons turned out, because her approach matched her students’ needs and the need for the content to be delivered without giving away the answers. She had everything else under control in her teaching, which meant she was able to concentrate her efforts into asking more questions of her students during the second teaching session.

Informants where asked to record their level of how important learning to teach was to them over the EEU time period. Table 7.2 reveals that all informants in the study either pre, during or post the EEU still maintained a high level of commitment to their teaching practices and rated it 6 = important to 7 = very important.

Table 7.2: Overall results of pre-service Outdoor Education teachers’ self-analysis

<table>
<thead>
<tr>
<th>Informants’ level of interest to learn new teaching abilities during the EEU</th>
<th>Phase one</th>
<th>Phase two</th>
<th>Phase three</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tina</td>
<td>6</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>Betty</td>
<td>6</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>Bronty</td>
<td>7</td>
<td>7</td>
<td>7</td>
</tr>
<tr>
<td>Jackie</td>
<td>5</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>Lesley</td>
<td>7</td>
<td>7</td>
<td>7</td>
</tr>
<tr>
<td>Mary</td>
<td>7</td>
<td>7</td>
<td>7</td>
</tr>
<tr>
<td>Paul</td>
<td>6</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>Steve</td>
<td>7</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>Mark</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Mean (SD) n=9</td>
<td>6.22 (0.83)</td>
<td>6.1 (0.78)</td>
<td>6.44 (0.73)</td>
</tr>
</tbody>
</table>

Note. The scale for the results of this table is as follows: the informants’ level of interest in developing their teaching practices during the EEU so the scale ranks the level of Importance of developing their own teaching skills: 1 = not important, 2 = very little importance, 3 = little importance, 4 = some importance, 5 = mostly important, 6 = important, 7 = very important.
The means between the three phases is significant and shows that the informants became more interested in improving their teaching as they progressed through the unit. Which means the EEU was a key part of encouraging the informants to learn more about their teaching practices. At this point, nine out of 10 informants reported they wanted to go into the teaching profession in two years when they graduated. The tenth informant aimed to go into a sport management career but has now started to think more seriously about a career in teaching. Lola did not provide data for this part of the research.

Jackie’s vignette

Jackie rated her teaching ability a 4 = average some strength, and this increased to a 5 = mostly strong ability by the end of the EEU. Her teaching ability level increased by 1 because she realised that “teaching is certainly not easy, I gained confidence and this experience helped me”. Jackie rated the importance of developing her teaching skills at the beginning of the unit a 5 = mostly important, at the end of the unit she increased her rating to a 6 = important. On the second teaching day, Jackie tried to implement a number of practices into her teaching. She noted that the wind affected the degree of difficulty on the high elements, so she remained vigilant to her students’ needs when they arose in this challenge situation. Jackie also tried to implement a number of theoretical aspects in her teaching including experiential learning approach, implementing the concept of ‘challenge by choice’ and the correct connection between the high elements and theory from the ‘adventure experience paradigm’. She found working with the group of students a little less confronting and scary, and this made it easier for her to talk to her students and encourage them to develop their teamwork. Jackie appreciated this time to build on her knowledge and technical skills of teaching activities on the challenge course. She also commented on how to improve on group dynamics by adding a few more ice-breaker games to help her students feel comfortable with other group members they had just met during the program.

Lola’s vignette

Teaching the secondary students allowed Lola to think about numerous concepts in her teaching approach. She tried to implement theory from experiential education, challenge by choice, leadership style theory, facilitation techniques discussed in class, the adventure paradigm, group management and risk management. She reflected on the day and found that she needed to incorporate the students’ existing knowledge; she thought about what she said before she said it, technical knowledge of running the challenge course elements was solid, she identified a problem with the sequencing of activities that led to their students attempting activities before they were ready, and that she was
watching the student’s body language to gauge if they had become bored with the activity, or stressed or happily engaged. These thoughts are based around her teaching practices and she has thought about ways to solve any of the issues that arose, especially when the students became bored with an easy challenge. She identified this and stepped in to change it up, even though it was not part of their original lesson plan.

Mary’s vignette
At the start of semester Mary rated her teaching ability at a 3 = some weaknesses, but towards the end of the unit and after the second teaching session, she rated her teaching ability between 4 and 5 = average in some strengths too mostly strong. Mary rated the importance to develop her teaching skills at a 7 = Very important and her interest remained at that level for the entire EEU. Mary was very critical of her second teaching effort. She stated; “Reflecting upon our teaching, my criticisms of our program is that we failed to deliver a sequential program. As a result, the participants found it hard to connect with each other, affecting the group dynamics and the way in which they completed each element.” She also noted that her groups’ dynamics were low but she addressed this by running some fun activities to encourage the students to laugh and enjoy the activities again.

Bronty’s vignette
One of the main concepts that Bronty has learned from the teaching experience is a better understanding of the ‘challenge by choice’ philosophy. She was teaching in the second session when she came across a student who did not want to participate on the high ropes element. This prompted Bronty to think about her personal learning about this kind of situation, and it made her realise that she needed to be flexible and aware of how group members where feeling about the different activities. Bronty’s was “a little confused about where to go from there” with the student refusing to participate, but she invited the student to belay instead of climbing, and this helped the student stay engaged in the activity. The student still participated and contributed to the groups’ goals and this helped Bronty understand that participants can still be a part of the learning, and support their group with other roles and this encapsulates the ‘challenge by choice’ approach to outdoor activities. Bronty admitted that this scenario made her think more in-depth about the application of the challenge by choice philosophy in her teaching approach.

I attended the last 30 minutes of this class to allow informants to view their teaching DVD of their high school program and evaluate their teaching practices using SNAPPER software and the productive pedagogy framework handbook and PP-CRS again. At the same time, I interviewed each informant and collected their post
program view of their teaching practices. Informants were asked to share their views of their teaching performance after viewing the DVD of the real teaching scenario with Year 8 secondary students.

The first informant to be explored was Bronty, who only identified four items from the PP-CRS list this time as compared to five items after the last teaching session. She did not elaborate on her teaching performance but she felt she had incorporated; *Higher Order Thinking, Problem-Based Curriculum, Social Support and Inclusivity*. The latter two items were the same as last time and the former two items were new. All these items are appropriate considering the type of activities run and program outcomes. Thus Bronty identified accurately, but has a limited view of her teaching, because the other teaching items were also present in her teaching practices in this outdoor situation. From my analysis, Bronty went from an average rating of 1 to 2 on the PP-CRS for her first teaching session compared to 3 to 4 for her second teaching attempt. From my observations of Bronty’s teaching on the second teaching day, she asked a lot of recall and memory questions, but this is an improvement from not asking any questions last time. Bronty looked confident at running the activity but missed a few teachable moments where her group of students could have learned about clear communication instead of talking over the top of each other.

After her second teaching attempt, Jackie thought she had met all 20 items on the PP-CRS compared to just three items she identified for her last teaching session. She also explained a number of significant changes she implemented, for example:

I tried and used explanations that were easy to understand, and not to supply the students with too much info. I made sure students understood my instructions by asking them questions…By not supplying the student [with]
too much info led to problem-based thinking. By allowing students to problem solve how they were going to tackle the elements. During the activities I made sure the students had social support, making sure students were encouraged. When they finished the element I asked them how they went and whether they enjoyed it. I made sure all students were catered for inclusively and that they got to choose which element they went on.

There were some significant developments in Jackie’s approach to her teaching and her thoughts about her practices. Her ability to identify more items on the PP-CRS highlights her efforts in understanding more about teaching practices and implementing more. Jackie also attempted to ask her students questions that would encourage them to reflect on their experiences; this is an improvement from the quiet, shy person who had previously not asked questions.

Betty made a few further comments, specifically about items she tried to implement in her teaching practices. For instance, she

    Asked the group questions if needed, to keep activity flowing...problem solving, teamwork and communication transfer directly into life skills so they had to solve problems as a group... This kept my students mainly on task. This also allowed for Inclusivity: I could have done a better job of encouraging non-dominant students. Narrative: by use of a theme for the CC. Group identity: already completed some initiatives activities. Citizenship: informants had a choice in what part they would play in problem solving. Cultural knowledge: not applicable to my lesson.

She also analysed her teaching with the use of PP-CRS and, this time, she rated herself in the 3 to 4 range on the rubric scale. She also identified six items as not applicable to her teaching practices, compared to her first teaching session, where she rated herself on all 20 items. This is in contrast to my observation of her second
teaching session where she displayed all 20 items in her teaching. However, she rated her teaching practices at the same level on the PP-CRS scale as I did. During the second teaching session Betty was able to provide her students with good questions that required some thinking; she also provided them with informal feedback on their ideas, and demonstrated a good understanding of activities.

Similar to other informants, Lesley also analysed her second teaching day, which differed from her first teaching day. She identified eight items that she felt were not in her teaching practices and rated herself at an average of 1 or 2 on the PP-CRS scale. This is in direct contrast to my analysis of her teaching, where she achieved all 20 items and all were above an average of 3 to 4 on the PP-CRS. The concept Lesley concentrated on the most during her second teaching practice was to allow her students to feel a part of the group. She stated: “Connectedness happened during reflection time of my lesson… Group identity formed when my students had to be supportive of each other while climbing.” Lesley mentioned that she was pleased that the extra effort she had put into supporting good group dynamics positively impacted her students’ ability to support each other as a group.

In comparison to Lesley’s first teaching attempt in the EEU, she was more confident with demonstrations, instructions and questioning. She was able to give specific feedback, encourage her students and obtain their feedback on their performance goals. On review of Lesley’s teaching practices and performance I noted that she assessed herself critically. She had high expectations of her teaching practices. Lesley was expecting that she would be teaching and exhibiting those skills of an
experienced teacher, so she marked herself down on the PP-CRS when in fact she was also one of the strongest teachers in the group on the day.

Another informant to display strong teaching ability was Paul. He missed assessing his teaching in the first round but he completed an analysis of his teaching this time around. Paul identified that he had met 15 of the 20 items on the PP-CRS across levels 2, 3, 4 and 5. My first analysis of Paul’s teaching was that he displayed all 20 items at levels 2 to 3 on the PP-CRS, and my second analysis of his teaching practices were at levels 3, 4 and 5 on the sheet. Hence, his analysis of his second teaching performance is similar to the ratings on the PP-CRS scale. Furthermore, Paul commented that there was only one particular item he did not cater for because he stated that “cultural knowledge: not applicable – all Anglo-Saxon students in our group. Actually the whole massive groups of school students were [from] Anglo-Saxon backgrounds”. This is an interesting comment, because he could not see that even though these children look the same, they had different backgrounds. This is something Paul needs to work on in future so he does not make assumptions. Through my direct observations of Paul’s teaching I noted that he was confident and possessed a good rapport with his students; he ran engaging activities and he gave his students encouraging feedback as well as some specific feedback when needed. He also asked questions that required his students to think about and reflect on their activities outdoors.

Another strong teacher in the group was Mary. She conducted a self-assessment on her second day of teaching and found that she had covered all 20 items on the PP-CRS. Mary mainly rated herself from 2 to 4 but also gave herself a 5.
The way I planned and sequenced was good and I had a good level of enthusiasm and I really wanted to nail the problem-based learning without giving too much information to give the challenge away to students and I think I did that pretty well. I was happy with my teaching and I think my students were happy with the activities too.

This analysis by Mary was similar to my analysis of her teaching in that she implemented all 20 items in her teaching practices but I rated her in the 4 to 5 range on the PP-CRS. She was the strongest teacher during this second teaching day. Finally, from my direct observation of Mary’s teaching, I noted that she had improved her ability to have substantive conversations with her students, and improved her knowledge of the ropes CC activities and elements.

Mark, however, was one of the weaker teachers who had limited teaching experience due to his double degree in Education and Management. However, he made a marked improvement in his understanding of teaching practices and ability to implement this new knowledge into his second teaching session. Mark only identified two items on the PP-CRS when he analysed his teaching the first time around compared to identifying all 20 items in his second teaching attempt. He was also able to rate himself at a similar teaching ability level as my rating on the PP-CRS scale. From my direct observations of Mark’s teaching he was able to run a couple of good activities but he also taught inappropriate ones too. He did improve his pedagogy and, in particular, he asked a number of questions this time. He also attempted to give general feedback as opposed to no feedback in his first teaching attempt.
Steve was the only informant to make bold mistakes with his assessment of his teaching ability from the first teaching session. He identified an aspect in his teaching that he thought he had covered, when in fact he had not. This time Steve identified seven teaching practices from the list on the PP-CRS. When comparing this to my analysis of his teaching, he identified two practices that he did not do in his teaching. Again, from my analysis of Steve’s teaching, he only implemented 15 out of 20 teaching practices from the PP-CRS. From my direct observations of Steve’s teaching, I noted that he was more confident in front of students and in giving instructions for the activity, he engaged in more educational conversation with his students, and he attempted to ask more in-depth questions but did not follow-up with the student’s response to explore deeper understanding. As a final part of his teaching he commented that reflection was overdone and that he did not want to stand around for 10 to 15 minutes talking, and thus he missed a variety of opportunities to uncover students’ understanding, fears, and triumphs.

Two informants, Lola and Tina, missed the SNAPPER self-assessment of their teaching using the PP-CRS but they did provide their thoughts of their teaching practices through other methods. I was still able to conduct an analysis of Lola’s teaching days from the DVD. Her second teaching day was slightly better than her first teaching performance. She achieved mostly level 1 for her teaching practices on all PP-CRS; however, in her second teaching day she was ranging between 2 and 3 ratings for all 20 items. So when comparing her first attempt to her second teaching attempt a positive improvement was detected. A significant finding is that Lola made more attempts to question her participants the second time around with Year 8 students.
There was only one other informant who did not analyse her teaching on the PP-CRS for the first or second teaching sessions, and this was due to missing the sessions provided for self-analyses of the DVDs of their teaching. However, Tina displayed good teaching ability which improved over the unit. For example, from my analysis of her first teaching session on the CC, she was able to demonstrate all 20 items in her teaching at a level 1 to 2 rating on the PP-CRS scale. Tina’s pedagogy practices improved for her second teaching day to an average of 4 on the PP-CRS scale. One of the most highly developed skills Tina demonstrated was an improvement in her questioning about activities. Thus she was able to set up the learning experience for her students so they were in a problem-solving situation. This helped Tina to achieve a shift from a teacher directed approach to approaches that incorporated PBL and experiential learning.

Data was collected from self-analyses of informants’ teaching attempts to give an overall comparison between their first and second teaching attempts and this comparison is depicted in Table 7.3. The data reported in Table 7.3 highlights the informant’s self-analysis by rating their teaching practices using the PP-CRS rating scale scores. Table 7.3 depicts the informants scores completed after their first teaching experience with the lesson they taught to the Bachelor Education first year students.

Referring to the data in Table 7.3, we are able to see what dimensions’ informants improved the most in their teaching abilities. Also see that there is a significant change in the mean scores between Phase one and Phase three (their second real
teaching attempt). The second attempt at their real teaching experiences was added to Table 7.3, so that a direct comparison of the 10 informants’ overall improvement in performance can be noted. There were only three items that went against the trend of improvement in mean score for many items. The items the pre-service Outdoor Education teachers found hard to improve on was in the Intellectual Quality dimension and items such as Depth of knowledge, Substantive conversation and Meta-language, the informants found it difficult and challenging to incorporate these aspects in their teaching. These aspects are more aligned with master teachers who have grasped basic level of understanding how to teach and are planned to be incorporated in units in their fourth year of their teaching degree.

Table 7.3: Comparison of informant’s first and second teaching days using self-analysis on the PP-CRS scale (adapted from a table cited in Gore et al. 2001)

<table>
<thead>
<tr>
<th>Dimensions</th>
<th>Items</th>
<th>Mean (SD) informants T1 (n=9)</th>
<th>Mean (SD) informants T2 (n=9)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intellectual quality</td>
<td>Higher order thinking</td>
<td>1 (1)</td>
<td>2 (2)</td>
</tr>
<tr>
<td></td>
<td>Depth of knowledge</td>
<td>1 (1)</td>
<td>1 (2)</td>
</tr>
<tr>
<td></td>
<td>Depth of students’ understanding</td>
<td>1 (1)</td>
<td>2 (2)</td>
</tr>
<tr>
<td></td>
<td>Substantive conversation</td>
<td>1 (1)</td>
<td>1 (2)</td>
</tr>
<tr>
<td></td>
<td>Knowledge as problematic</td>
<td>0.6 (0.9)</td>
<td>0.78 (1.2)</td>
</tr>
<tr>
<td></td>
<td>Meta-language</td>
<td>0.8 (1.2)</td>
<td>0.6 (1.1)</td>
</tr>
<tr>
<td></td>
<td>Mean for Intellectual Quality</td>
<td>0.74 (0.11)</td>
<td>1.4 (0.7)</td>
</tr>
<tr>
<td>Relevance</td>
<td>Knowledge integration</td>
<td>0.6 (0.9)</td>
<td>1.2 (1.6)</td>
</tr>
<tr>
<td></td>
<td>Link to background knowledge</td>
<td>0.8 (0.8)</td>
<td>1.2 (1.7)</td>
</tr>
<tr>
<td></td>
<td>Connection to world beyond the classroom</td>
<td>0.4 (0.7)</td>
<td>1.1 (1.4)</td>
</tr>
<tr>
<td></td>
<td>Problem-based curriculum</td>
<td>0.6 (0.7)</td>
<td>2 (1.66)</td>
</tr>
<tr>
<td></td>
<td>Mean for Relevance</td>
<td>0.6 (0.14)</td>
<td>1.39 (0.41)</td>
</tr>
<tr>
<td>Supportive classroom environment</td>
<td>Students’ direction of activities</td>
<td>1 (1)</td>
<td>2 (2)</td>
</tr>
<tr>
<td></td>
<td>Social support for student achievement</td>
<td>1 (1)</td>
<td>2 (2)</td>
</tr>
<tr>
<td></td>
<td>Academic engagement</td>
<td>0.4 (0.9)</td>
<td>0.9 (1.8)</td>
</tr>
<tr>
<td></td>
<td>Explicit quality performance criteria</td>
<td>0.3 (0.7)</td>
<td>1.6 (1.7)</td>
</tr>
<tr>
<td></td>
<td>Student self-regulation</td>
<td>1.4 (1.7)</td>
<td>2.6 (2)</td>
</tr>
<tr>
<td></td>
<td>Mean for Supportive Environment</td>
<td>0.7 (0.4)</td>
<td>1.8 (0.7)</td>
</tr>
<tr>
<td>Recognition of Difference</td>
<td>Curriculum knowledge values culture</td>
<td>0.2 (0.4)</td>
<td>0.6 (1.3)</td>
</tr>
<tr>
<td></td>
<td>Public represent inclusive participation</td>
<td>1.8 (1.9)</td>
<td>2.4 (1.6)</td>
</tr>
<tr>
<td></td>
<td>Narrative</td>
<td>0.4 (0.5)</td>
<td>1.6 (1.7)</td>
</tr>
<tr>
<td></td>
<td>Group identities in learning community</td>
<td>0.8 (0.8)</td>
<td>1.9 (1.9)</td>
</tr>
<tr>
<td></td>
<td>Active citizenship</td>
<td>0.9 (1.2)</td>
<td>1.1 (1.5)</td>
</tr>
<tr>
<td></td>
<td>Mean for Recognition of Difference</td>
<td>0.8 (0.6)</td>
<td>1.5 (0.7)</td>
</tr>
</tbody>
</table>
Post Week 13

Assignment two was due on 4 June 2007. Informants expressed their overall assessment of their teaching and the EEU through the final assignment. On completion of the unit informants were asked to identify the aspects of the EEU that most aided their learning. Their responses in their journals provided data to inform research question two: *What components of the EEU had the most influence on the development of pre-service Outdoor Education teacher’s pedagogy?*

For example, Betty wrote in her journal that she felt the most influence on her thoughts about pedagogy came from the following experiences during the EEU:

The task that had the greatest impact on the development of my pedagogical skills was the opportunity to analyse footage of me facilitating activities. It was incredible to see my distracting habits, facial expressions, posture and body movement, and what actually comes out of my mouth. I think that peers can tell you these things, but you only consider it so much until you see it on footage and then you know exactly what your peers meant, and you can’t deny your vices!

