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ARTICLES

The Possibilities of "Doing" Outdoor and/or Adventure Education in Physical Education/Teacher Education

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Background: Physical education has a long association with teaching outdoor and/or adventure education (OAE). As physical education teacher educators, with a special interest in teaching OAE, we wanted to examine perceptions of models based practices in physical education/teacher education. **Purpose**: This manuscript; explores and critiques a range of national and international perspectives on models based practices in OAE; challenges what stands for teaching OAE in PETE; and offers suggestions for future practice and research. Method: Papers were selected through a systematic review methodology. **Data analysis**: Using a process of inductive analysis and constant comparison we identified two main themes: Ways of doing this in PE and Ways of doing this in PETE. **Discussion/Conclusion**: Future recommendations include the pedagogical relevance and importance of understanding the socio-cultural context, the challenge of adventure education being a controlled orchestration and the need to pedagogically change the key of this orchestration, and employing innovative methodological approaches to further explore these issues.

Keywords: physical education, physical education teacher education, models based practice, adventure based learning, outdoor adventure education

In this introduction we identify brief backgrounds or understandings of outdoor education focusing on the UK, Australia, New Zealand, USA, and Scandinavia since the late 19th century, as these were the countries where empirical studies have been conducted. Referring to these understandings, our intent is to not to give detailed historical accounts (see Cook 2001; Nicol 2002a; Raiola & O'Keefe, 1999) but to consider the ways in which outdoor learning has been mediated in and through social relations across these countries. For the purpose of this section we use the term 'outdoor education' (OE), as it is the most commonly used terminology when tracing developments. Wattchow and Brown (2011) note it is difficult to find a common understanding of what outdoor educators believe defines outdoor education. According to Priest and Gass (2005) outdoor education takes place mostly in the outdoors with the natural environment, and can include environmental education and adventure education.

Outdoor education has its foundations in physical education with militaristic origins (Martin & McCullag, 2011). While it is difficult to generalize, the rise of outdoor education in education, in the UK, USA, Australia, New Zealand, and Scandinavia, can be linked to societal features such as; social education and welfare; molding better citizens; recreational camping; broadening the content of education; Nature as the educator and 'home'; cultural perspectives of the natural world; teachers who took their students outdoors in the belief that being outdoors was good for them and could be linked through the school curriculum in various ways; establishment of organizations such as Scouting and Outward Bound; socialist inspired 'woodcraft' movements (Smith 1963; Boyes 2000; Cook, 2001; Nicol 2002a, 2002b; Dahle 2007). Over time teaching outdoors has become formalized and written into curriculums (Cook 2001; Schoel, Prouty & Radcliffe 1988; Irwin & Straker 2015). In the advance of outdoor education, the countries we focused on have developed their own 'characteristics' of situated practice influenced by national and international historical developments and educational trends over the decades since the 1800s.

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United Kingdom

The rise of outdoor education in the UK since the late 19th century was linked to social education and welfare, and broadening the nature and content of 'progressive' education (Cook, 2001). Significantly influenced by the American philosopher and education reformer John Dewey, progressive education was a pedagogical movement centered on experience and the welfare of children. Initially outdoor education was focused on boys as they were seen as the "root of social problems" (Cook 2001, p. 49). To redress the inequalities of urban life of the late 19th and early 20th century for working class children residential primary schools were developed by some cities e.g., Glasgow (Nicol, 2002a). These schools placed an emphasis on pastoral care and physical activities in the outdoors and attendance was viewed as a recuperative holiday. In some other schools socialist inspired 'woodcraft' movements that valued character building in the form of initiative and self-discipline. The aim of outdoor education in the 1940s was rehabilitative and strategically used in part to prepare children for leadership roles in a working environment (Nicol, 2002a).

It is important to note that in the early 20th century the forerunners on which outdoor education in the UK was established were *Scouting*, *Outward Bound* and later the *Duke of Edinburgh Award Scheme* (Cook, 2001). The conception of these organization resonated with popular beliefs of the time (Brookes, 2004) and to meet societal features such as, improve the behavior of boys and mold better citizens, characterized by a military concern for character building and patriotism (Cook, 2001). Outward Bound has had a significant influence on the field of outdoor (adventure) education (Schoel, Prouty & Radcliffe, 1988). Developed from the ideas of Kurt Hahn in the 1940s, Hahn believed the traditional school curriculum did not cater for the development of the whole child. He felt if adolescents were given the opportunity for leadership and could see the results of their actions they would develop into better people. By articulating outdoor adventures as a medium for leadership practice Hahn developed a philosophy characterized by four achievements, to gain physical skills, to undertake expeditions on land and sea, participate in a long-term project of own choice, and to carry out public service (Cook, 2001). Hahn's vision evolved into the first 'Outward Bound' (OB) school established in Wales (outward bound is a nautical term describing a ship leaving port). The Welsh OB School was intended for merchant seamen to develop skills of self-discovery, confidence, tenacity, and perseverance for survival during WWII.

In the 1950s outdoor education residential centers continued to demonstrate a military ethos with an emphasis on character building, citizenship and efforts to address the inequalities of urban life. Programs used outdoor pursuits as the medium but there was a gradual movement toward participation for the intrinsic value of having fun and enjoyment (Cook, 2001; Nicol, 2002a). In the 1960s an emphasis was placed on residential experience for all students during their school life. Outdoor education evolved to another degree with recognition of; the personal and social development that occurred in the outdoors as educative; the value of outdoor activities for recreation and leisure; and developing an understanding of the environment (Nicol, 2002a).

In a trend toward subject integration in the 1970s outdoor activities were linked to the school curriculum. Outdoor education became the preferred term and was linked to policy documents; named in a national association title; seen as an innovative pedagogy supporting personal and social development of students with links to environmental education (Nicol, 2002b). In 1975 the Dartington conference was significant to the emergence of contemporary outdoor education because it advanced three components of the outdoor adventure experience that became a mantra for outdoor education curricula, "respect for self, others and nature" (Wattchow & Brown 2011, p xvii). Outdoor education focused on human to nature relationships often through recreation activity such as rock climbing and kayaking. These activities were used to introduce knowledge and skills for leisure and personal and social development through participation, enjoyment and fun (Martin & McCullag, 2011).

The deaths of British children during participation in outdoor education in the 1980s called into question the educational justification. More prescriptive safety procedures were adopted and the codification of qualifications became the means for outdoor educators to evaluate professional competence (Cheesmond, 1981). Provision of outdoor education was challenged for cost effectiveness particularly as residential buildings required maintenance and there were transport costs to these off campus facilities (Nicol, 2002b). Questions of philosophy were debated, in search of principles to justify practice and a philosophy arising from the practice of outdoor education (Cheesmond 1981). Mortlock (1984 cited in Nicol 2002b) writing from personal experience challenged thinking by suggesting that it was not what people were doing in the outdoors but what they were experiencing that was important for learning. Mortlock's book *The Adventure Alternative* considered human to nonhuman interconnections with the natural environment—a milestone in the history of outdoor education (Nicol, 2002b) In the 1990s a new trend developed when the term adventure education was favored over outdoor education, with personal and social development accounted for more than environmental education (Nicol, 2002b).

While it has been reported that the provision of outdoor education within schools has declined in the UK over the past two decades due to factors such as the reduction in local authority outdoor education centers, safety concerns, and cost (Allison & Telford, 2005), outdoor education still seems to hold a place in the physical education curriculum. Indeed, Williams and Wainwright (2015) have recently conceptualized a pedagogical model for outdoor adventure education in the UK context.

Australia and New Zealand

Australia and New Zealand outdoor education has taken its lead from British influences, not surprising given that predominantly early colonists came from England, Scotland, Ireland and Wales (Cosgriff, Legge, Brown, Boyes, Zink & Irwin, 2012). Researching the development of outdoor education in these countries we were struck by an underpinning discourse of identity with pioneers and the environments they confronted (Boyes, 2000: Brookes, 2002). For example, central to the discussion about outdoor education in Australia is what Australian's call 'the bush' (Brookes, 2002). In Australian vernacular the bush can refer to remote rural areas, native forests and woodlands, and mountains. Although pioneer 'Bushmen' associated with the lived experience of the bush have long since vanished their hardiness and ability to contend with a challenging environment is a legend that is still appropriated (Brookes, 2002). The bush is emblematic of Australian pioneering history and road to democracy.

Traditions from Britain, including organizations such as Outward Bound and the scouting movement, have seen Australian outdoor education structured around adventurous recreation pursuits, natural history and what was known locally as bushwalking. Bushwalking evolved in local contexts requiring knowledge and experience of the surrounding area, and included activities such as walking/hiking, nature study, camping, and fishing. The urbanization of Australia meant many citizens became remote from the bush and contact in a meaningful way. In the 1970s closure of many Australian rural schools, allowed the buildings new use as accommodation for school camps. Funding from the Department of Education through the 1980s helped maintain the momentum of these school camps into the 1990s. During these decades outdoor education was established as a draw card to offer students the opportunity for off campus studies in 'the bush'. Élite schools in particular, gained from being able to offer outdoor education of this kind. However, while these developments saw the growth of outdoor education Brookes (2004) suggests that the subsequent pedagogy positioned the bush as an 'empty site' on which to do something that required a repertoire of safety management, instructional techniques associated with outdoor pursuits and facilitation skills for abstract cognitive development; as opposed to the earlier ethos of bushwalking located in the particular geographical, social and cultural context. In addition, indigenous contexts and understanding of the land that is central to their culture was limited or nonexistent in this discourse of outdoor education (Brookes, 2004). Since the 1990s a shift in outdoor education toward a discourse that includes environmental sustainability reflects a growing social concern for the environment (Lugg, 1999). The focus on human relationships remains but participants need to develop experiential ecological literacy to take part safely, to respect and value the environment, and live in the outdoors (Martin & McCullag, 2011).