Betty is referring to the use of a video camera to capture teaching performances for self-assessment after the teaching day using the PP-CRS (Luke et al., 2000).

Bronty added:

I don’t feel as though I have changed. I feel as though I have developed my skills and knowledge at running a challenge course. I also feel as though I have developed my ability to facilitate a group through reading their actions. But I fail to see the long-term changes in myself as a result of the challenge course.
This is an attempt to understand and explain the different experiences in the unit which is designed to help informants understand the content they are teaching (cooperation, decision making, trust and communication-based activities). It includes the effects of sequencing on learning an activity and how to use an Outdoor Educational tool (e.g. ropes) to teach secondary students about teamwork and leadership skills. Bronty did not link her experiences on the CC course during the three training days to outcomes for her students. Activities have the potential to encourage students to learn about self-esteem (confidence and resilience in particular), communication, cooperation and decision-making.

However, on completion of the unit, Bronty reflected in her journal and stated:

The challenge course phase compared to the lecture/tutorials setting provided me with more hands on experience… For example, the development of being able to read and understand a group is something that I feel would definitely not have been taught in the classroom.

Bronty eventually gained some benefit from working with students on the challenge course, but it was not the experience she thought it would be. On completion of the unit, Bronty wrote:

Some skills I learnt over the experiential program include: how to set up a challenge course, new initiative games, safety aspects of high and low ropes elements, how to correctly fit harnesses and helmets, how to gauge the morale of a group better, how to tie an alpine butterfly and a double figure of eight. One particular skill that I learnt and I feel has had a positive effect on my pedagogy is sequencing. Writing out the plan beforehand and presenting a challenging activity without giving away the answers… Developing my
ability as a leader to facilitate a better experiential experience; I hope to continue and improve my awareness and ability in future leading (teaching).

In this journal writing, Bronty has identified aspects that will help her become an effective teacher.

Lola had similar thoughts in that she noted the following developments in her teaching over time in the EEU. Firstly, she discussed similar feelings towards the challenge course training days as Bronty experienced with personal growth. However, Lola wrote:

I won’t say that I changed dramatically as a result of participating in the program as a person, but I feel that I have definitely changed in terms of leadership… I have more confidence in my own abilities to lead a group on the challenge course —on all elements. The majority of this confidence in my abilities was developed and then also proven to me during the teaching days because it depended on me and my abilities. I felt I planned my section of the day well with my partner and the session ran smoothly, so I now have confidence in my ability to work with others, and plan a challenge course session for participants which have only come about through my participation in the experiential program.

One of the developments Lola noticed was her ability to set problem-solving activities for her students:

One way that I did change was that I became more aware of what I was actually saying and when I give away the answers to the participants… Watching the video footage of me teaching during the experiential program made me realise things that I do whilst leading the group… I was more aware of the group and how we interacted as leaders on the last teaching day as opposed to the first teaching day.

Here she has made reference to the group and its interactions and started to think about her teaching in more depth. Furthermore, Lola found that some tasks during the
experiential unit were more relevant to developing thoughts about her teaching than others, for example:

Taking the school groups was good in practising pedagogical skills but I found the task of peer teaching on the last day of the training program to be the most beneficial [especially the second week]. It is harder and more nerve racking to teach your peers because they will have the same, if not more experience than you, so you know you have to hit the target with information.

The EEU was designed with a constructivist model in mind when developing the challenge level of each teaching situation. Informants found the peer teaching more challenging than teaching schoolchildren. Lola also mentioned that teaching outside was affected by the weather and she was prepared for that, but she was not prepared for her lesson to be impacted by insects. This affected her teaching, and the students’ participation rate and interest in activities.

On completion of the unit Mark reflected little about the components that most influenced his pedagogy because he was still learning about teaching practices. He was aware of some technical aspects to running an activity or a session and noted the following in his journal on how he will improve his pedagogy in future:

…appear to be less uptight. Look as if I want to be here. Watch my body language and tone of voice. Engage in more general conversation with students.

Mark has identified a couple of technical aspects of teaching but he is completing a double degree in management and education, so this is to be expected of his teaching
ability at this stage. He was very keen after his introduction to teaching to learn more and take more units in education.

On completion of the unit Steve wrote in his journal that the following components influenced his thoughts about teaching:

Over the course of the unit I developed what I think is a good understanding of the term ‘risk’. I developed this understanding both in and out of class time. Once I was aware of the term I couldn’t help but find myself analysing activities in my everyday life. My life is based heavily in the outdoors. I’m commonly active with other people both of similar and very different experience levels compared to myself. Some situations were perceived as risk, and some were at a considerably high level of actual risk. Upon analysing these situations I developed a much greater and versatile understanding of the concept of ‘risk’ than I did through participating in the theoretical and practical classes of the unit. I found the environment of the challenge course very repetitive and static, and I found myself not wanting to participate towards the end of semester.

Steve’s comments demonstrate a better understanding than Mark’s but a weaker understanding to that of other peers. Steve however identified one of the EEU objectives without making any connection to theoretical underpinnings. Jackie, Mary, Paul, Tina, and Lesley however had an overall picture of the EEU and provided very insightful critical analysis of the EEU in their journals.

In Jackie’s opinion the following aspects of the EEU helped her transform her knowledge of teaching into action.

From the experiential program, I learnt two key skills. The first and possibly most confidence boosting at this stage of the course, as I feel I have been
lacking in this area thus far, was the acquisition of some solid technical skills… The second was knowledge I gained from the experiential learning program, that is, as much as you can seek to know your participants prior to leading them e.g. finding out age/circumstances/etc. you cannot make too many assumptions from this base knowledge…

A growing awareness of teaching practices was noted by most informants. For example, Jackie provided some critical reflections of her pedagogy throughout the research period. She wrote:

However, it is only on reflecting on both the theoretical and practical components of the course together that I can see the links between them, and use experiences in the challenge course component as a framework for exploring the theories. This is somewhat similar to the experiential learning cycle [cited in Project Adventure, 1992].

In this journal entry it is evident that connections exist between theory and practice, and between experiential learning that took place in the unit and its link to the experiential theory cycle, without being told by a lecturer or instructor. This is a good example of a higher order thinking process and a deeper understanding of teaching.

In a journal entry completed by Mary, there were three main aspects of the EEU that contributed to her level of understanding of teaching.

Some of the competencies acquired fall within the following categories: facilitation and learning approaches; belay techniques; safety issues; sequencing activities; managing groups and their dynamics; and fitting and using harnesses. These proficiencies were all beneficial within my development, both as an instructor and as a teacher. However, after reflecting upon the entirety of this subject, I came to the conclusion that: {1} understanding the role of risk has been a substantial element within my learning… {2} participating within the experiential program assisted me in
developing knowledge about adventure leadership, I realised how an individual’s values impact upon the way they conduct themselves as leaders… {3}Realising the importance of sequencing within a program impacted my development of pedagogical skills within the challenge course teaching days.

This entry by Mary demonstrated that she has reflected and grappled with her understanding of good teaching practice and she has tried to encapsulate this understanding in her reflection of the unit and her current teaching practices. She made further comments about the EEU by stating that:

The nonchalant manner of the lessons effectively produced student learning, through facilitation methods of reflection, discussion, and experiential based learning. Knowledge learnt within this experiential environment was enhanced through peer based reflection and discussion… This unit, unlike others, provides many opportunities to experience the theoretical knowledge learned within lectures and tutorials… This unit was effective in providing a balance between showing students what and how to learn information, and providing students with the opportunities to make connections between theory and practice.

There were many thoughtful comments in Mary’s journal that have captured her understanding of her teaching practices and the main EEU concepts.

Upon completion of the unit Paul also identified three main aspects of the program in his journal that affected his thoughts about teaching, as follows:

(1) One of the aspects of the experiential program that resulted in personal change was where it drew me to focus on the level of questions and also my conversations with participants. Yet it is often when discussing ideas and concepts with fellow professionals and between students that I often ask lower order questions. I need to develop substantive conversations (Productive Pedagogies, 2007) and attempt to deconstruct student’s ideas without channelling their own thoughts from formulating.
(2) One task that had a profound impact on my pedagogical skills was the discussions about risk during a number of our tutes…

(3) Analysing and justifying activities and the resulting implementation of these adaptations was one specific train of thought that I feel has developed since the commencement of the unit. These developments will aid the future application of extrinsic influences such as money, time, sequence, special needs of participants, but also intrinsic justifications such as my own self-efficacy. If I don’t see educational value in the activities and I cannot verbalise and justify why I am running such Outdoor lessons, I don’t believe I have the right or merit to professionally facilitate the lessons, possibly disabling students from gaining the potential from these experiential activities. It is with professional discussions, experience and reflections that I hope to progress to a suitable educational level that both myself and the participants mutually share the issues and also the rewards that are experienced from our interaction.

Other reviews of the learning experience prompted Paul, Mary, Jackie and Lesley to produce an in-depth critical analysis of the EEU in their journals, but they also reflected on their teaching on the CC in their outdoor log sheets. In particular, Paul made comments that demonstrated he understood the concepts at a deeper level. He identified further educational theory and linked his knowledge to the need for intrinsic and extrinsic motivation for students and the justification of educational value of some risky outdoor activities.

Another informant who had this same level of understanding was Tina. She produced a critical analysis, noting three aspects of the program that she felt helped her learn.

I found that the progression of activities in the unit allowed my confidence to grow especially in the skill of explaining an activity and trying to teach a new skill. This increased my confidence level in my ability to communicate clearly to the students. I really concentrated on getting my teaching points succinct and generally feeling comfortable in the role of a teacher. The video
footage provided me with valuable feedback as I find myself at times being too analytical but this allowed me to see myself from a third persons’ view of my teaching.

Tina’s reflections throughout her journal were insightful and contained accurate remarks about her teaching and her experience in the EEU.

Lesley also thrived in this learning setting. She displayed enthusiasm and creativity when she taught the secondary students. Also Lesley ran engaging activities that showed that she was well on her way to understanding what it takes to become a productive teacher. She was confident in all aspects of the unit’s critical components. Lesley also described two moments during the unit that influenced her thoughts about her pedagogy practices, which include:

Watching a video of myself teaching allowed me to identify some simple improvements that I can make in order to become a more effective educator. It is very uncommon to have the opportunity to gain an idea of the perception others might have of you, and in viewing this, I realised I frequently put my hands on my head, which gave a ‘too relaxed’ impression, and also distracted the learners from what I was saying …

The footage described was during the Pamper Pole activity that happened to be where I experienced the most pedagogical development compared to other led activities. The range of reactions of students who climbed the pole gave me a new understanding of students and my communication with them… Consequently this activity opened my senses up to the students’ reactions, and assisted in developing my interpretive and communication skills.

Given that Lesley wants to be an effective educator, she has expanded her view here beyond being just a specialist Outdoor Education or PE teacher. She also stated that “pedagogies for various learning needs were discussed in relation to physical abilities… mental abilities… communication variations… alternative activities” in
order to cater for a range of learning and physical abilities in the school group. Furthermore, Lesley provided an example of her thoughts regarding the skills required to safely manage the challenge course program with secondary students (second teaching session) that included:

The leader should be competent / qualified in their abilities to check equipment, individuals and the environment for safety concerns, manage and inform a group, conduct the activity safely and be aware of procedures should an incident occur.

These comments and reflections display a depth of understanding teaching practices, models and theories beyond her peers.

**Addressing guiding research question one: How did the EEU impact on the pre-service Outdoor Education teacher’s development of pedagogy practices?**

Betty’s perspective and knowledge of her teaching practices during the EEU grew from a focus on herself (“I need to practice how I will introduce an activity to a group so that I can be more confident”) to a more in-depth understanding of many aspects to teaching that need to be understood and implemented, which include:

Thorough planning, preparing, practising, having contingency plans and knowing what other leaders in your group are doing… The more planning, practise and reflection with teaching, the more natural and effective it will become.

She has gone from focusing on one activity and one teaching skill to acknowledging that there are many teaching practices to think about in order to teach effectively.

During the course Jackie paid particular notice to the real and perceived risks involved for students on the challenge course and, in particular, the initiative games and she noted in her journal that:
Participation in the experiential program prompted me to examine values underpinning the risks I take in engaging in outdoor programs and also to think critically about what risks I would reasonable ask participants under my leadership to engage in… However, if it is apparent that participants do not deem the risk to be acceptable, I would now be more inclined to involve them in other ways rather than cajoling them into having a go.

As articulated in her thinking, cajoling participants (students) into activities is not an effective teaching approach to aspire towards. However, what Jackie has not thought about yet is that one action of verbal support to a student could be seen as cajoling. It could also be seen as a way to encourage a student to take on a challenge, but an experienced Outdoor Education teacher can decide whether the student is indeed capable of completing or even trying the challenge. The experienced Outdoor Education teacher would judge whether the apprehensive student is looking for encouragement to help them face their fear of failure or heights. Jackie has learned through experience to “…give things a go. I have never belayed before and it was scary the first time and I was not willing to do it. But now I love it.” So she is still learning where to draw that line between cajoling and encouragement.

Whereas Lesley discovered that the unit helped her learn: “…through the lessons and first teaching day, we learned to have thorough backup plans including a wet day or different student numbers or injuries, etc… never to be too relaxed.” Paul was also focused on learning during this last cycle: “I have learned information relating to my facilitation techniques including sometimes altering student’s ‘self-regulation’. I also need to improve information projection and clear and concise instructions” [during the last part of the EEU]. Although Paul was a strong teacher in the practical scenario, he has not made clear links between his practice and the theory covered in the unit.
The EEU teaching experiences had a lasting effect on Mark and he learned that his teaching approach was “very casual and I don’t like to stand still… rehearsal may need to be done before, everything was on the spot”. This was his reflection of his teaching session and he has struggled to use any of the teacher terminology to describe this experience. His lack of education theory background was evident but the three-day CC provided him with good examples to model his instructing and facilitation approaches.

Addressing guiding research question two: What components of the OE program are the most influential on developing pre-service teacher productive pedagogy (PP) practices?

Through reflection on the unit Lesley thought that her PP had been influenced by being exposed to known outcomes of the outdoor activities, and how they met the needs of both students and curriculum:

Exactly what my objectives are is very hard to gauge for the students, because we didn’t know their backgrounds/needs. Therefore I need to find what I value and generally what different age groups value/need so I can really accommodate that.

She also felt that her approach to teaching had changed during this last cycle of the EEU, in particular:

I was more relaxed, thinking I was more competent, but visually, I realised that I came across as too relaxed and perhaps even bored. I don’t want that at all, because that is not how I feel and it was a major impact on the student’s experiences.
As Lesley demonstrated, she was a caring teacher who wanted to motivate and inspire her students to learn.

Another informant reflected on the last cycle of the EEU and was making some connections of her own about quality teaching. Bronty wrote in her journal:

Developing my ability as a leader to facilitate a better experiential experience, I hope to continue and improve my awareness and ability in future leading (teaching), by overcoming my inhibitions. I need to be more relaxed and willing to step up and take responsibility… I have also realised that not every activity works as well as it did the first time teaching… I’m also going to try to be less directive during planning with my classmates. I need to learn to back off.

The entire unit allowed Bronty to develop her thoughts about her teaching practices and she realised that to become a better leader she needed to continue to improve her teaching skills. Bronty also made the comment that she had learned a lot from facilitating with her peers; team teaching was difficult to coordinate but a good lesson in cooperation.

Paul also provided a reflection of his teaching approach after being influenced by the last part of the EEU. He stated:

Yes I have reflected a little on the experience and I have recognised some key ‘professional points’ that I need to build on to be at a personally acceptable level… I would not say that it has drastically changed my approach to teaching but I would say that I have become more focussed on certain aspects or channels of thought on risk that I previously had not thought enough about in my lesson planning.
The assessment of his teaching practices is a bit vague and there was a discrepancy between his teaching ability and his understanding of his teaching practices. Maybe this can happen when you have a natural teaching ability but still need to work on understanding practice from a theoretical perspective so that he avoids using ineffective teaching habits.

After the first teaching session Jackie reported that she had changed her approach to teaching by “…increased confidence, but feel I have a long way to go in that area”. One of the aspects she would change about her teaching before the next session would be “more preparation—know what I am teaching—not just ‘winging it’”. After the second teaching session Jackie stated “Yes” she had reflected on her teaching practice and “that no matter how organised you are things don’t always turn out as planned, so make sure you have a backup plan”. Jackie has been able to look at her teaching practice and implement experientially, combining theory and practice.

Mark also learned a number of ways to improve his teaching after his second session. He stated that he would “be better planned and don’t try to wing it, try to get activities that not only progress but are also fun. Just make everything clearer and sharper. It will come with practice… a need for more Rehearsal…”. This assessment is accurate and his level of understanding of teaching practice is quite basic. His practices are basic because he lacks correct terminology and identification of the practices he does put into action when teaching. Again this highlights his lack of foundation education units that would help him describe his teaching approach and whether it related to any contemporary education theories. Mark also displayed a lack of understanding for planning when he stated: “Planning didn’t matter as everything was made up due to
numbers”. He demonstrated that he was unaware that peers in his group were flexible enough to plan on their feet when their student numbers dropped for some activities. Mark saw this situation as unplanned and that his peers were “winging it” but in fact his peers used their flexibility and knowledge of content to choose suitable replacement activities for smaller groups.