New Zealanders' adventure status can be traced to the isolation and pioneering spirit of the early colonizers (Kane & Tucker, 2007). The bonds that developed between pioneering people, alongside the ruggedness of the New Zealand environment, has shaped national identity and connection with the outdoors. Like Australia the term 'bush' is applied to wilderness areas and is associated with exploration and outdoor challenges. According to Lynch (2006) 'wholesome' outdoor pursuits like tramping and mountaineering were seen as important experiences for molding young boys into 'intrepid' men who embodied the masculine ideal of the Victorian era. Girls were not encouraged to take part in activities of such a physical nature. As formal schooling progressed from the mid 1800s children were encouraged to interact with nature but out of school excursions were located in subjects such as science and geography (Boyes, 2000).

Boyes (2000) and Lynch (2006) note there has been an ad hoc approach to the development of outdoor education in New Zealand. Overtime, a shift to include physical fitness and more active engagement with the outdoors through pursuits saw outdoor education situated in the curriculum in a formalized manner. In the 1970s outdoor education became part of the New Zealand Curriculum in physical education and health. In a similar manner to the UK the outdoor pursuits lobby gained capital. To counter this, in the 1980s the New Zealand Department of Education introduced the generic term Education Outside the Classroom (EOTC) describing curriculum-based learning that extends beyond the classroom walls but could still include pursuits-based outdoor education (Irwin & Straker, 2015). School 'camps' dominate New Zealand outdoor education. Camps may be residential in school owned properties, privately operated outdoor centers, on maraecultural home of indigenous Māori, in tents or located along the way in purpose built huts in national parks. Year groups from primary and secondary schools are taken to spend 2–5 days at these places participating in a range of outdoor activities and studies that may or may not be organized by physical education teachers (Remington & Legge, 2016). More recently in Australia and New Zealand, as a counter to adventure based, travel traditions of outdoor education Wattchow and Brown (2011) advocate for 'a pedagogy of place'. In this view outdoor education is a term that is responsive to the significance of local outdoor places, the sites where outdoor education is practiced, that may be lost in the diversity of outdoor educational landscape practices.

USA

USA outdoor education has evolved since the 1800s from a history of recreational camping seen to be good for children because it provided a healthy environment with supervised activities. Frederick Gunn first incorporated camping as part of an educational program for the boys at the Gunnery School, Connecticut in 1961(Raiola &

O'Keefe, 1999). In 1902, Laura Matton, a teacher at a private school for girls who went on to be influential in the early camping organization, led a summer expedition in New Hampshire and this was the foundation for a summer camp for girls. The goal of these camps was to challenge the limitations that had been imposed on girls when in the outdoors (Raiola & O'Keefe, 1999). The scouting movement in the USA was established in 1910 for boys and 1912 for girls and influenced the use of the outdoors as an educational endeavor. During the 1920s and 1930s overnight camping was incorporated into many public school educational programs (Raiola & O'Keefe, 1999). The rapid development of school camping, via residential centers, took place in the 1950s and 1960s. During this timeframe, outdoor education became the preferred term for experiences that took place in residential camps, school sites and within local communities (Raiola & O'Keefe, 1999). Educator Julian Smith (1963) saw that outdoor education was a means to enhance learning through real life outdoor experiences that bought adults and children closer to human's natural roots in the outdoor environment. Smith observed that education in and for the outdoors was a means to protect people from increasing influences such as mechanization and the depersonalization of society. The contemporary approach to teaching outdoors evolved as educational alternatives to traditional teaching and learning valued direct experience.

The introduction of Outward Bound (OB) in the 1960s was a strong influence on the use of adventure education in schools. However, in the early 1970s Jerry Pieh in Massachusetts noted the expense, intensity and duration of the OB courses in the USA limited the number of young people who could participate. Aided by Federal funding Pieh worked with staff from OB backgrounds, and many teachers, to modify the outdoor curriculum to bring elements of OB in from the wilderness and back to public schools as Hahn had originally intended. Named Project Adventure (PA) the model focused on 10th grade physical education, a combination of interdisciplinary academic classes, a series of initiative problems, and high and low challenge courses (Prouty, Panicucci & Collinson, 2007). The content was experiential to challenge, motivate, teach social skills, and improve fitness. The PA adventure based learning (ABL) model of direct, active and engaging learning takes participants out of their usual frame of reference to participate "in things new and different" (Rohnke & Butler, 1995, 5). What makes adventure learning different is that activities such as cooperation, problem solving and decision-making that may be taught didactically, are taught so the group develops its own abilities with guidance from teachers or group leaders. Adventure education can be facilities based or wilderness based and is found all over the world with educators from other cultures developing methods and curricula that relate to their social, cultural and educational contexts. (Boyes, 2000; Prouty, Panicucci & Collinson, 2007).