Whereas those with more of an education degree background like Mary suggested that she would change aspects like “don’t give away answers and keep your eyes on participants on high ropes at ALL times…I have to be flexible, give simple clear intros to activities… I need to be more assertive at times!” in her pedagogy before her next teaching session. Whereas for her second teaching session the focus was on more complex teaching issues. For example, Mary suggested that “planning is SO important: flexibility and to read the group, when to intervene, change it up, give clues without giving it away…the way we planned and sequenced was good, and I showed a good level of enthusiasm”. Mary was a very capable teacher who had to overcome her lack of content knowledge and she excelled on the teaching day.

After the first teaching session Paul was asked to identify whether his approach to teaching had changed. He answered “I don’t believe so”. Then Paul was asked to identify aspects about his teaching that he would change before his second teaching session. Paul responded with “More group participation, rather than simply instruction from leaders”. Paul also reported that upon reflection of the first teaching session: “Only from the use of the video did I realise that I need to give clearer instructions and also do a little more though and justification about type and sequence of
activities”. This is a moment when the realisation that theory, talked about in the lecture room, does connect to his teaching practice.

Steve was also asked whether he reflected on his teaching and he stated: “Not in much depth. The video definitely helps that process though, I will reflect upon seeing that.” He was then asked to explain any changes to his teaching approach, and he stated: “Yes. I tried to be more involved verbally and use my strengths to my advantage”. He also explained the aspects he would change before his next teaching session, which included: “Try not to interfere too much with other’s teaching. Be more concise and direct in instruction… probably attempt to incorporate a little more enthusiasm and confidence…”. Steve attempted to assess his students and the impact of his lesson by stating: “We were able to cater to the abilities of the students we’ve worked with that led to their confidence being high and they were a very supportive group. I would notice if this wasn’t the case?” This last statement is a little confusing, but I interpret this as Steve making connections to his teaching approach, which had a positive impact on students in his group and they grew in confidence. If Steve did not cater to the students’ needs they would not gain confidence and have clicked in a supportive group. However, there is a gap in Steve’s thought processes and his line of thinking could be interpreted in other ways.

After the first teaching session Tina reported that on reflection she would work at “Getting my teaching points succinct and generally feeling comfortable in the role of a teacher”. Tina also stated that she would change aspects like speed of the delivery of her instructions “not rushing through. I have a tendency to want to blurt everything out rather than relax and let it flow” before her next teaching session. Tina stated that
she would not be changing her teaching approach before her next session because “I’m happy with my teaching approach already, it was pretty standard for me, but with the extra time to practise I just felt more confident”. During the EEU Tina felt that she had developed an effective teaching approach that she knew would work well with her students.

Bronty however stated that she would consider changing aspects such as “not wearing sunglasses whilst leading and decrease the number of times I say okay” to improve her teaching performance. This was a very brief reflection compared to the second teaching session where Bronty reported aspects such as “time on task, sequence of activity, understand the reasons for choosing particular activities, and how it will be implemented to get this idea across and plan for safety, not give away a lot of clues so as to help students when they can work it out for themselves”. These will be improved before her next teaching session. The comparison between the two reflections shows a deeper understanding of quality teaching practices but she has accurately recognised the effort and skills needed to improve. The EEU has made significant impact on all informants’ thoughts about their PP, especially in the way they think about quality teaching practices but also application of these practices into their own teaching.

**How the experience contributed to development of pre-service teacher’s understanding of quality teaching practices after three phases**

The informants were also asked to identify aspects that they would change about their teaching practices before their next teaching session. After the first session, Betty reported that she would “relax more, don’t look so worried, and be confident in what
I’m saying” however this understanding grew into “practise how I will introduce the activity and practise debriefing techniques like questions to ask for debriefing activities” after the second session. She will also consider technical teaching aspects in future, for instance, try to position herself so the sun is not in her eyes, consider frequent drink breaks to avoid dehydration and be prepared for a very exhausting day on her feet. Jackie also made references to technical aspects of teaching: “by doing the challenge course you need to be aware of your surroundings. I find now I like to know what is going on around me” and because of this she was prepared to add this new understanding to her teaching practice before her next teaching session.

Lesley thought that she could improve on her current teaching practices:

I will take more initiative to ask deeper questions of the students and have them be more involved in their own learning… I’ll have a more detailed plan for exactly how I’ll present and add enthusiasm… I will plan to change the environment when other groups are noisy and distracting… I also need to prepare for a student not wanting to come down, this happen to me this time and it gave me a good opportunity to try some different cognitive techniques with the student… I need more practice after the second teaching experience. I realised I require a lot more practise and then excitement and motivation will be more evident in both myself and the students.

These comments demonstrate Lesley’s ability to think about her teaching at a deeper level from her perspective as a teacher but also from her students’ views of her teaching practices.

Mark said that he was keen to build up his teaching skills, especially facilitation. He added that teaching would be his backup plan, in case he wanted to change his career from sport management to one in teaching at a later date. Some aspects that he would
change about his teaching would be to “appear more confident, and know content before taking it, be more organised and spend more time in the planning process, researching different aspects that need to be covered. Also go over content I’m supposed to know for the subject”.

After the second teaching session Paul was asked the same questions about his teaching and his response was: “I would not say it has changed drastically but I would agree that I have become more focused on certain aspects or channels of thought on risk that I previously had not thought enough about”. Paul also stated that he would change some aspects like “maintaining eye contact and possibly improving body language and stance” before his next teaching session. He added: “Yes I have reflected a little on the experience and I have recognised some key ‘professional points’ that I need to build on to be at a personally acceptable level”.

Mary was another strong teacher who mentioned that she had no need to change her approach to teaching: “I didn’t change my teaching approach but I can definitely see things I improved from the first two sessions and will need to continue to improve. We had to be really organised with sequencing as we did all the linking activities too”. She had chosen a teaching approach similar to the decision Paul and Tina had made. They had already chosen an appropriate PBL and experiential approach to their teaching practices.

After Steve’s second teaching session his answers changed. He hadn’t changed his approach to teaching but he stated that “as I have only just started experiencing my role as a teacher/leader, I am consciously learning in new environments and with a
huge range of student capabilities”. Some aspects that Steve will work on before his next teaching session include: “Probably attempt a little more enthusiasm and confidence”. Upon reflection of the second teaching session Steve explained: “As a teacher I should learn how to experiment with different teaching styles in a range of open, dynamic environments as well as closed ones” and “Yes, I needed to give less guidance on the challenge course and leave more to the students”. This is a moment where Steve acknowledges that there are more approaches than direct teaching approaches.

Tina learned patience from reflection of her second teaching session: “Patience!! Good planning can alleviate issues with facilitation on the day and prevent talking over each other” [in team teaching situations]. She also identified that “I say ‘good job’ and ‘well done’ too much, can fidget and look away from people when I am talking”. Tina was asked whether she had changed her approach to teaching and she stated “Not really, it was pretty standard for me, but I just felt more confident”. However, when asked what aspects she would change before her next teaching session, she stated that “will probably focus more now on not fidgeting as much and continuing to work on teaching points”.

Discussion

The discussion addresses three areas of the data presented in this chapter. The first area is focused on informants’ perceptions of their teaching, a desire to improve their teaching practices, and their teaching ability across the span of the EEU. The second area of discussion addresses learning experiences that had the most influence on
informants’ thinking about their PP. The third and final area discusses whether informants’ teaching practices improved or not.

Lesley and Tina are the only two participants that thought their pedagogy declined by the end of the EEU. Lesley believed she had gone backwards while Tina believed she maintained her level of teaching ability. All informants thought their levels of enthusiasm had increased and that this had improved their teaching practices. Some informants agreed that this was due to the influence of the unit’s focus on improving their teaching practices and knowledge. Each had a somewhat different learning experience that helped them understand the experiential process through combining outdoor teaching and CC teaching experiences with teacher education best practice theory.

For instance, Lesley was a strong pre-service Outdoor Education teacher, but she assessed herself against experienced teachers and therefore her self-assessment was harsh. She focused mainly on facilitation skills and ways to support enthusiasm in her students, herself and other peer teachers. Betty, who is another strong teacher, focused on addressing social embarrassment in her classroom set-up and discovered that she could empower her students by requesting them to set their own goals for challenges. Paul was another who focused on student needs and goals. He identified that he had asked lower order questions and a need to improve his questioning skills. He is still developing his understanding of theory. Paul is able to teach well, despite his lack of understanding with some theoretical concepts like ‘challenge by choice’ philosophy.
The only informant to look at the broad perspective of the EEU and make links between the learning experience and theory was Jackie. She possessed a good understanding of theory and applied it to the more practical session. For example, by the end of the unit she was able to implement a substantive conversation with students, and thrived from being able to practice her teaching skills, embracing the many opportunities presented in the EEU.

Lola developed her thoughts about theory and practice and attempted to ask more questions. She discovered the importance of obtaining her students’ level of previous knowledge and skills before trying to teach. She also developed her powers of observation by watching each student’s body language for signs of engagement, excitement or boredom.

Mary was a strong teacher and towards the end of the unit she was able to make an accurate assessment of her teaching. She possessed a broad knowledge base from many educational theories and was able to choose an appropriate teaching approach for each occasion. She was critical of the sequence of activities and this was an area of weakness at the beginning of the unit for Mary; but because she had researched and made an effort to understand the idea behind sequencing activities, this became the strength of her teaching. She improved her technical knowledge and framing of the activities so that she was appropriately applying PBL for her students.

One of the weaker teachers with an education background was Bronty. She demonstrated limited application of teaching models. In her written tasks she experienced difficulty linking teaching theory to practice. She was however able to
make an accurate assessment of her group’s activity sequence. Her teaching ability improved over the course of the EEU and she learned a lot from the practical components of teaching. For example, a student in her group, after completing all the earlier activities, decided that he did not want to participate in the high ropes activity. So after some consideration of how to address the situation, she advised him to take on a belaying role, so that he was still helping the group. After a while she saw that the student wanted to attempt the challenge. Upon reflection of the incident she recognised that this was a ‘challenge by choice’ situation, where the student had control over how much they wanted to participate in the activity, and that by helping with belaying is still helping the group achieve its goals of cooperation and teamwork.

Another strong pre-service Outdoor Education teacher identified in the data especially from the teaching footage was Tina, who demonstrated that she too had a clear understanding of effective teaching qualities from the theory covered in the EEU. Tina was also able to provide responses to critical components so she knew how to apply teaching models effectively to her teaching practices. For instance, she was able to gain confidence in the new content in the first teaching session, so by the second session, she was very confident with the CC activities. This allowed her to ask more in-depth questions of her students that required them to think and learn. She effectively applied the PBL teaching approach and provided her students with encouragement and specific feedback that did not give away the answers to the activity.

Even though Mark had a background in management theory and was one of the weakest of the teachers at the start of the unit, he was able to transfer some teaching
theory into his practical teaching sessions during the EEU. He accurately assessed his teaching ability, which the other informants had trouble with. Mark still needs to, his role in the peer teaching situation and also improve his choice of content, planning activities to meet specific objectives and outcomes in the curriculum.

Steve was the weakest informant with an education background. He demonstrated little understanding of theory and limited ability to teach, even at the end of the EEU. He made mistakes with interpreting his skills and incorrectly identified teaching practices that he was not demonstrating. Also at the end of the EEU, he still did not understand what a PBL approach or experiential learning approach to teaching meant. Steve exhibited limited knowledge of quality teaching by making a number of errors in assessing his teaching practices. Maybe this was due to his overall lack of enthusiasm to practise his teaching skills in the CC environment.

The overview of all informants’ teaching practices showed that their ability to teach had improved between the first and second attempts and their level of understanding had increased during this period. This overview is supported by Table 7.4 which shows that the majority of scores increased in each dimension of pedagogy practice. For example, Intellectual Quality, Relevance and Recognition of Difference improved by 0.1. The fourth dimension Supportive Classroom improved by 1.1. These scores mean that informants applied the teaching practice items at a higher level in the second teaching session. This is in comparison to a well-planned lesson using the CC as a classroom, taught by an experienced and effective teacher, who can incorporate all 20 items in the abovementioned four dimensions. The CC is a forgiving outdoor
learning environment that allows informants to practise all the pedagogy dimensions to become an effective Outdoor Education teacher.

The second area for discussion highlights the learning experiences that had the most influence on informants’ thinking about their pedagogy practices in the outdoors. In summary, of the data provided, nine key aspects of the EEU were identified as the most effective methods of learning that helped informants develop their productive pedagogy (PP) and thoughts about relevant education theories.

The first learning experience to have an impact on their learning was the use of the video process that helped them analyse their own teaching and this was mentioned by four informants. Another aspect was the opportunity to develop technical skills and this was mentioned by three informants as being important to them. The third point raised by two informants was that they appreciated and learned more from actually working with real students in a real outdoor setting.

Another learning experience was actually putting the experiential learning theory into action and experiencing it firsthand and observing how it works in real teaching settings, mentioned by three informants. The EEU demonstrated the importance of teaching practices such as questioning, reading group dynamics, planning, sequencing, and lesson content and allowed informants time to put these practices into action. This aspect was mentioned by four informants in the study.
The informants also particularly valued reflection at the end of each teaching session, learning from their peers, the lecturer and two instructors. They also mentioned that they appreciated time to apply risk and safety knowledge to a number of real teaching situations under the supervision of their lecturer and instructors. They felt supported in this new teaching situation.

Three of the pre-service Outdoor Education teachers mentioned that the progression of activities, lectures, tutorials and challenge course sessions included in the experiential program were appropriate to their learning needs. The last significant aspect identified by five informants related to the time and sequence of activities in the EEU. They felt the unit allowed them to build their confidence as novice Outdoor Education teachers and to teach new skills to students. Their confidence also grew in working with others in peer teaching situations.

The third area to be discussed includes prominent themes from the data as depicted in Figure 7.1. The themes emerged from the informant’s reflection on the whole EEU and the data is organised in size to represent the number of the informants who felt this theme was important to their learning. The large blue pentagon represents all informants, the green pentagons represent 8 informants, the red pentagons represent 7 informants, the orange pentagons represent 5 informants and the smallest purple pentagon represents 3 informants. This diagram highlights the theme that impacted the most informants. It also highlights what they thought was the most important aspects of their learning and captured their thoughts of how these impacted their pedagogy development during the EEU. How the EEU impacted on the informants’
thoughts is explained in further detail, with each theme matched to the number accordingly with Figure 7.1, in the following:
Figure 7.1: Diagrammatic representation of impact caused by EEU on pre-service Outdoor Education teachers learning

1. Increased awareness of risks when teaching outdoor education
2. Sequence of lesson content
3. Improved group management skills
4. Improved leadership skills
5. Fear of failure motivated learning more about their teaching
6. Critical reflection on content
7. Teaching peers and school students was challenging
8. Experience of the CC impacted
9. Readings of EEU effective

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These nine points of learning came from all points of the experiential learning cycle in all three phases. The theoretical parts helped set the informants up to avoid unnecessary risks during practical but also helped them grasp the concept of effectively teaching adventure education activities in a real setting. The CC experiences were just as important as the readings and lectures and workshops and all these themes prompted nine out of 10 pre-service Outdoor Education teachers to make positive changes to their teaching and show improvement over the EEU.

1. All informants noted that during the EEU they had to consider the risks of teaching Outdoor Education. They also felt that they had increased their awareness of both perceived and real risk.

2. They saw how the sequence of activities affected the challenge course programs and realised the impact on participants if sequencing is out, which affects the learning setting.

3. Informants thought that they had improved their group management skills by being able to practise organising the students in each of the programs.

4. A few informants perceived that they had been able to develop their leadership skills during the EEU.

5. The EEU really tested informants’ teaching Outdoor Education and at times they felt uncomfortable, overwhelmed and not confident with this unpredictable new teaching setting. They were challenged physically, mentally and emotionally. This experience possibly scared them into preparing and ‘rehearsing’ for the teaching situation, so they could overcome their fears about teaching the unknown. Some informants thought that if they could make themselves look calm and in control they would feel comfortable in their new “role” as an Outdoor Education teacher. Also this may have prompted them to want to learn more about teaching outdoors, so they could run effective lessons with the school children. They did not want to look incompetent in front of their students or peers. This thinking relates back to experiential education theory about using “the state of change” (Priest & Gass, 2005).
The state of change theory is about putting people in situations so they are motivated to overcome their feelings of discomfort by being prompted to learn new information to assist them to overcome the challenge or take control of the situation. The theory depends on the fact that people try to avoid feeling uncomfortable, so they are more likely to find ways to overcome these situations. In this case, the pre-service Outdoor Education students felt unprepared or inexperienced in their teaching. Thus they were willing to learn more about teaching and CC activities so they could feel comfortable in their new outdoor teaching role.

6. The EEU provided informants with an opportunity to analyse and justify the tasks and activities from a participant’s view before they used them in their lessons. It also provided a real-life example of some the objectives that can be met in challenge course programs, which allowed informants to build their experience of certain activities and explore potential outcomes (e.g. Paul’s journal).

7. Some informants found teaching peers the most challenging learning experience of the unit “… because they knew when you had stuffed up”. However, they also found “teaching school- children was hard too because it tested your group management skills, but I felt confident in teaching an activity because the school students didn’t know when I stuffed up facilitation or instructions for an activity” (cited in Bronty’s journal and supported by similar comment from Jackie’s journal).

8. During the EEU, some informants found their own experiences of the challenge course activities and tasks helped them prepare for teaching these activities. They said that it helped them to understand many feelings like apprehension, excitement, or fear, or other emotions they felt during different low and high challenge course activities. This helped them to prepare for their students’ reactions to different activities as they led/taught each challenge course session (Jackie’s journal). However, it is important to note that some informants did not experience any personal development when partaking in the CC activities and could not see the link for their students; but they later experienced a number of situations in the unit that helped them improve their leadership skills.
9. Haddocks’ (1993) article, covered in their readings early on in the unit, impacted upon how participants thought about risk. It allowed informants to acknowledge that risk brought the element of chance for their students to gain or lose something of value.

Other important comments should also be considered due to the significance of their contribution to content change to make the EEU even more effective next time. These include:

- Jackie felt that education and enjoyment were secondary to risk management, technical skills, and planning. Betty stated that physical and psychological safety, in particular, took priority during her teaching.
- From analysing lesson plans from all informants: not one group devised higher order questions while some groups were able to devise some lower order cognitive based questions to ask their students on reflection or any other time during the session.
- Betty, Paul, Tina and Lesley recognised that the EEU offered them an opportunity to practise making critical decisions under pressure, especially in an emotionally charged situation, for example, when a student is struck with fear 20 meters off the ground attempting to conquer a high ropes element and refuses to come down. These informants suggested they would appreciate some scenarios, where they have to deal with this kind of situation, ahead of the school students partaking in their program.

These three aspects ought to be considered by the lecturer before implementation of the unit in the future. These points should also be taken into consideration before making any changes to content and delivery of the EEU. Furthermore these points could be considered when teaching pre-service Outdoor Education teachers how to teach. Fear of teaching in high risk situations must be taken into consideration and handled accordingly especially when teaching pre-service teachers how to teach adventure-based activities in the outdoors.
This chapter has covered key aspects identified in themes from the informants’ data and they will be discussed further in Chapter 8. Chapter 7 also provided the data in relation to each of the research guiding questions. These questions inform the case study and provide evidence for the conclusion that follows.
Chapter 8: Conclusion

Chapter 8 constitutes the final research process for this case study. The results have been organised around three research questions devised to obtain data to convey an in-depth view of the case study research question. Initially the three research questions will be addressed separately. This allows the researcher to conduct analysis across informants’ thoughts, and provides multiple sources of detailed responses to each question. Such an approach provides the ‘big picture’ of the EEU and thoughts about learning to teach. The conclusion is organised into three main components:

- the impact of the EEU
- Thoughts about teaching
- Understandings of quality outdoor teaching.

Links are made between pertinent education theory and key results from this case study, followed by the conclusion to the study.

Impact of the Experiential Education Unit (EEU)

Upon reviewing the EEU data in the previous chapters it is clear that the content of the EEU was appropriate and significantly supported the informants’ learning in relation to risk management strategies and teaching practices as reported by all informants.
A number of critical components affected learning outcomes and these were identified from the data including:

- the lecturer
- the CC
- time factors
- filming
- peer support and critique.

The lecturer became a critical component in the unit by implementing a variety of quality teaching practices. The lecturer encouraged reflective practice; provided quality and effective feedback; incorporated the use of the PP framework; used cognitive based questions; encouraged innovation and creativity; and addressed assessment (Bransford et al., (2000); Parington, (1998); Gore et al., (2001). The results also revealed that informants learned most from the CC teaching and training days. Another critical aspect identified by informants was the use video-cameras to capture their teaching practices on film so that they could analyse their teaching with the aid of peers and the lecturers. The last component revealed a number of references to peer support and critique that led to informants experiencing increased confidence.

Some of these critical components are not unique to an experiential learning setting but they are important. In fact the lecturer or teacher is a critical component to any good lesson and the informants’ comments support research like Gore (1992) and Gale (2006) that the teacher is an important part of the delivery of good lessons. Furthermore in this case the lecturer is a key part of providing a very effective experiential learning setting. The peer support and critique is not unique to the EEU
but it is implemented in a way that the informants were not threatened or felt that it was a ‘mis-educative’ (Kolb and Kolb 2005) experience, in fact they found it to be helpful to their teaching. The contained EEU unique components such as CC and the filming as a lot of Outdoor Education or Experiential Learning settings are not able to afford.

The unit’s experiential nature influenced informants to think about the factors that affected their outdoor pedagogy practices. Most thought about either dealing with students who experienced physical fear related to heights (real risk), and or dealing with students who have a fear of failure that challenges their teaching (perceived risk) (Gass & Priest, 2005). The EEU heavily impacted informants’ teaching practices because their learning was undertaken in a real outdoor teaching situation. This required them to think about outdoor learning environment factors because they impacted their pedagogy practices (Aspland, 2006; Baldwin et al., 2004; Beard & Wilson, 2007). Furthermore it is important to note that most informants regardless of past experience and gender improved their knowledge of pedagogy practices and their ability to implement them into their teaching. This finding supports the use of Kolb’s (1984) learning model to teach Outdoor Education teachers how to teach Outdoor Education.

Balance between theory and practice

The informants found the sequence of learning experiences delivered through lectures, tutorials, training days, assignments and group teaching days all aided the development of their teaching practices. The EEU also helped them understand risk management policies and procedures to formulate strategies to implement in a real
Outdoor Education setting. The unit (see Chapter 3 for more detail) was delivered effectively by the lecturer who included a number of quality teaching practices as suggested in the literature in Chapter 2. For example, according to informants, the unit had a good balance between theory and practice as recommended in teacher education research by Shulman (1986) and Bengtsson (1993). This was implemented by the lecturer who took a constructivist approach to her teaching, which is supported by current experiential education theory (Beard & Wilson, 2007; Illeris, 2007; Kolb & Kolb, 2005; Kraft, 1999). This case study finding also supports Kolb’s (1984) theory that the ELT model promotes learning in adult learners. In this case the ELT model provided an important frame to the outdoor learning experience undertaken by the informants. The use of the ELT in the EEU produced a positive learning experience. Informants learned about teaching practices and transferred theory of teaching into practice, which impacted significantly on their pedagogy. The effects of experiential learning during the EEU are discussed in the following sections.

The lecturer as a critical component of pre-service teacher learning

Encouraging reflective practice

The lecturer provided many learning experiences throughout the EEU that ended with informants reflecting on their practical and theoretical work, and thus the informants found this learning environment supportive. The lecturer allowed informants to reflect on their practice and informants noted that this was an effective experience that encouraged them to learn about their teaching practices. This supports current teacher education research that refers to reflection or reflective practice to help pre-service teachers learn to teach (Cochran-Smith, 2005; Dewey, 1938; Gore et al., 2001;
Hiebert et al., 2007; Kalantzis, 2002; Kolb & Kolb, 2005; Newmann et al., 1996; Smith & Strahan, 2004). Reflection on teaching occurred at the end of teaching days when all informants formed a circle and verbalised their thoughts and concerns. Pre-service Outdoor Education teachers were asked three times during the EEU to reflect on their teaching and they were also asked to reflect when interviewed. Another reflection session occurred in the classroom when analysing their teaching and making plans for improvement, and final reflection occurred in assignment two as a part of their journal and in their logbooks. This reflection process was similar to the one suggested by Darling-Hammond (2006b) to support her pre-service teachers to learn more effectively. According to the data for this study, informants were exposed to many opportunities for reflection. With all this continued practice, support and feedback from the lecturer; informants became better at identifying and focusing on aspects of their teaching that needed more work thus improving their overall teaching abilities. Their reflective practice was effective during this study and this supports previous findings in studies by Brookfield (1995), Cranton (2002), and Ross-Gordon (2002). Informants were required to critically think about their teaching and identify aspects for improvement (Kanpol, 1994). It is noteworthy that all informants’ teaching improved over the course of the EEU.

*Providing quality and effective feedback*

Another key theme to emerge from the informant’s data was that feedback given throughout the EEU was effective and supportive (Smith & Colby, 2007; Smith & Strahan, 2004; Stronge et al., 2004). Feedback is an essential part of the experiential learning cycle and takes place usually after or during the activity. This part of the experiential learning cycle allows the participants to reflect on their experience and
draw out the point that they have learned from the setting. In this case the lecturer gave clear, accurate, specific and timely feedback to her students throughout the unit and at particular points straight after their teaching sessions. This was an effective way to aid the development of informants’ thoughts about their current teaching practices, which concurs with Tinning et al., (2001) suggestions for quality teaching approaches in an experiential setting, and rather than the practice of teaching take place in a health and Physical Education setting, it takes place in an Outdoor Education setting. This timely provision of feedback from the lecturer supported informants and challenged them to find ways to improve their teaching practices. The provision of specific feedback for teaching practice helped them understand their teaching on a deeper level (Hiebert et al., 2007; Marsh, 2008; Newmann et al., 1996; Perkins, 1998; Rogoff, 1990; Smith & Colby, 2007; Tinning et al., 2001; Van Mannen, 1995).

They also appreciated the encouragement provided by the lecturer and the secondary school teachers. This kind of support motivated them to work through frustration and more challenging learning experiences. This support helped the informants pursue good Outdoor Education teaching practices. This notion of providing support and good feedback supports Calderhead and Shorrock’s (1997) findings that teacher educators need to provide pre-service teachers with good feedback during the initial stages of their development in order to develop good teaching habits and provide motivation. So providing feedback is not unique to the outdoor experiential learning cycle but it is vital to the learning process. In fact it is a vital part of the learning process for most students to master their new skills and practices and this supports
Kraft’s (1999) thinking that motivation is an important part of the learning experience too.

The lecturers’ and instructors’ feedback also affected informants’ confidence levels. Simply by providing specific feedback the lecture was able to help her informants reflect on their teaching and identify when they had improved their teaching ability (Calderhead & Shorrock, 1997; Darling-Hammond, 2006b; Marsh, 2008). Giving accurate feedback can help pre-service teachers improve their teaching but it can also help them gain or lose confidence in their ability to teach. Therefore it is vitally important to note that the lecturer avoided hindering the development of any of the informants by putting them in positive learning experiences where feedback was constructive and encouraging.

Two pre-service Outdoor Education teachers reported, in the first phase of the unit, that they were nervous, apprehensive, and fearful of teaching Outdoor Education. They said this was due to having low level confidence in their ability to learn new content and new technical skills. This perception of their competence changed after significant practice time and support from the lecturer, which led to them feeling they had mastered the new technical skills and their confidence levels increased because of the learning experience.

This finding supports the need to be aware of the mis-educative aspects of any learning experience and be ready like the lecturer in this case study, to give extra time in instruction and support when students need it or they are held back from learning due to experiencing real fear. This supports Illeris (2007) and the notion that “internal
“psychological process of elaboration” affects the learning experience and this case of the informants’ feelings of fear nearly caused them to exit the EEU because of the demanding learning experience.

Incorporating the use of the Productive Pedagogy framework

The lecturer used the PP framework to assist informants to understand that there is research based ‘quality teaching practices’ provided by education departments and they should consider using them to improve their teaching practices in future. Since the PP was developed in 2001 other frameworks started to appear in other states around Australia, but they were in their infancy, and did not have any research to support their claims when I started to frame this case study in 2006. Informants found the use of the Productive Pedagogy – Classroom Reflection Sheet (PP-CRS) and the Productive Pedagogy Classroom Observation Scoring Manual (PP framework) very helpful. They reflected on their teaching performance on the day, but it was also very useful during their self-analysis and reflection on their teaching DVD.

This finding supports Gore et al., (2001) that the PP-CRS is a useful framework and resource to not only help novice teachers’ but it was helpful to pre-service Outdoor Education teachers. The informants found that the PP-CRS helped them identify areas that they could improve in their teaching practice. They also used the PP-CRS to help them formulate feedback on teaching practices for their peers. The PP framework according to the data helped all informants understand quality teaching practices on a deeper level. The filming and reflection process became a critical component of the unit, as did performing a critique of their peers teaching and providing them with the feedback. These two components will now be further discussed.
Using cognitive based questions to promote critical thinking

Another factor that became apparent in the unit was the lecturer’s use of questioning to encourage pre-service Outdoor Education teachers to think about their current teaching practices and find ways to improve them. The lecturer was implementing the concept of questioning, which is an important part of the learning process as, according to Eisner (1999), asking high order questions encourages a transference of learning between theory and practice, or during reflection. The lecturer also allowed a deeper level of learning to take place by asking her informants to devise higher order cognitive questions for their students to promote learning in their OE classes. Three informants commented on the difficulties they experienced when formulating questions on the planning days, and then asking these higher order questions during their lesson. They also found it hard to formulate higher order questions to prompt their students to think during the Outdoor Education class.

The EEU was delivered by the lecturer who managed to provide a quality learning experience that incorporated an effective learning environment (Resnik cited in Kraft, 1999). For example the lecturer provided lessons that involved “…educational process that is dependent on shared cognition, skills directly related to real-life settings…” through peer group teaching activities, and by incorporating “…learning in environments that demand a wide range of reasoning skills, and a range of specific competencies…” by teaching an educational program on the CC with real students (Resnik cited in Kraft, 1999). The EEU provided by the lecturer incorporated a number of real teaching sessions on a real CC as a part of an Outdoor Education program. The Outdoor Education program delivered by the informants met real education outcomes with real secondary school students. The inclusion of real life
experience for the informants was an effective teaching method. This supports the
teacher education research that setting or environment plays an important role in the
learning experience. This supports the notion that a quality educational setting is an
important aspect of the learning experience (Resnik cited in Kraft, 1999).

Encouraging innovation and creativity

A couple of informants received ample encouragement from their lecturer to be
innovative and creative with their lesson planning. This element of the EEU was
implemented by the lecturer and it is supported by Outdoor Education theory that
recognises the importance of prior planning of an Outdoor Education experience
(Beard & Wilson, 2007; Priest & Gass, 2005). Prior planning is to ensure outdoor
activities lead to desired outcomes while at the same time allowing the teacher to
inject fun and critical thinking into the outdoor learning environment by being
creative and imaginative (Prouty et al, 2007). Thus being creative and imaginative is
an important characteristic of being an effective Outdoor Education teacher, supported
by current outdoor leader literature (Cooper, 1996; Dewey cited in Kraft, 1999; Priest
& Gass, 1997 & 2005; Prouty et al., 2007; Quay & Seaman, 2013). From these
findings we can see that the lecturer has effectively incorporated another supportive
quality teaching practice in the delivery of the EEU. The lecturer according to the
informants challenged them to think imaginatively when implementing the content of
the lesson during their teaching days. Thus the lecture was allowed time for
informants to practise a skill to help them become effective outdoor educators. As
reported in the data, a number of informants (with stronger teaching abilities) refer to
the difficulty they experienced trying to implement a creative story to frame their
lessons, which is a complex skill to add to their thoughts about planning. Two were
able to manage this successfully by the end of the EEU; the remaining informants were still working on creatively building a story to frame the activities. The importance of framing an activity in an outdoor setting is supported by Priest and Gass (2005) and also Prouty, Panicucci, and Collinson (2007) research. Thus this skill is an important aspect for pre-service Outdoor Education teachers to aspire to add to their teaching practices.

Assessment in the outdoor learning environment

During the EEU the lecturer provided limited ideas about the types of assessment that would be appropriate in a practical setting. This meant that pre-service Outdoor Education teachers had limited exposure to assessment processes deemed suitable for their high school CC students’ abilities. The lecturer did provide some feedback between teaching sessions but informants did not transfer these tips into their assessment practices because they were concentrating on other aspects of their teaching. According to the data, three informants mentioned planning for student needs and sequencing that would link to outcomes, but none actually talked about how they would assess their student’s ability in the moving environment. On closer inspection of EEU content lecturers emphasised during class that assessment was not a focus during planning. Outcomes were discussed but informants did not have a solid or actual plan to assess their students. This was reflected in the data in two ways: through a lack of devised questions before activities because informants were unsure of the questions to ask (this point raised by Paul, Beth and Lesley), and a lack of need or emphasis placed on this part of the lesson by the lecturer.
Quiet clearly this could be an aspect for future consideration when the EEU is taught and certainly when implementing an Outdoor Education unit aimed at improving pedagogy practices. Ideas about Outdoor Education assessment are also lacking in the literature. A clear understanding of outcomes helps a teacher identify student performance that requires specific feedback to help the student achieve overall outcomes thus conducting an authentic assessment process. According to Bisson (1999), Fine (1999), and Priest and Gass (2005) an effective outdoor educator, or an effective teacher for that matter, must be able to assess the cognitive level of students and match it with an activity that will challenge their intellectual, mental and physical capabilities. Being able to plan activities suitable for the outdoor participant, according to Bisson (1999), is one of the most important abilities for an Outdoor Education teacher (p. 205). Upon reflection of the data, all informants were attempting to work on this skill throughout the EEU, but had not fully understood or implemented assessment techniques appropriately because they were still working on this advanced skill (Dillon et al., 2005; Fetherston, 2006; Gore et al, 2001; Marsh, 2008).

The Challenge Course as an important critical component

According to the results from this case study, informants viewed the CC days as a critical component of the unit that supported their learning. In the EEU context the CC was used by the lecturer as a tool to teach informants in two ways. The CC was first used according to most of the literature on CC to provide informants with an experience of the types of feelings and life lessons the activities can evoke. The CC experience was used by the lecturer to provide a learning experience (actual
participation on real CC elements) that would teach informants about what their outdoor students may experience and feel when they participate in low and high elements of the course. Some reported that they experienced a growth in confidence through meeting the physical and cognitive elements on the CC (Flood et al., 2009, p.56). By putting pre-service teachers through the activities on the CC; the lecturer aimed to give them a complete experience so that they could understand the emotional, physical and cognitive challenges they would be putting their school students through when they attempted the activities. By encouraging the pre-service teachers to experience the CC, they gained more empathy for the risks involved for their students from each of the challenges. Arnold (2003) highlighted the need for teachers to be aware of emotional intelligence and to be more empathetic towards their student’s emotional learning capacity. The CC encouraged this aspect in pre-service Outdoor Education teachers’ practices. Therefore the CC became a significant learning component in pre-service teacher’s development of empathetic approaches to their teaching practices. This also supports Illeris (2007) ELT that internal psychological process of elaboration, for example emotions like fear or excitement, are just as important to the informants learning experience as external interaction process.

The second use of the CC was as an opportunity for the lecturer to place informants in a real outdoor teaching setting without exposing them to overwhelming levels of real risk. This is one of the main reasons why the lecturer used the CC (and not kayaking, for instance) in the EEU, that is, to provide an outdoor teaching space for novice Outdoor Education teachers to learn how to teach in a somewhat controlled outdoor learning environment. There is very little research on the use of the CC to teach
teachers how to teach but there is a large amount on the effects of a CC on personal growth and teamwork skills.

Two aspects of the CC days were identified. The first aspect informants found to be of great value to their teaching development outdoors was to have time on the CC under the watchful eye of the lecturer. This allowed for them to be provided with immediate feedback and support so they could practise their teaching/facilitation skills over and over in an authentic setting, with the reassurance that the lecturer or instructors would step in, if they were doing something very unsafe or life-threatening. Most informants appreciated the authentic approach and extra time to implement their teaching practices in a real Outdoor Education lesson and with real students.

The CC teaching days, according to the data, also impacted informants’ thinking and planning of their teaching content. In particular, the success of some of the CC activities and elements depends on the Outdoor Education teacher’s ability to have fun and be innovative, creative and imaginative to frame an activity that taps into each student’s interests and motivations (Priest & Gass, 2005; Wagstaff et al., 2007). Informants found it difficult to apply creativity to instructions that frame the activity, so that it incorporated both instructions and safety parameters within the fictitious story, without giving the answer to the problem (initiative or element) to their students. This change of teaching approach, from a directed approach to a PBL, was very challenging for most informants; only three were able to apply it correctly during their real teaching session with their school students.
However, contrary to most informants’ views, it is important to note that the use of the CC will not appeal or motivate every pre-service Outdoor Education teacher to improve their teaching practices. As Steve noted “I found the environment of the challenge course very repetitive and static, and I found myself not wanting to participate towards the end of semester”. Of all the participants in the study, only Steve had this issue. But this is a real issue to consider when planning learning experience to teach outdoor educators how to teach. This is a real challenge that most teachers face when designing a learning environment, as Scott (2010) noted, that catering for different learning styles is no longer a vital part of planning and, in this case, providing a variety of learning contexts does impact all learners in the class regardless of their personal interests and motivations to learn. It is also important to note that Steve is an avid surfer, so if the CC had been taken out and beach/surfing environment inserted into its place, then maybe he would have changed his level of interest and motivation in the process, probably to the detriment of others in the class who do not like surfing. It is also important to note that even though Steve seemed to find the CC setting ‘boring’ his practical teaching skills improved over the course of the EEU.

The EEU was able to provide informants with an environment to work on their critical core competencies through the use of the CC (Priest & Gass, 2005; Prouty et al., 2007). The CC days provided them with the opportunity to learn new skills from participation. For example, the informants were asked directly whether the CC program aside from any other learning activities in the EEU had any impact on their skills or knowledge of becoming an outdoor educator. Most informants reported that they had learned technical skills such as rope handling and knot tying, belaying,
correctly, appropriate and correct fitting of harnesses and helmets, and safety strategies. They also reported that they had learned to apply theoretical teaching strategies through teaching CC activities, communication, facilitation skills, group management skills and applying ethics, which are all core competencies for an effective outdoor educator. Four informants were also extending their learning in this situation by acquiring and implementing leadership skills, making judgements about changes to the learning situation, applying problem-solving teaching approaches, decision making, dealing appropriately with peer pressure in group dynamics, and not invading their students’ personal space when fitting safety gear. Priest and Gass (2005) also commented on the lack of research regarding best practice to prepare outdoor leaders; therefore teacher educators should take note of the possibilities that this kind of educational setting provides. Based on informants’ data in this study, the use of the CC is one way to effectively teach Outdoor Education teachers how to teach safely in a complex and risky outdoor environment.

The overall comments from this data demonstrated that informants found the CC days to be a critical component in their learning experiences and that it had a positive influence on their understanding of their teaching practices. The CC, according to the results in this study, is a significant part of the EEU and a valuable teaching tool that provided pre-service Outdoor Education teachers with a safe and supportive space so they could try out their Outdoor Education teaching practices, reflect on their practice numerous times and then implement their newly formed outdoor teaching practices and risk management strategies.

**Time as a critical component**
The informants reported that they valued the time the lecturer dedicated to help them prepare and practise their new skills under her guidance. Informants appreciated extra time to learn new technical ropes skills and safety strategies and gain confidence in their ability to implement them accurately in their teaching practices in a real CC setting. At the beginning of the EEU some informants voiced their fears and concerns about not having the adequate skills to belay. However, these fears were addressed when they were given plenty of time to cover the theoretical aspects of belaying first. Then they were encouraged to use their new knowledge while learning to practise new belaying skills. This front loading approach aimed to avoid pre-service Outdoor Education teachers using the belay devices in an unsafe manner. This teaching technique is commonly used in an experiential learning situation to minimise the real risk of harm from the activity, this technique allows time to practice numerous attempts until the skill is mastered. Furthermore this teaching approach is used when teaching about other safety techniques designed to keep the pre-service Outdoor Education teachers from making mistakes. Avoiding dangerous mistakes by the pre-service Outdoor Education teacher is an important part of the EEU delivery process because if a mistake is made when belaying one of their school students could get hurt.

The lecturer taught the informants at their own pace and this made them feel capable of conducting activities with a high level of risk (e.g. belaying). For example in this case the skill of belaying (like any other outdoor adventure activity) must be done correctly to avoid any harm to the school students. Learning to judge risk and implement steps to avoid real risk situation in the learning experience is a vital part of
becoming a quality Outdoor Educator. Informants initially felt uncomfortable, independent of whether they were inexperienced or strong teachers. They were challenged by the real teaching components, felt fear and apprehension with some of the new technical CC elements and also belaying. Some informants, such as Jackie and Betty, felt so apprehensive that they seriously contemplated dropping out of the unit and out of teaching in Outdoor Education altogether. However, despite these feelings, all informants still faced their fears and challenged themselves to master the new technical skills. They all felt more confident teaching the CC elements including more complex high and low activities. They also felt that they had been given adequate time to master the new skills, which also lowered their feeling of stress, because they felt competent in their new teaching environment. Upon further analysis of the data, informants were supervised on the CC training days and teaching days for a total of 26 hours before tackling a teaching session with the school students.

Filming and viewing their DVD—the most critical component

Filming and analysing pedagogy on DVD became a critical component of the unit for informants. The filming process in and of itself had little impact but it was their ability to see themselves teach within a real outdoor context that was significant and this was the strongest theme. When they reported about the whole learning experience in the EEU it was the self-analysis of their teaching that had the most impact.

Filming their teaching performance enabled all informants to view their teaching practices from a different perspective, and lead to further understanding because the analyse provided time to identify their teaching strengths, weaknesses and distracting
habits. A number of informants commented that they could now see what the lecturer, instructors and peers meant by their comments during verbal reflection times and in written feedback. The informants had a chance to plan for changes in their practice and then transfer this new knowledge of their teaching practices into their next teaching session. This process was repeated three times during the EEU.

The negatives of filming arose because some informants were distracted at first by how they looked on film, rather than on what they were doing. They adjusted to filming after the first round of teaching and soon changed their focus, so that by the time the real teaching scenarios were taught they focused on their teaching. This process allowed informants time to reflect and assess their teaching when they viewed their footage a week later (Wragg, 1999). During this stage, some even felt motivated to improve their teaching because their teaching practices were caught on film for their own reflection, but also for the lecturer to view closely. This situation could be quiet stressful for the pre-service Outdoor Education teacher who do not wish to be on film. One reason to acknowledge is feeling uncomfortable to the extent of not wanting to see oneself on film. However, in this case study the informants were more concerned with failing to teach. Some informants suggested that their fear of failing to teach in front of anyone prompted and motivated them to learn more about good teaching practices. This filming is another way to motivate pre-service Outdoor Education teachers to be more accountable for their own learning to a degree. The consequence of underpreparing to teach in this situation is capture on film.

All informants found this viewing process valuable and this became a very critical learning tool for them. This feedback process provided them with constructive and
formative information about their current teaching practices and then helped them
develop and make adjustments to their teaching practices over time. They also valued
being able to view the DVD as often as needed. They could also slow the video down
or pause to take notes, select a SNAPPER code and log it in when they identified one
of the 20 items of the PP-CRS.

From a research design perspective, the use of the movie camera to capture the
teaching performance of pre-service Outdoor Education teacher is unique. Currently
the use of video to capture pre-service outdoors education teacher’s performance in
ELT research is scarce. However, from 2009 to 2012 there has been an explosion of
studies based on video analysis of teaching practices, especially in mathematics, early
childhood and science pre-service teacher education research areas. Using the
process of filming in an outdoor setting is still a unique perspective and approach to
capturing research data in the natural setting without invading the Outdoor Education
school student’s privacy. This study provides a successful way to gather research
information on Outdoor Education teacher’s with minimal impact on their experience.
This outcome had far more benefits for participants than negative impacts.

Furthermore from a research perspective, I found that the technique to get informants
to film each other was a way to enter their outdoor learning environment without
being to invasive of real teaching sessions. During the CC program informants were
mature enough to reassure all of their participants that the camera would be focused
on their teaching at all times. The lecturer also set up a supportive environment and
stated that informants had a choice about being filmed. Another advantage to this
technique was that the informants were able to film their peers teaching from very
close proximity, so they were able to capture good footage and audio for analysis. Asking informants to film their teaching was a very effective learning tool used in the EEU to point out good teaching practices and where they could improve. The data from this case study recommends future use of video analysis technique for analysing Outdoor Education teaching performance in outdoor learning environments. This finding supports previous studies by Cutter-McKenzie and Edwards (2008), Fleer (2009), and Lomax and Casey (1998) in that the value of using new technology like filming to aid pre-service teacher’s development of their pedagogy practices is significant. But also enables the researcher to collect strong qualitative data.

**Peer support and critique**

The EEU impacted on pre-service Outdoor Education teacher learning by providing them with an additional outcome in personal development, which was not incorporated by the lecturer in the unit guide outcomes or objectives or planned content for the unit. However, many informants reported that they felt they had been able to ‘grow’ or develop a healthy level of self-confidence towards their teaching ability over the course of the EEU. They also felt that their improvement in confidence to teach came specifically from the EEU through a combination of teaching days on the CC, and not from other university education units they were studying at the same time.

The informants valued and respected the peer and lecturer’s feedback during the discussion times at the end of each teaching day. This approach provided them with direct support to plan their teaching over the 13 weeks of the unit. The reflection time
at the end of each Phase prompted them to think about and make improvements to their teaching practices so therefore this was a successful learning activity. This finding also supports the notions that time for reflection is a part of a good learning environment, espoused by many researchers findings through the Association of Experiential Education (AEE) (2003, 2006 & 2012), and through other outdoor or experiential education researchers on reflection such as Beard and Wilson (2007), Brown (2008), Calderhead and Shorrocks (1997), Callcott et al. (2012), Cranton (2002), Dewey (1938), Dickson et al. (2005), Fine (1999), Flood et al. (2009), Freiberg (2002), Gore (1992), Hammerman et al. (2001), Haskins (2003), Hayllar (2005), Hetland et al. (1998), Kolb (1984), Kraft (1999), Kuhn (2001), Wagstaff et al. (2007), and Zink and Boyes (2006). The EEU teaching experiences were different to other forms of educating teachers. The pre-service Outdoor Education teachers were placed in a complex outdoor learning environment for a whole day. This gave them time to sequence activities and try them out, and try different teaching approaches, reflect on their practice and make changes mid lesson if they needed. The pre-service Outdoor Education teachers found the teaching sessions on the CC were far more complex situation to teach in, than micro teaching for 10mins in a classroom, just working on one teaching proficiency (Wragg, 1994). The teaching days on the CC were similar to school based practicum, except the pre-service Outdoor Education teachers had peers, lecturer and the school teachers to offer them guidance and suggestions for improvements. This situation allowed the informants to have support and respect while learning to teach from those around them.

The pre-service Outdoor Education teachers mentioned that their new found confidence removed barriers so they felt comfortable with taking leadership roles and
teaching new CC skills as they progressed through the phases of EEU. Not all informants felt the flow of the EE went from easy learning activities to more challenging. In fact an unexpected challenge arouse in phase one of the EEU. The lecturer and researcher had planned the unit so that informants would have a progression of easy to more complex teaching situations, thus using a constructivist approach to sequence the complexity and challenge level of each learning experience (Kolb & Kolb, 2005; Priest & Gass, 2005). The lecturer anticipated that informants would be progressively working on their teaching abilities and that they would become more proficient, but only half did. The other half reported that the first teaching session that involved teaching to their peers was harder than the following real teaching sessions with secondary students.

This point is an important aspect to consider when planning the sequence of experiential learning lesson (Beard & Wilson, 2007; Cranton, 2002; Dillon et al., 2005; Priest & Gass, 2005; Rohnke & Butler, 1995; Wagstaff et al., 2007) and it ought to be considered when planning or re-developing the next EEU delivery. This notion supports the research on the need to sequences activities for Outdoor Education learning experiences to avoid causing fear in participants. Also note that even with the best of intentions some activities may need to be changed around according to the participants. So this case study supports the need for proficient sequencing outdoor learning experiences. That a deep level of thought should be used when planning the sequence of outdoor learning experiences, for all pre-service teachers, because it can otherwise impact their learning in a negative way. In this situation the lecturer recognised that the informants were stressed when they were teaching their peers and offered reassurance and support during their teaching session.
Furthermore some informants reported that they felt stressed about teaching on the CC because they did not feel confident in their new knowledge of the many CC activities and numerous safety instructions and procedures. The pre-service Outdoor Education teachers also stated that they felt stressed because they thought their peers knew more about teaching the CC activities and safety instruction than they did. They feared they would make a mistake in front of their peers and were worried that peers would point it out. This relates to Arnold’s (2003) thoughts in that pre-service teachers need time to build self-confidence in order to build empathy towards each other and the students they will teach. Thus many informants felt more uncomfortable teaching and talking in front of peers, but once they had attempted the task, they felt relieved and proud of themselves for going through the challenging experience and thriving. They also felt they had succeeded in improving their comfort level of talking in front of a group along with teaching a new activity in an outdoor environment, which they reported made them feel like they had really accomplished something towards outdoor teaching. This improved their overall confidence levels in their teaching abilities, which also relates to Arnold’s (2003) findings. Phase one of the EEU was encouraging the informants to respect and support each other’s attempts at teaching.

The next section of this conclusion will highlight informants’ thoughts and understandings of their outdoor teaching practices as they progressed through the EEU.
Pre-service Outdoor Education teacher’s thoughts about their teaching practices

The pre-service Outdoor Education teachers discussed many thoughts about the aspects of the EEU that influenced their pedagogy. They were influenced in a variety of ways throughout the three phases of the unit. This section provides a comparison of thoughts between each phase. The data gave an indication of the level of understanding the informants obtained. This shows a direct link between the model used to guide the content and complexity of learning tasks. The data in chapters 5 described the informant’s thoughts in phase one. Chapter 6 discussed the informants’ thoughts after phase two but also showed a change in informants’ level of understanding about pedagogy practices. The third phase of the case study and third rotation of Kolb’s learning experience model was discussed in Chapter 7. The data uncovered in the phases of the research matched the gradual increase in complexity of Kolb’s model. Phase one led to more complex content and teaching tasks than in phase two and these complexities flowed into phase three. This finding supports Kolb’s (1984) ELT notion for using the ELT with pre-service teachers learning to teach Outdoor Education, guiding them to learn more about their teaching.

Phase one data provided an example of the informants teaching abilities and practices they possessed early on in the research process. Overall informants provided limited answers to their interviews and feedback in comparison to the depth of answers given in phase three. During phase one the majority of informants were focused on technical aspects. They mainly focused on their body language, voice and clear instructions, remembering instructions and safety procedures, their position when
giving instructions, whether to wear sunglasses when giving instructions, learning a lot of new technical skills to set up and operate the CC activities, and gaining a little confidence in their ability to lead an outdoor activity.

Three of the stronger teachers suggested they would work on refining their instructions so the activity was framed clearly, sequencing lesson content, debriefing and asking a few questions. Awareness of group dynamics, adequate planning to minimise risk were also some of the teaching practices at this stage in their understanding in phase one. In the practical component of this phase, these informants offered encouragement and some feedback while giving good safety instructions. They also attempted to ask a couple of questions, but they were mainly logistically based, with a few low ordered cognitive ones.

The strongest pre-service Outdoor Education teacher in the group demonstrated that she knew a lot more than the rest and discussed that she would be working on her pedagogy practices at this stage, which included thoughts about implementing different pedagogies to suit the needs of her students. She also mentioned that she would include imaginative and creative ways of teaching her lessons to create adventure. The last teaching practice she thought about was catering for differing mental abilities like fear, and making sure she gave a clear demonstration to accompany her instructions. The weakest informant however identified a couple of management strategies that he thought were teaching strategies. He made no comments to improve his pedagogy practice and had not looked at the PP framework or any pedagogy material or given any thought to his teaching practices.
For the duration of phase two informants displayed a deeper level of understanding of risk. They spoke about their application of the models of risk including ‘Challenge by Choice’ philosophy, the difference between real and perceived risks, and they had come to grips with the idea that they were responsible for the decision of an acceptable level of risk in their outdoor lessons (Priest & Gass, 2005; Prouty et al., 2007; Rohnke & Butler, 1995). All informants put their knowledge of risk paradigm into action through choice and sequence of their activities (Dickson, 2005; Priest & Gass, 2005). They acknowledged that risk could be a motivator to some outdoor students, while others wanted adventure, but within the realms of a safe environment. They also included comments that suggested they understood that risk can be a positive or negative experience. This can affect the motivation of the CC program participants because some students will thrive on the thrill and others will experience fear.

Informants were still thinking about most of the concepts they discussed in phase one in relation to their teaching practices. And they made further connections between theory and practice. Some identified the underpinning theory they would use to inform their teaching approach. Most pre-service Outdoor Education teachers reflected, revised and redesigned their sequence of activities. Some informants even thought about how to best frame (scaffolding) their activities so that they could use a PBL or experiential teaching approach (Marsh, 2008). In fact, the stronger teachers had already chosen a couple of teaching approaches that they knew would work from previous experience; they worked on strengthening their approach by refining their instructions so as not to give away answers to the problems they posed to their students. All attempted to use a PBL or experiential teaching approach but only two
succeeded in using it during their teaching time with minor errors. Finally, most informants during this phase were able to identify the importance of clear communication to their students, but also the need to be clear when team teaching with peers, so everyone was clear on the order of events and responsibility for each event.

Phase three data included similar teaching practices disclosed by informants. However, they were now concentrating on multiple teaching practices and not just technical aspects. Pre-service Outdoor Education teachers’ conversation about their teaching practices became substantive. Subsequently, their teaching practices showed a level of growth as they attempted to implement more complex teaching skills. The teachers improved by providing feedback to their students and attempting to formulate cognitive based questions. They incorporated a lot more thought into their planning, so they would have a number of options and be more flexible. Therefore they became aware of extra planning to counter possible impacts of different conditions relevant to teaching outdoors.

The strongest teachers identified that they would be working on meeting their students’ needs. Informants also mentioned that they would prepare themselves for providing better support to students who get scared and freeze. Some were also able to reflect on their teaching practices and accurately identify some skills that needed improvement and suggested appropriate ways to improve their practice. For example, these teachers were able to recognise that they gave away solutions to the problems in their lessons, so they worked out a plan to change their framing to incorporate
instructions and rules but they gave no hint on how to tackle the task. This also meant that they were working on improving their experiential teaching approach.

It is evident that the EEU informants became heavily focused on planning, sequencing content and facilitation. Some of the stronger teachers also became aware of questioning, reading group dynamics and applying a PBL teaching approach. Apart from these pedagogy practices, informants during all phases consistently spoke of and wrote about the following themes: most had to deal with a student in their group struggling with fear from the activity or fear of failure; all informants also commented about the impact that the outdoors had on their pedagogy practices. These points are discussed further in the following sections.

**Challenged by students who experience fear**

Pre-service Outdoor Education teachers tried to find an appropriate practice that would guide them when they were faced with presenting a learning experience to students that caused stress or distress when dealing with fear in the outdoors (Breunig, 2011; Illeris, 2007; Priest & Gass, 2005). The situation made informants feel uncomfortable and challenged them at the same time. Most pre-service Outdoor Education teachers reported an awareness that they were not just dealing with cognitive development, but also needed to manage their students’ perceived risks (fear) and real risks (being 20 to 30 meters off the ground) associated with the outdoor teaching setting. By informants having a direct experience of the CC activities in phase one of the EEU, they had time to develop empathy for their students when teaching CC activities. Informants were more aware of the stress and/or distress they placed on their students. This supports Arnold’s (2003) ideas for teaching pre-service
teachers, that is, to be more empathetic of pre-service Outdoor Education teachers because they are learning about quality teaching practice in a very complex teaching environment that involves real and perceived risks (Priest & Gass, 1997).

Many informants had not devised a plan to provide emotional support to their students before the CC teaching days. This will need to be carefully considered and implemented in the next adaptation of EEU outcomes. None had taken into consideration that the CC activities are designed to give the participant a thrill, but some of the students would become frightened, and some would get so scared that they would no longer want to participate in the activity. Dealing with fear added another level of complexity to teaching practices for informants and only a few of the stronger pre-service teachers started to plan for this by the end of the unit. However, most pre-service Outdoor Education teachers developed a deeper understanding of good risk management strategies that minimised physical harm; the lecturer and instructors assisted informants when potentially harmful emotional situations arose. They all effectively implemented risk identification and minimisation strategies that were shown to them in class, and this helped avoid any injuries to their students on any CC activities.

*Informants dealt with a fear of failure*

Risky situations arose during the teaching sessions. Informants referred to their confidence in their abilities to teach and manage risky situations. This confidence grew throughout the EEU. Their levels of self-esteem improved because the lecturer provided incremental challenging tasks and a supportive environment that made them feel comfortable with taking on personal fears of failure. For example, pre-service
Outdoor Education teachers had to deal with making mistakes in front of their peers, and through this process they became aware of the importance of failure (e.g. human error) and learning from their own mistakes.

Pre-service Outdoor Education teachers developed and demonstrated a high level of self-esteem by facing their personal fears of failure in front of others. By facing this cognitive based challenging situation they overcame their fears, and this gave them a sense of achievement and satisfaction (Marsh, 2008). The lecturer felt that informants also needed to understand failure in order to teach their students how to cope, and to try to fix mistakes and deal with their fear of failure. Overcoming failure can increase self-esteem, and increased level of self-esteem increases levels of resilience as well.

Some learned about failure from the CC activities and presenting in front of their peers, and this made them reflect on how they would manage this with their students. They learnt that when students solved these perplexing challenges they felt a sense of accomplishment. And whether it is an internal or external motivation reward, accomplishment can leave the CC student feeling happy and this raised their self-esteem. None recognised the importance of having a healthy level of self-esteem nor did they connect the relationship between a healthy self-esteem and resilience (McGrath cited in Marsh, 2008). The lecturer will need to address this point the next time the unit is taught, because it is important for students in schools to have healthy levels of self-esteem to maintain their resilience to failures and bullying in the school setting.
Also, the data supports the notion that when planning an EEU we need to consider educating in the outdoors for those who are going to teach in the outdoors. The EEU must contain learning experiences that focus on what skills and knowledge outdoor educators need to teach. Also the EEU needs to allow pre-service teachers time to teach content, which especially contains the element of risk and further implement ways to teach in different outdoor settings (Birrell et al., 2001; Colby et al., 2003; Dickson et al., 2005; Gore et al., 2001; Gray & Martin, 2012; Haskins, 2003; Loughran, 2007; Lugg, 2007; Marsh, 2008; Priest & Gass, 2005; Rohnke & Butler, 1995; Shulman, 1986; Smith & Knapp, 2011).

The EEU also influenced informants’ thoughts about acceptable and unacceptable levels of fear or risk in the OE setting. In particular, informants were worried about getting their sequence of activities out of order and that this would have a negative effect on their students’ learning. The informants said they felt less apprehensive about planning after they had experienced teaching the new CC activities a couple of times in the EEU. It was also at this point that they acknowledged that some risk had the potential to bring about a positive experience if the student was successful. They also realised that some risk might have a negative effect on the students’ progression of learning. They relied on risk management documentation to help them identify potential risk, then worked out acceptable levels of risk, and used adventure theory, including the risk paradigm and articles dealing with risk, to inform their teaching practice in this situation. This notion supports research conducted by Dickson et al. (2005), Priest and Gass (2005), and Marsh (2008) who also suggested that outdoor leader or outdoor educators need to manage risk effectively to minimalize the chance of harm to Outdoor Education participants.
Outdoor environments impact pedagogy practices

All pre-service Outdoor Education teachers in this study learned that teaching outdoors impacted their practices. They were exposed to various weather conditions and environmental conditions. They also had access to plenty of readings and support material to help them think about how the outdoors impacted their pedagogy and how this limited their learning. When the informants were exposed to teaching in the real outdoor learning environment they started to understand the wider ramifications that the impact of the outdoors can have on teaching. Furthermore, informants learned that they needed to prepare thoroughly and plan more activities for dry and wet conditions, so they could be flexible to cater for all types of weather and changes that occur in the outdoor teaching setting.

Informants also had to conduct a safety audit of the outdoor space they wished to teach in, and this meant they had to remove any rubbish or items that could cause unnecessary harm to their CC students. This was a hands-on approach that effectively taught them about preparing a safe learning environment. This situation also helped them understand that, when going into the outdoors, they needed to try to keep students as comfortable as possible or their learning would suffer.

Real variety of weather was the most impressionable on all informants, who had a very hot day or a cold, windy and wet day to care for their students’ welfare. On the really hot day, informants said they needed to consider extra breaks in the lesson, so that students could get a drink, apply more sunblock or rest in the shade to cool down.
Heat impacted the learning environment and the CC students’ ability to concentrate. It also affected informants who came unprepared for the heat.

Cold weather was also experienced by half of the informants. For example, Students could not hear instructions over the wind. Due to the weather conditions informants had to replan some of the activities to lower the challenge level, because the wet conditions made activities harder. Some informants were unprepared and they started to get cold. Informants found they needed to plan more backup activities for such conditions so they could switch to activities more appropriate to the climate. Hence, they all found that they needed to have a wet weather plan ready to go and plans to take their class inside, if necessary.

All learned firsthand how temperature and weather can impact pedagogy and the ability to learn. Being outside also taught them to think about the animals and insects that live in the area where they are taking their classes. One group of informants had their group running around on bull-ant nests and one student was bitten. This brought the previous class and CC training day discussion to the informants’ attention, with a need to be aware of the surrounding area’s suitability for teaching. Informants in other groups saw the event unfold and also learned from the experience. Many informants discussed this need to be vigilant for insects and objects in the lesson area.

Other informants were exposed to having construction, or lawn mowing or earthworks interrupt part of their outdoor lessons. They found it extremely hard to communicate to their students over the lawn mower and other noise. They found that their students were distracted by the activities going on around them. This taught informants that
they needed to move to a more suitable environment, away from distraction and excessive noise. Most did not think the outdoor environment would have such an impact on their pedagogy, and they felt that with more experience they would be able to manage the environment so that it was less distracting. A majority of informants enjoyed teaching outdoors in the fresh air and sunshine, and the students thought it was nice to be outside as well. Experiencing real weather in the outdoors also taught informants through experiential learning situations that they needed to cope with insects and the flow on effect, if one of their students is bitten; but also if any of the students in their group have allergies to other insects, and then bring the focus of the lesson back to the original lesson plan and activity. Teaching in a real outdoor setting placed extra pressure on their teaching ability and management strategies. Therefore the outdoor environment as a learning space played a significant role in teaching informants to be prepared for the real teaching sessions that they will conduct in the outdoors in future (Cranton, 2002; Dewey, 1938; Dickson, 2005; Kolb, 1984; Lugg, 2007; Rogoff, 2003).

The next section addresses the level of understanding that pre-service teachers achieved during the EEU.

**The learning experience contributed to pre-service Outdoor Education teachers’ understanding of quality outdoor teaching practices**

Based on the data presented in previous chapters there is significant evidence that the EEU, delivered by the lecturer, contributed to pre-service Outdoor Education teacher’s development and a greater level of understanding of quality outdoor
teaching practices. All informants, regardless of whether they were strong or inexperienced, male or female, teachers improved their knowledge of effective teaching practices. Furthermore they also implemented this new knowledge of proficient teaching into their outdoor teaching practices. They all attempted to implement some of these practices in their own teaching albeit some were more successful than others.

The learning experiences provided informants with a gradual learning curve that progressively introduced them to more teaching practices as they advanced through the unit and this is demonstrated across all three phases of the research. This finding supports the notions of constructivism embedded in socialist theory (Allen, 1998; Bisson, 1999; Kolb & Kolb, 2005; Partington, 1998; and Rogoff, 1990 & 2003). They went from having a limited understanding of risk strategies and teaching approaches and a narrow view of implementing content in their lessons in phase one. For example, they all made comments that revolved around fixing two or three aspects of their teaching related to more technical aspects such as voice projection or where to stand. This view became broader and informants displayed deeper levels of understanding by identifying many aspects of their teaching to work on by phase three. Most could identify more complex teaching skills and wanted to implement them to improve their teaching because they all wanted to become quality Outdoor Education teachers. This finding supports the use of PP-CR resources and framework by Gore et al., (2001) to help motivate and teach pre-service Outdoor Education teachers about productive pedagogy practices they could implement in their teaching.

Informant’s lack of understanding of teaching practices led to inaccurate analysis
Upon examination of pre-service Outdoor Education teachers’ responses to their own pedagogy, I found them to be lacking in the ability to identify effective, good or productive pedagogy in phases one and two. By phase three they started to develop a better understanding of the large amount of effective teaching characteristics and behaviours in teacher education theory. However it is also important to note that all informants regardless of gender or experience level were still making inexperienced mistakes with the analysis of their teaching skills at the end of the EEU.

This puts in question the validity of pre-service Outdoor Education teacher’s accuracy when assessing their own pedagogy practices when out teaching on prac or assessing peers, or their lecturers for that matter. This does not support the findings by researchers to use self-reflection as a reliable summative assessment, but rather a more formative practice and process for learning. The pre-service Outdoor Education teachers in this study are third years. They have had some experience teaching in schools and are in the early stages of developing their understanding of pedagogy. The inaccuracies were innocent mistakes by inexperienced undergraduates and they were made by strong and inexperienced pre-service Outdoor Education teachers.

Thus validity of pre-service Outdoor Education teachers’ ability to assess good teaching practices and unit content rely on the fact that they understand what good teaching practices or productive pedagogy and teaching theories look like in action. And the lecturer must be there to provide correction to inaccurate self-analyses. The stronger informants became in their teaching the more critical they became of their own teaching practices. Some became so critical that they judged their performance against a master teachers skills and this resulted in them being very critical of their
own performance. Whereas the weaker pre-service Outdoor Education teachers were more likely to be inaccurate around quality teaching practices, because of their limited theoretical background, which limits their ability to identify the many productive pedagogy practices they were doing. It is interesting to note that all informants were inaccurate with their assessment of their own teaching practices. These findings add further clarification to issues raised from a teacher educator research point of view that we need more studies with quality data that investigates the real learning experience and not be afraid to uncover some important issues that does not agree with other research findings (Cochran-Smith et al., 2008; Nuttall et al., 2006).

Additional aspects of becoming an outdoor educator

Over the course of this case study much evidence has been supplied about the implementation of a learning experience like the EEU and based on my analysis of the data, there were two further aspects that were worthy of mention. These aspects depicted in the data can affect the outdoor educator’s ability to teach so they ought to be considered. These findings were extracted from the informants’ comments about practices they were having difficulty with and found very challenging to the point of leaving the EEU: dealing with personal fear of teaching in a risky learning environment and being able to maintain their own wellbeing, if not this issue would lead to burnout from too much stress (Gray, 2005). It is important to note that this issue has not been discussed previously in education research on teachers learning to teach Outdoor Education or in the classroom including the work by Gray (2005).

An ability to deal with personal fears was the first aspect. This ability is needed when teaching an outdoor activity that involves risk at any level and has the potential to
harm a student. Some of the strong pre-service Outdoor Education teachers voiced their apprehension and fear of conducting activities that may harm their students, if they could not take control of the learning environment and make rational decisions about the CC activities. The lecturer acknowledged and addressed this feeling of fear throughout the EEU. She gave extra support through feedback, readings that covered the risk paradigm, discussions on acceptable levels of risk, and provision of plenty of time to practise and master their control of risky activities. This kind of response in supporting pre-service teachers is alluded to in works by Arnold (2003), Birrell, Gray, and Chapman (2001), Cranton (2002), and Gray and Martin (2012). This is not discussed in the research nor is it shown in Table 2.2 in Chapter 2, that listed characteristics of an effective teacher, including graduate standards for mathematical and classroom, PE or Outdoor Education teaching (quality teacher, outdoor leader or facilitator) (Priest & Gass, 2005; Tinning, McCuaig, & Hunter, 2006), but this finding acknowledges the need for teachers to have a level of empathetic intelligence, which supports Arnold’s (2003) ideology that teachers need to be able to feel confident in the element in order to teach students.

Informants’ results included situations that contained elements of risk that are unique to the outdoor teaching environment as discussed in the results in Chapter 7. The literature on effective characteristics of an outdoor educator were discussed by Priest and Gass (2005) and other researchers in Chapter 2, where teaching outdoors requires some extra planning and insight into the unpredictable environment, but has nothing about dealing with personal fears of putting someone else in danger. They realised that if they had ‘messed up’ instructions or omitted some safety precautions in the outdoor teaching setting, this could cause real harm which can add to stress and
eventually burnout (Birrell et al., 2001). Informants were aware of the extra responsibility of making accurate decisions to avoid their students experiencing real harm.

Another example of overcoming their personal fears was when informants taught new outdoor CC activities in front of their peers and they worried about making a mistake as mentioned previously. The third time they were challenged on a personal fear level, which arose when they had to teach Year 8 senior secondary students.

The second aspect that helps an outdoor educator be effective is an ability to maintain a good personal level of wellbeing, especially fitness, when teaching outdoors. This characteristic was identified after recognising that informants were lacking both experience and understanding of the importance of being able to stay alert and ready for action, if and when an emergency occurs, while teaching outdoors. This need was for them to maintain a good level of wellbeing, so they were prepared to stay on their feet all day, while maintaining effective teaching, and constantly making good decisions for the duration of the outdoor lesson.

Informants discussed having feelings of fatigue and how this had affected their ability to stay focused on tasks that required them to do a lot of safety spotting and maintain a high level of enthusiasm towards their teaching. This supports the findings of Birrell et al. (2001) that outdoor educators can suffer burnout if under stress from all risk factors associated with teaching outdoors. From the results, I identified three informants who were suffering from the effects of teaching outdoors; one was feeling distracted and fatigued through standing all day, another was inappropriately dressed

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and became cold, tired and unmotivated, and a third was dehydrated and felt light-headed, found it hard to concentrate and lacked energy, and all these conditions affected their ability to make decisions and operate safety equipment. From their own perspectives they had lowered their ability to teach safely, which is already at a novice teacher level to begin with. In this case these pre-service Outdoor Education teachers were teaching with peers at the time so they were able to rotate a rest.

The final section is the conclusion of the case study. The section has been divided into three parts: a conclusion, reflections on the research process and recommendations for further study.

**Conclusion of the case study**

All pre-service Outdoor Education teachers who participated in this study are satisfied that the EEU and lecturer provided them with meaningful learning experiences that allowed them to develop their risk management strategies and some of outdoor teaching practices. Furthermore, all informants’ found that the critical components of the EEU allowed them enough time to start developing some their teaching practices. Most found that using the CC as a teaching tool allowed them time to practise implementing risk management strategies, their new teaching approaches and new content. All informants appreciated using filming technology and analysing their teaching performance. This was valuable and they were given the opportunity to view it many times over. This notion supports the findings in research conducted by Cutter-McKenzie and Edwards (2008) and Fleer (2009), found that filming teaching practices is a robust technique to collect data for sociology based research but also
provides good feedback to pre-service teachers learning how to teach. The filming process aided pre-service Outdoor Education teachers’ understanding of what they were actually doing when they were teaching, and this experience helped them to see what the lecturer or tutors meant by their constructive comments during feedback. Informants did improve their teaching practices over the course of the EEU and they noted that they felt their level of confidence in their abilities to teach outdoors grew. This finding in the study also highlights the fact that these pre-service Outdoor Education teachers, regardless of being strong or weak, were still learning about good teaching practices and conducting a self-assessment of their teaching via filming process was effective.

Throughout this case study I have provided modest, yet highly useful evidence based material to inform interested members of the teaching profession, other education researchers, relevant experiential professional associations, and colleagues in teacher education at university level. Given the scarcity of the data that provide insights into pre-service Outdoor Education teacher’s thoughts about their teaching and their development over the EEU, the findings from this study may be especially valuable when the EEU is reviewed. Although this is not a large scale investigation, relative to time, personnel, and funding parameters, this study has produced some noteworthy results, a summary of which will be distributed to my academic colleagues, the Victorian Outdoor Teachers Association, Australian Academic Research in Education Association, International Experiential Education Association and Australian Council for Health, PE and Recreation and other interested individuals and parties. It also provides another study to unveil the complexity of learning to teach raised in Cochran et al. (2008), Darling–Hammond (2006a), Nuttall et al. (2006), and Shulman (1986)
addressing issues of lack of research on teaching practices, and teachers learning to teach. In turn, such dissemination may encourage organisations and educators to investigate further aspects in teaching and learning that effectively support pre-service Outdoor Education teachers (undergraduate) who are learning to teach. This study is especially important for Australian Outdoor Education academics to have results so that they may consider them in order to improve their subsequent teaching practices when teaching pre-service Outdoor Education teachers how to teach.

Findings from these data will be available to university personnel and interested university outdoor research students (doctoral students) who may find it worthwhile, because the study has incorporated student voices, but also the use of video analysis and other current research practices that aim to capture the complex research setting in the outdoors. The findings from this study clearly depict that pre-service Outdoor Education teachers found the EEU a valuable learning experience which helped them grow in confidence and develop their outdoor teaching practices, providing them with an opportunity to meet the unit objectives. Nonetheless, the findings from this study also show that pre-service Outdoor Education teachers would like to see a couple of changes or further activities added. Informants found the balance of theory and practical learning experiences to be beneficial to their overall development of risk management strategies and their teaching practices.

From my experienced Outdoor Education teacher view, there is an increasing value placed on student voices in the development, redesign and evaluation of education programs and units. It is important to note that pre-service Outdoor Education teachers in this study found it difficult to accurately analyse their own teaching
practices. All gave inaccurate evaluations of their teaching practices, by either over or under evaluating their abilities. Some had limited knowledge of PP practices and this was reflected in their narrow identification of a few teaching practices. However, it is also important to note that some did improve their analysis by the third attempt at analysing their teaching practices, once they started to understand the many ‘PP’ or ‘quality teaching’ practices involved in good teaching.

In terms of assisting teacher education and experiential education academics who wish to make adjustments to their units and Outdoor Education teacher training programs, it may be useful for professional associations, departments of education, and the Outdoor Recreation training authority in providing relevant professional learning.

**Reflections on the research process**

The study sample size was robust given the type of investigation that was involved (Yin, 2003a). In absolute and relative terms, the size of the sample was sufficient to yield valuable data (Punch, 2005). It would have been preferable to duplicate the sample sizes that Gore et al. (2001) were able to achieve in their research, so as to produce results that would better replicate the pre-service Outdoor Education teacher population.

The findings of this study support that the EEU did help the pre-service Outdoor Education teachers develop their understanding of quality teaching practices. The use of Kolb’s ELT helped the informants apply productive pedagogy practices into their
teaching practices. This notion supports the use of Kolb’s (1984) learning experience model.

The interview schedule could be revised to add more follow-up questions and was used in an exploratory nature. The SNAPPER data analysis of video footage is quite time-consuming. For future research I suggest using NVIVO 9, which now incorporates the ability to analyse video footage within the program, and allows direct links to existing research codes from the rest of the artefacts. This would avoid the need to use multiple sources of external computer programs like SNAPPER software and transferring data from one software package to another. SNAPPER (2007) was one of the better software video analysis packages available on the market at the time of data analysis. This software allowed the researcher to view and assess teaching performance at the time of data collection for this study. In future studies of this nature there is a need to be able to capture informants’ thoughts using multiple methods in this dynamic, natural outdoor classroom setting.

**Recommendations for further study**

Further inquiry into teacher education of outdoor practices and best learning approaches is needed in Australia. Outdoor Education teacher education and outdoor instructor training programs would benefit from having research results that explain positive and negative aspects of units and programs designed to effectively support pre-service Outdoor Education teachers’ transformation into effective, quality outdoor educators. There is certainly a need for further research to be conducted on outdoor programs with a focus on generating reliable data through multiple sources of data
collection techniques involving more recent technology. Further research is also needed that focuses on the student’s ability to conduct peer evaluation and self-analysis techniques and assessment in the outdoors. There is also a need for further research into the characteristics of an effective outdoor educator including research into CC use and other outdoor settings.

Improvements to teaching and learning practices are almost invariably inhibited if outdoor educators or teacher educators are afraid to learn about negative aspects of their unit or program. Instead, it is far more productive to view the evaluative and reflection process as a means to enhance the quality of the learning experience (Patton, 1997) and associated best teaching practices (Berry, 2005; Calderhead & Shorrock, 1997; Cochran-Smith, 2005; Loughran, 2007; Nuttall et al., 2006; Shulman, 1986). Further research is needed to illustrate the effectiveness and credibility of all university Outdoor Education teacher preparation programs and, in terms of a nationwide education system, reflection on teaching practices and evaluation of units and programs once lecturers have a better understanding they can make changes to aspects of teaching to reform practice. Research is capable of depicting ‘how and why’ Outdoor Education works, whereas evaluative or reflexive data can improve the way teachers practice as well as identify other issues that need attention in the teacher education setting (Cochran-Smith, 2005; Priest & Gass, 2005; Shulman, 1986). Expressed another way, it is important to increase the rate of research in teacher education, Outdoor Education teacher education and Outdoor Education outcomes in order to gather evidence of its claims to outcomes or anything else the EEU experience may offer.
Future research should investigate key components of teaching and learning occurring in Outdoor Education teacher education programs at universities to further build on, what transfers in the learning, how much of the content is relevant and appropriate, how long does it take for participants to learn (grow their knowledge), and critical components (Berry, 2005; Brookfield, 1995; Cochran-Smith & Zeichner, 2009; Darling-Hammond, 2006b; Fetherston, 2006; Hiebert et al., 2007; Neill, 2001; Priest, 1999; Shulman, 1986; Zeichner, 1999). A continuous collection of case study research at the unit, or program or school level would provide key information that will help development, or redesign or enact ways to overcome barriers to learning in future Outdoor Education teacher units and programs.

Neill (2001) expressed his concern about the decline in production of research in Outdoor Education settings. To answer his call for more research, there have been a number of outdoor programs to evaluate various outcomes. Further research should be conducted into tertiary level Outdoor Education teacher programs to verify their outcomes and also capture outdoor teaching and learning practices. This case study found that the EEU presented in this study was an effective tool for teaching Outdoor Education teachers how to teach in the outdoors. Further studies are needed across the curriculum to identify strengths and weaknesses of OE programs and /or outdoor educators. Current times call for quality pre-service teachers who are capable of teaching the Australian curriculum (Gray & Martin, 2012).

The findings from this case study may warrant consideration for present and future validity of feedback obtained from pre-service teachers in any university program across Australia. If pre-service Outdoor Education teachers inaccurately identify
teaching characteristics or rate weak practice strong then they are not giving accurate feedback. They are having trouble identifying good teaching practices from perhaps trying to be a popular teacher. Pre-service Outdoor Education teachers are learning about quality teaching practices in themselves at this stage and bearing in mind these informants’ are in their third year of an education degree, so they are just starting to learn about quality teaching practices. They have shown through the EEU that their knowledge of pedagogy is inexperienced they have a hard time identifying good practice in themselves and their peers. This prompts the question should pre-service Outdoor Education teachers’ feedback to peers or lecturers be given credibility? This leads on to question whether inaccuracies in evaluations of teaching practices occur across university programs when undergraduates are asked to give feedback, especially the validity of students in first and second year. This also leads to question the worthiness of including this kind of feedback in performance development plans of lectures with serious implication to careers. Therefore future areas of study in teacher education might include the following questions: What are pre-service teachers basing their feedback on? Is it popularity of the lecturer/teacher, or maybe the influence on their grades? Perhaps they have no issue with the unit so they do not give any feedback, or they rush the feedback and thus do not critically reflect on the whole unit, because it is easier to base it on the last couple of lessons.

The findings from this study will be used to inform university outdoor educators’ practices, similar to the Gore et al. (2001) research on PP about pre-service Outdoor Education teachers’ level of understanding and ways to support their transformation into quality Outdoor Education teachers. Consideration ought to be given to whether there will be a future demand for Outdoor Education teachers, when the new
Australian Curriculum at present does not specifically incorporate Outdoor Education outcomes but does touch on sustainability and other related strands or dimensions (Gray & Martin, 2012). Findings from this research may also support studies conducted in other fields of teacher education at the tertiary level. This should add variety to the existing research focused in mathematics and help build a clearer picture of adult further education programs aimed at preparation of teachers, and identify pedagogy that has the ability to contribute to other areas of teacher education and experiential education.
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APPENDICES
CONSENT FORM FOR UNIVERSITY STUDENTS

Development of Pedagogy in Pre-service Outdoor Education teachers: A Case Study

Researcher: Terri-Anne Philpott

I have been given information about “Development of Pedagogy Practices in Pre-service Outdoor Education Teachers: A Case Study”. I have discussed this research project with Terri-Anne Philpott who is conducting this research as part of a PhD degree supervised by Dr Tonia Gray from the Faculty of Education at the University of Wollongong.

I understand that if I consent to participate in this project I will be asked to allow copies of my print and electronic communication including my reflective journal and peer debrief contributions to be used in the study, and that they will be stripped of personal identifiers and coded by the researcher prior to analysis. I also consent to having my teaching session’s video recorded and my interviews recorded by the researcher pre, during and post experiential programme. I understand that my contribution will be confidential and that there will be no personal identification of the data that I agree to allow to be used in the study. I understand that there are no potential risks or burdens associated with this study.

I have had an opportunity to ask Terri-Anne Philpott of any questions I may have about the research and my participation. I understand that my participation in this research is voluntary and I am free to refuse to participate and I am free to withdraw from the research at any time. My refusal to participate or withdrawal of consent will not affect my relationship with the Faculty of Education at Monash University in my course/program of study in Sport and Outdoor Recreation degree.

If I have any enquires about the research, I can contact Terri-Anne Philpott (0418 998 445) and/or Dr Tonia Gray (0427 331 127). If I have any concerns or complaints regarding the way the research is or has been conducted, I can contact the Ethics Officer, Human Research Ethics committee, University of Wollongong on 02 4221 4457.

Please tick the appropriate box/s to indicate the data procedure/s you give the researcher consent to use in a thesis.

- Interview
- Video observation
- Journal & assessment items
- Questionnaire
- Peer Debrief/feedback
- Use of your photo/image
- All

By signing below I am indicating my consent to participate in the research. I understand that the data collected from my participation will be used primarily for a
PhD thesis, and will also be used in summary form for journal publication, and I consent for it to be used in that manner.

Signed ……………………………………… Date ….../....../…..
Name……………………………………… (Please print)
PARTICIPATION INFORMATION SHEET FOR LECTURER

TITLE: The Impact of an Experiential Programme on Development of Pedagogy in Pre-service Outdoor Education Teachers: A Case Study

PURPOSE OF THE RESEARCH
This is an invitation to participate in a study conducted by researchers at the University of Wollongong. The purpose of the research is to investigate the development of pedagogy practices of pre-service Outdoor Education teachers as a result of being exposed to an experiential program designed to impact their teaching and facilitation skills.

INVESTIGATORS
Ms Terri-Anne Philpott
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03 9904 4418 terrianne.philpott@monash.edu
Dr Tonia Gray
Faculty of Education, Wollongong University
0427 331 127 toniag@uow.edu.au
Prof Marilyn Fleer
Faculty of Education, Monash University
03 9904 4235 marilyn.fleer@monash.edu

METHODS AND DEMANDS ON PARTICIPANTS
If you choose to be included, you will be required to participate in a number of one to one interviews and informal discussions with Terri-Anne Philpott. On these visits the researcher will conduct 30 minute interviews that will be audio taped to ascertain the observations and feedback on pre-service teacher’s progress during the experiential programme. Typical questions in the interview include: What new skills or knowledge about themselves did pre-service teachers learn from the experiential programme? How did the pre-service pedagogy practices change because of their participation in the experiential programme? What tasks in particular during the experiential programme had the most impact on the development of pedagogical skills in the pre-service teachers?

We also request your permission to observe and video tape pre-service teachers when they run their first, second and third teaching experiences. We also wish to: audio tape semi-structured interviews with the research participants’ during and post the academic semester; collect electronic copies of their reflective journal; and any other assignments/assessment items completed during the unit of work.

RISKS AND INCONVENIENCES AND DISCOMFORTS
Apart from the 30min interviews and observing your pre-service teachers in action three times, we can forsee no risks for you. Your involvement in the study is voluntary and you may withdraw your participation from the study at any time and withdraw any data that you have provided to that point. Refusal to participate in the study will not affect your relationship with the University of Wollongong or Monash.
FUNDING AND POSSIBLE BENEFITS OF THE RESEARCH
This study is being conducted to meet PhD requirements. Data will be stored in a locked cabinet at the University of Wollongong and Monash University and destroyed after five years. Your participation into this research will provide a basis for future decisions on the development of productive pedagogy in pre-service Outdoor Education teachers. Findings from the study could potentially be published in educational journals. Confidentiality is assured, and the University, you and the pre-service Outdoor Education teachers will not be identified in any part of the research.

ETHICS REVIEW AND COMPLAINTS
This study has been reviewed by the Human Research Ethics Committee (Social Science, Humanities and Behavioural Science) of the University of Wollongong and Monash University. If you have any concerns or complaints regarding the way this research has been conducted, you can contact the University of Wollongong Ethics Officer on 02 4221 4457.

Thank you for your interest in this study.
22 June 2007

Chairperson - Human Research Ethics Committee
University of Wollongong
Wollongong, NSW 2522

Dear A/Prof Hoban:

RE: Ethics Number: HE07/018 application.

In response to your letter sent on the 23 Feb 2007, please find enclosed the approval letters from A University ethics committee and the Principal (Head of the Program) where the research will be conducted.

Thank you for your time. I am happy to answer any further questions you may have on the matter.

Sincerely,

Terri-Anne Philpott

Currently enrolled in the Faculty of Education PhD program at Wollongong University
HREC Approval No: HE07/018

Expiry Date: 24/2/2012.

Project Title: The Impact of an Experiential Programme on the Development of Pedagogy Practices in Pre-service Outdoor Education Teachers: A Case Study

Chief Investigator: Ass Prof Tonia Gray

General Notes and Conditions

The National Statement on Ethical Conduct in Research Involving Humans requires institutions to monitor research projects involving human participants to ensure that they are conducted ethically and in compliance with the HREC approval for that project, including any conditions placed on that approval.

For the most part, the monitoring requirement will be satisfied by the chief investigator:

- notifying the HREC immediately of any serious or unexpected adverse effects on participants;
- notifying the HREC of any proposed changes to the protocol or procedures to be used in the research;
- notifying the HREC of unforeseen events that might affect continued ethical acceptability of the project;
- providing the HREC with an annual report on the project; and
- providing the HREC with a report at the completion of the project.

In special circumstances the HREC may ask for more frequent reports and may require additional monitoring if it considers this necessary to ensure that the project continues to conform to ethical standards. While the principal objective of monitoring is to ensure that the rights and interests of human participants are not jeopardised, it is also concerned to foster responsible research.

This form is to be used for:

- Reports of serious or unexpected adverse effects on participants;
- Reports of proposed changes to protocols/projects;
- Reports of unforeseen events that might affect ethical acceptability of projects;
- Annual reports on approved research project;
- Request for renewal of approval; and
- Final reports on projects at the completion of research

Please complete this report referring back where necessary to your application for ethics clearance, which is the approved protocol, and any special conditions imposed by the HREC. If there is
RENEWAL APPROVAL
In reply please quote: HE07/018
Further Enquiries Phone: 4221 3386
MR:SH

22 February 2012

Ms Terri-Anne Philpott
PO Box 527
FRANKSTON VIC 3199

Dear Ms Philpott,
I am pleased to advise that renewal of the following Human Research Ethics application has been approved. This certificate relates to the research protocol submitted in your original application and all approved amendments to date.

Please notify UWS that this project is ongoing and has been approved by the UOW Human Ethics Committee. UWS may require a copy of this letter and your initial application.

Ethics Number: HE07/018

Project Title: The Impact of an Experiential Programme on the Development of Pedagogy Practices in Pre-service Outdoor Education Teachers: A Case Study

Name of Researchers: Ms Terri-Anne Philpott, Dr Tonia Gray, Professor Marilyn Fleer

Renewed From: 25 February 2012

Expiry Date: 24 February 2013

Please note that approvals are granted for a twelve month period. Further extension will be considered on receipt of a progress report prior to expiry date.

This certificate relates to the research protocol submitted in your original application and all approved amendments to date. Please remember that in addition to completing an annual report the Human Research Ethics Committee also requires that researchers immediately report:
• proposed changes to the protocol including changes to investigators involved
• serious or unexpected adverse effects on participants
• unforeseen events that might affect continued ethical acceptability of the project

Yours sincerely
A/Professor Garry Hoban
Chair, Social Sciences
Human Research Ethics Committee
c: Dr Tonia Gray, Education
Jan, 2007

Dear Ass Prof _____ _____ at University A,

One lecturer from your degree has been invited to participate in a research study conducted by Terri-Anne Philpott as part of a PhD degree at the University of Wollongong. The study is entitled *The Impact of an Experiential Programme on development of pedagogy practices in Pre-service Outdoor Education teachers: A Case Study*. We write to seek your approval to conduct research.

The purpose of the research is to investigate:
- How an Experiential programme impacts on the development of pedagogy practices in Pre-service Outdoor Education teachers?

Approval is sought to visit the University over 12 days. During these visits Terri-Anne Philpott would like to interview and observe pre-service Outdoor Education teachers in the field and interview their lecturer and instructors. In addition we would like to collect examples of the pre-service Outdoor Education teachers work. The observations will involve videorecording the pre-service teachers during three teaching situations.

The research has been given support from the Faculty of Education at the University of Wollongong. An application has been applied for both through the University of Wollongong and Monash Human Research Ethics Committees. Please find enclosed a copy of the *Participant Information Sheet for the Lecturer* and the *Information and Consent forms for the University Pre-service Outdoor Education teachers*.

The findings from this research will provide a basis for future decisions on the development of productive pedagogy in Pre-service Outdoor Education teachers. If there are any ethical concerns, you can contact the Ethics Officer, Human Research Ethics Committee, University of Wollongong on 02 4221 4457.

Should you require any further information please do not hesitate to contact members of the research team.

Yours sincerely

Ms Terri-Anne Philpott,
*terrianne.philpott@monash.edu*

Dr Tonia Gray

Prof Marilyn Fleer
My Guiding Research Questions:

1. How does an experiential programme impact on the development of pedagogy in pre-service Outdoor Education teachers?

Questions that lead off from the above question:

i. Experiential programme may provide learning experiences that will enhance the teacher efficacy levels of pre-service Outdoor Education teachers.

ii. Experiential programme may have no effect on the teacher efficacy levels of pre-service Outdoor Education teachers

Overall guiding qualitative questions:

1. What new skills or knowledge about themselves did pre-service teachers learn from the experiential programme?

2. How did the pre-service pedagogy practices change because of their participation in the experiential programme? What new skills helped develop their teaching?

3. Is there any direct evidence that the facilitation skills or knowledge learnt during the experiential programme were directly transferable to a teaching situation in the outdoors?

4. What tasks in particular during the experiential programme had the most impact on the development of pedagogical skills of the pre-service teachers?

5. How did the unit differ from other units taken for pedagogy development?

6. How did the Challenge Course phase’s impact on the experiential programme compared with the lecture/tutorial classroom setting?

The following Qualitative Questions are devised to provide data for the above questions through three sources; 1. A Reflective Journal to be collected at the end of the programme, 2. Semi-structured Interviews at three phases during the programme, 3. Video Analysis to be conducted three times during the programme.

Intended Reflective Journal Questions are as follows:

1. What new skills or knowledge did you learn from the experiential programme?

2. How did the unit differ from other units taken for pedagogy development?

3. How did you change because of your participation in the experiential programme? What experiences helped develop your teaching?
4. How did the Challenge Course phase’s impact on the experiential programme compared with the lecture/tutorial classroom setting?
5. Do you think the facilitation skills or knowledge learnt during the theory phases were directly transferable to a teaching situation in the outdoors?
6. What task if any do you think had the most impact on your development of pedagogical skills?

Intended Semi-structured Interview Questions:

1. What have you learned from your experience during this unit so far?  
   **(Experience question)**
2. Have you reflected on your experience so far? If so what have you thought about in terms of your teaching practice?  
   **(Reflection question)**
3. Has your approach to teaching changed? If so in what way?  
   **(Analysis question)**
4. What aspect will you change before your next teaching experience?  
   **(Re-application question)**
5. Were there any incidental factors (positive or negative) that could have influenced your teaching performance?

Scale for rating the next questions is as follows: 1 = very weak ability, 2 = mostly weak, 3 = some weaknesses, 4 = average some strength, 5 = mostly strong, 6 = strong, 7 = very strong

6. Rate your teaching ability at present  
   **(very weak)1 – 2 – 3 – 4 – 5 – 6 – 7 (very strong)**

Scale for rating the next question is as follows: 1 = not important, 2 = very little importance, 3 = little importance, 4 = some importance, 5 = mostly important, 6 = important, 7 = very important

7. How important is developing your teaching skills to you at the moment?  
   **(Not important) 1 – 2 – 3 – 4 – 5 – 6 – 7 (very important)**
Intended Semi-structured framework: for students to use when they self-analysis their teaching performance on video and also this framework will be used by the researcher, lecturer and instructors when observing the pre-service Outdoor Education teachers teaching.

1. What are your thoughts about the intellectual level of your sessions?
   a. Higher order thinking
   b. Keep knowledge
   c. Deep understanding
   d. Substantive conversation
   e. Knowledge as problematic
   f. Metalanguage

2. Do you think your session involved connectedness?
   g. Knowledge of integration
   h. Background knowledge
   i. Connectedness to the world
   j. Problem-based curriculum

3. Do you think you were able to provide a supportive learning environment?
   k. Student direction
   l. Social support
   m. Academic engagement
   n. Explicit quality performance criteria
   o. Self-regulation

4. How did you cater for differences between group members?
   p. Cultural knowledge
   q. Inclusivity
   r. Narrative
   s. Group identity
   t. Citizenship

Please refer to the Productive Pedagogy criteria rubric attached to this application for further details and descriptions.
APPENDIX C  Unit Guide Information
EDFxxxx

Risk Management and Emergency Response

Unit Guide – On Campus

Semester 1, 2007
Faculty of Education

EDFxxxx Risk Management and Emergency Response

Unit Guide – On Campus

Semester 1, 2007

<table>
<thead>
<tr>
<th>Unit Coordinator:</th>
<th>Rose Goldman</th>
</tr>
</thead>
<tbody>
<tr>
<td>Campus:</td>
<td></td>
</tr>
<tr>
<td>Phone:</td>
<td>1234-5678</td>
</tr>
<tr>
<td>Email:</td>
<td><a href="mailto:rose.goldman@education.University.A.edu.au">rose.goldman@education.University.A.edu.au</a></td>
</tr>
<tr>
<td>Office hours:</td>
<td>Tuesday 10am - 12pm (At my Campus)</td>
</tr>
</tbody>
</table>
Contents of Unit

Unit Introduction
   Unit synopsis
   Unit objectives
   Workload
   Unit requirements
   Feedback and unit evaluation

Teaching and Learning Approach
   Tutorial allocation
   Communication and participation
   Unit timetable
   Practical Outline

Unit Resources and Requirements
   Assessment
   Determination of final grade
   University and Faculty policy on assessment
Unit Introduction

Unit synopsis

Welcome to EDF 319, Risk Management and Emergency Response. Risk management procedures support the delivery of high quality programmes, be they educational, recreational, or in a tourism context. This unit focuses on how risk management procedures and appropriate teaching approaches can support you to deliver a high quality experiential learning experience. It highlights your responsibilities, procedures for safe conduct of activities and for emergency situations.

Specifically this unit examines skills in risk management, injury prevention and emergency response. Meet the legal requirements of conducting sport and outdoor recreation activities. Study theory and application of risk management skills in sport and outdoor recreational pursuit. Applied practical skills in the safe conduct and management of sport and outdoor recreational pursuits will be required, including an emphasis on the conduct of Challenge Course and in wilderness first aid. The unit includes eight days of field programs.

Unit objectives

Upon completion of this unit students will have acquired a working knowledge of;

- risk management strategies in the conduct of sport and outdoor recreation
- management tools in the identification, assessment, control and mitigation of program liability and risk;
- specific case knowledge of local and international outdoor pursuit liability and
- risk management in an experiential learning context and practical ability in first aid in the outdoors
- appropriate outdoor teaching approaches

Workload

EDF 319 is a six point unit which implies twelve hours of work a week in a mix of lectures, tutorials and fieldwork. Students are required to have completed readings before class so they are prepared to engage in discussion and can participate in all of the practical work.

This unit has eight days of field work associated with it which students must participate to a satisfactory standard.

- Three days consist of a wilderness first aid course (the dates for this will be announced early in the semester).
- Five days consist of Course experiences – three days of training and two days of running learning experiences for participants.
The nature of the fieldwork in this unit requires students to attend tutorials. Students will be expected to practice skills and complete much of the planning for the teaching sessions out side of class time.

**Unit requirements**
To pass this unit, students must participate in the tutorials and in the fieldwork to a satisfactory standard. The formal assessment is related to the unit objectives with an emphasis on the relationship between good practice and risk management. An 80% attendance is required at tutorials to pass this unit.

**Feedback and unit evaluation**
University A aims to provide a learning environment in which students receive a range of ongoing feedback throughout their studies. This may take the form of group feedback, individual feedback, peer feedback, self-comparison, verbal and written feedback, discussions (on line and in class) as well as more formal feedback related to assignment marks and grades. Students are encouraged to draw on a variety of feedback to enhance their learning.

University A is committed to ‘Excellence in education’ and strives for the highest possible quality in teaching and learning. To monitor how successful we are in providing quality teaching and learning University A regularly seeks feedback from students, employers and staff. One of the key formal ways students have to provide feedback is through the Unit Evaluation Surveys. It is University A policy for every unit offered to be evaluated each year. Students are strongly encouraged to complete the surveys as they are an important avenue for students to “have their say”. The feedback is anonymous and provides the Faculty with evidence of aspects of which students are satisfied, as well as areas for improvement.

Faculties have the option of administering the Unit Evaluation survey online through the 'my University A portal' or in class. Lecturers will inform students of the method being used for this unit.

**Previous Student Evaluations of this unit**
If you wish to view how previous students rated this unit, please go to [http://www.University A.edu.au/unit-evaluation-reports/](http://www.University A.edu.au/unit-evaluation-reports/)

Over the past few years the Faculty of Education has made a number of improvements to its courses as a result of unit evaluation feedback. Some of these benefits include: A more coordinated approach to field placements, clarification of assessment criteria and consistent assignment submission and return procedures.

**Immediate feedback for us**
According to past evaluations of this unit, we have set an improvement priority for this semester. It is using peer assessment for planning the teaching sessions. We would appreciate feedback on your experience of this and whether it has been helpful to you during this semester.
Unit staff – contact details
The lecturer in charge of this unit is: Rose Goldman

Unit Coordinator
Dr Rose Goldman
Faculty of Education
Peninsula Campus
Building: A
Room: 4-31
Phone: (03) 99044421
Email: rose.goldman@education.University A.edu.au
Office hours: Tuesday 10am-12pm – at University A
Teaching and Learning Approach

This unit utilises a range of teaching and learning approaches. The Challenge Course and a first aid course provide contexts in which to examine notions of risk and consider how risk management can support teaching and/or instruction. The major modes of teaching and learning are:

1. Face to face interactive teaching. This occurs through lectures, tutorials and fieldwork. Much of this is modelled on experiential learning theories. This provides students with an opportunity to apply theories and models of risk and risk management to a specific context. Students are expected to complete readings before class so they can participate fully in discussions.

2. Peer teaching activities. Students are required to plan and run two teaching days in the ropes course. This requires students to have a good understanding of the educational and recreational purposes and approaches of the Challenge Course, be competent in the practical skills required in the Challenge Course and of risk management processes that support them in their teaching experiences. Students will have to work together in small groups to plan and conduct their teaching days. This provides opportunities for students to engage in cooperative collegial support.

3. Individual, self directed study. Students will be required to undertake reading beyond the core readings developing their research skills and enhancing their knowledge of risk management experiential education and the Challenge Course.

Tutorial allocation

Tutorials are compulsory due to the nature of the field work integral to this unit. Much of the preparation for the fieldwork will occur in tutorials.

Please use ALLOCATE PLUS

Communication and participation

Students will be expected to come to lectures and tutorials prepared to participate fully. All students are expected to take an active involvement in the planning and preparation for the teaching days and to take an active role during those teaching days. Students must complete the field experience to a satisfactory standard to pass this unit.

Due to the limited time I will be on the University a campus students are encouraged to email questions or concerns related to the unit.
<table>
<thead>
<tr>
<th>Week</th>
<th>Dates</th>
<th>Topic</th>
<th>Tutorial</th>
<th>Practical</th>
<th>Assignment</th>
<th>Due Date</th>
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<td>Training</td>
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<td>Training</td>
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<td>Emergency Response</td>
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<td>Teaching</td>
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<tr>
<td>13</td>
<td>29 May</td>
<td>Review</td>
<td></td>
<td></td>
<td>Assignment 2</td>
<td>June 4</td>
</tr>
</tbody>
</table>

Note: If the unit has an exam, University policy is that no new content should be taught in week 13.
**Reading List**


**Challenge Course manual – to be handed out in class**

*** These readings can be accessed electronically via the reading list for EDFxxxxx on the library catalogue.

**Week 1**


**Week 2**


**Week 3**


**Project Adventure: The full value contract; The experiential learning cycle; Elements of experiential learning**

**Week 4**


Week 5


Week 6

Reading week and assignment one due on Monday the 16 of April 5pm.

Enjoy your Easter

Week 7


Week 8

Case studies to be handed out in class

Week 9


Week 10

Reading Week

Week 11

***Dickson, T., & Tugwell. (2000). The risk management document

Week 12


Practical Outline

<table>
<thead>
<tr>
<th>Dates</th>
<th>Group</th>
<th>Content</th>
</tr>
</thead>
<tbody>
<tr>
<td>28 - 30 March</td>
<td>Group A</td>
<td>Introductory activities&lt;br&gt;Low ropes&lt;br&gt;High ropes</td>
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<tr>
<td>3-5 April</td>
<td>Group B</td>
<td>Introductory activities&lt;br&gt;Low ropes&lt;br&gt;High ropes</td>
</tr>
<tr>
<td>26 April</td>
<td>Teaching Day 1-A</td>
<td>1st year B.Ed. students - two three hour sessions of introductory activities, low ropes and high ropes</td>
</tr>
<tr>
<td>27 April</td>
<td>Teaching Day 1-B</td>
<td>1st year B.Ed. students - two three hour sessions of introductory activities, low ropes and high ropes</td>
</tr>
<tr>
<td>24 May</td>
<td>Teaching 2-A</td>
<td>School students – an all day session including introductory activities, low ropes and high ropes</td>
</tr>
</tbody>
</table>
Unit Resources and Requirements

**Prescribed text(s) and readings**

**Recommended text(s) and readings**

Adventures Safety Standards Resources

Outdoor Recreation Centre Inc. *Adventure Activity Standards* accessed at orc.org.au
Victorian Outdoor Education Association accessed at education@voea.vic.edu.au
Worksafe Victoria accessed at www.workcover.vic.gov.au

Useful journals:
*Australian Journal of Outdoor Education*
*Journal of Experiential Education*
*Journal of Adventure Education and Outdoor Learning*
There are many books and journal articles in the library that cover the topic of risk and risk management in sport, recreation and outdoor activities. Take the time to familiarise yourself with this material.

**Equipment and consumables required or provided**
You will be required to dress neatly for the teaching days and it would be advantageous to wear the BSOR uniform so you are easily identifiable.

**Library access**
The University A Library site contains details about borrowing rights and catalogue searching. To learn more about the library and the various resources available, please go to [http://www.lib.University A.edu.au](http://www.lib.University A.edu.au)

The Educational Library and Media Resources (LMR) is also a very resourceful place to visit at [http://www.education.University A.edu.au/library/](http://www.education.University A.edu.au/library/)

**University A Studies Online (MUSO)**
All unit and lecture materials are available through the MUSO (University A Studies Online) site. You can access this site by going to:

a) [http://muso.University A.edu.au](http://muso.University A.edu.au) or

b) via the portal ([http://my.University A.edu.au](http://my.University A.edu.au)).

Click on the **My Units** tab, then the **University A Studies Online** hyperlink

In order for your MUSO unit(s) to function correctly, certain programs may need to be installed such as Java version 1.4.2_07 or higher, or 1.5.0_05 or lower. This can easily be done by going to [http://www.University A.edu.au/muso/support/students/browserset.html](http://www.University A.edu.au/muso/support/students/browserset.html) to update the relevant software.

**You can contact the MUSO helpdesk by:**

**Phone:** (+61 3) 9903-1268


**Email:** muso.support@calt.University A.edu.au

**Operational hours (Monday – Thursday) – local time**

**Australia:** 8 am to 10 pm (8pm Non Teaching period)
Malaysia: 6 am to 6 pm (4 pm Non Teaching period)
South Africa: 11pm to 1pm (11 am Non Teaching period)

**Operational hours (Friday) – local time**

Australia: 8 am to 8 pm
Malaysia: 6 am to 6 pm
South Africa: 11pm to 11 am

**Operational hours (Saturday-Sunday) – local time (Open during Teaching Period)**

Australia: 1 pm to 5 pm
Malaysia: 11 am to 3 pm
South Africa: 4 am to 8 am

Further information can be obtained from the following site [http://www.University A.edu.au/muso/support/students/index.html](http://www.University A.edu.au/muso/support/students/index.html)

All lectures will be posted on MUSO and announcements may be made from time to time through MUSO. Please check this regularly.

**Submission of an assessment task (assignment)**

*University A:* All University A units are to be submitted through the Off Campus Learning Centre – including on-campus units. Please ensure you have attached the appropriate cover sheet.

*Students: You must keep a copy of your assignment in electronic format. We suggest you keep a print out also.*

**Assessment Task (assignment) coversheet**

All assessment tasks (assignments) will need to be submitted with a barcoded coversheet.

The coversheet is accessible via the University A portal page located at [http://my.University A.edu.au](http://my.University A.edu.au) under the heading “Learning and teaching tools.” For OCL units administered by the Off-Campus Learning Centre (OCLC), printed coversheets will be distributed to students at the beginning of the semester.

**Late work**

Failure to submit an item of assessment by the due date without the granting of an extension of time by the Unit Coordinator will incur a penalty. Please refer to section 4.3.2 of the Assessment Policy [http://www.education.University A.edu.au/students/current/admin/policies/assesspolicy.html](http://www.education.University A.edu.au/students/current/admin/policies/assesspolicy.html)
## Assessment

### Assessment tasks

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<th>Assessment Task</th>
<th>Value</th>
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<tbody>
<tr>
<td>Assessment Task 1</td>
<td>50%</td>
<td>Monday, 5pm, April 16</td>
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<tr>
<td>Title: Risk essay</td>
<td></td>
<td></td>
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<tr>
<td>Assessment Task 2</td>
<td>50%</td>
<td>Monday, 5pm, June 4</td>
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<tr>
<td>Title: Peer Assessment (15%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reflective journal (35%)</td>
<td></td>
<td></td>
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<tr>
<td>Participation</td>
<td></td>
<td>Satisfactory participation in all field work is a requirement to pass this unit</td>
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</table>

## Assessment details and criteria

### Assessment Task 1:
Risk and risk management (1500 words)

**Details of task:**
Much has been written about risk and risk management. There is considerable literature related to the role risk may, or may not have, in recreational or educational experiences. Many theories, models and tools have been developed about how and why accidents happen and how to manage or prevent them from occurring. Using a specific context (e.g. sport, outdoor recreation etc) discuss the concept of risk in this context and the implications your understanding of risk has for your approach to risk management.

### Assessment Criteria for Assignment 1:
This is an academic essay and as such requires use of appropriate language and referencing. Your assignment will be graded directly against the criteria outlined in the attached ‘Assignment Grading and Feedback Sheet’. It is in your interests to study the sheet closely and to present your assignment following the assessment criteria.
### Assessment Task 2:

Peer assessment (15%) and reflection (35%)

#### Details of task:

This assessment involves **two** components.

1. Participation and contribution to planning the teaching days. Each group is required to work together to develop a comprehensive teaching and safety plan for the two days of teaching they will undertake in the Challenge Course. Prior to each teaching day the group will complete the assessment rubric below for themselves and for each member of the group. Scores will be averaged across the whole teaching group (See rubric on page 15).

---

<table>
<thead>
<tr>
<th>Name</th>
<th>Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</table>

<table>
<thead>
<tr>
<th><strong>GRADING</strong></th>
<th><strong>COMMENTS</strong></th>
</tr>
</thead>
</table>
| 1. Clarity of introduction and articulation of position. UN – BD – SAT – G – VG – EXCELLENT.  
2. Definitions of key terms to be discussed UN – BD – SAT – G – VG – EXCELLENT.  
| 30% | |

| **Risk and Risk Management - Applying Theoretical Concepts.** | |
| 1. Evidence of wide reading and understanding of relevant concepts. UN – BD – SAT – G – VG – EXCELLENT.  
2. Presentation of a well articulated argument that encompasses contemporary understandings of the issues. UN – BD – SAT – G – VG – EXCELLENT.  
| 60% | |

| **Essay Presentation** | |
| 1. Essay Structure; Typed/well formatted. Referencing format is consistent. UN – BD – SAT – G – VG – EXCELLENT.  
| 10% | |

**UNSATISFACTORY** – BD (Borderline) – SAT (Satisfactory) – G (Good) – VG (Very Good) EXCELLENT

Staff/Assessor __________________________ Date ______________________
2. Reflective journal

Part A: (500 words)
Summarise either the Sullivan (2006) or Wolfe & Samdahl (2005) article and critically discuss their main argument in relation to your understanding of risk and risk management.

Part B:
Reflective Journal (about 1500 words)
Answer the following questions. Draw on appropriate literature to support your observations and reflections.

7. What new skills or knowledge did you learn from the experiential programme?
8. How did the unit differ from other units taken for pedagogy development?
9. How did you change because of your participation in the experiential programme?
10. How did the Challenge Course phase’s impact on the experiential programme compared with the lecture/tutorial classroom setting?
11. Do you think the facilitation skills or knowledge learnt during the theory phases were directly transferable to a teaching situation in the outdoors?
12. What tasks if any do you think had the most impact on your development of pedagogical skills?

Assessment Criteria: Productive Pedagogies – Classroom Reflection Rubric.
You will be introduced to this rubric during the unit and will use it to analyse your own teaching in the Challenge Course.

Appendix: Attach log book for the practical experience as an appendix to this assignment.