Scandinavia

Scandinavian countries add to the mix of outdoor education with their unique concept of *friluftsliv* that has similarities to outdoor education and outdoor recreation. Deeply rooted in Norway and Sweden *friluftsliv* is a philosophy about outdoor living with 'nature as home' based on a Scandinavian self-image associated with an unpopulated landscape—easily accessible to those who live in towns and cities (Gelter, 1999). The term—coined in 1859 by Norwegian playwright Henrik Ibsen in a poem about a character who needed 'time out' in nature to clarify his thoughts- translates as 'life in the open air' (Dahle 2007; Gelter 1999). The concept has the primary focus to seek out a meaningful relationship and connectedness with nature. The reward of this connectedness is a strong sensation of a new level of consciousness and spiritual wholeness with nature (Gelter, 1999).

While *friluftsliv* is viewed as a Norwegian term, there is no consensus on the meaning because other Nordic countries bring their geographical, social and cultural diversity to broaden the concept and its interpretation (Henderson & Vikaner, 2007). Ibsen coined the phrase based on the way of outdoor life that has characterized Norwegian culture. Traditional Norwegian *friluftsliv* is about people going for daily or overnight walks either alone, or with family and friends for physical activity, to interact socially and be close to nature. In winter skiing may be used instead of walking. Other activities may occur during these walks including photography, berry picking, fishing or gathering mushrooms (Dahle, 2007). The experience is purely as a leisure pursuit with no elements of competition undertaken with a sense of freedom to enjoy the shared experience of the natural world, the physical activity and companionship (Backman, 2011). *Fritluftsliv* is linked to early 20th century legislation that allowed the right of open access to land. The practice of *fritluftsliv* is unorganized, situated in local nature areas with tacit knowledge traditionally passed on within social groups such as family and friends (Dahle, 2007). Excellent public transport to get to natural places, the opportunity to camp freely or access systems of cabins for accommodation and more leisure time serve to enable the population to participate in *friluftsliv.*

Practicing *friluftsliv* is not dependent on high costs, traveling or equipment, nor is *friluftsliv* dependent on organizations. In Sweden *friluftsliv*-days are established in the curriculum. Gelter (1999, p. 14) suggests that although *friluftsliv* is on the curriculum it is not about teaching or excursions but 'learning the ways of yourself and the more-than-human world'. Schools aim to make *friluftsliv* a life pattern through preschool outdoor schools, teacher education on *friluftsliv,* residential outdoor education centers for school classes, and winter vacation Nordic ski experiences. Ironically, despite a consistent tenet of philosophy that *friluftsliv* is an uncomplicated experience with nature Backman (2011) found that teachers were confused about where

the location of the outdoors and nature for *friluftsliv* could be—in a local park where a bus passing may interrupt the sounds of nature and the purity of the *friluftsliv* experience or somewhere distant from the urban environment, untouched by civilization where birds can be heard. Dahle (2007) discusses contemporary change influencing the Norwegian tradition because schools and universities are 'teaching' *friluftsliv* through activities such as snowboard days, canoe expeditions and overnight snow caving which is altering the shape of *friluftsliv.* His concern is that the influence of an international leisure activity culture is introducing a wider range of outdoor pursuits that sells expeditions or adventures as an experience package rather than a way of life. Dahle described this influence as the sportification of *friluftsliv* and is concerned that new activity trends may weaken the tradition or mean those in their teens or late twenties might abandon the tradition (Brookes & Dahle, 2007). Dahle (2007) recommends the public sector ensure children are socialized so the 'daily walk *fritluftsliv'* and 'vacation walk *fritluftsliv'* continue to be practiced in the interest of traditional social wellbeing. *Friluftsliv* has been shaped by unique geography, cultural and social features over time and through practice. Like other examples of education in the outdoors it has been subject to new influences that challenge the tradition of what is in this case, a way of life. Outdoor educators in any setting have the opportunity to include *friluftsliv* concepts into their pedagogy (Vikander, 2007).

Theoretical Foundation

Experiential learning and constructivism have historically served as the theoretical frameworks for OAE. Drawing on the work of John Dewey, experiential learning emphasizes the importance of the experience, coupled with the practice of reflection to facilitate learning. Dewey's (1997) progressive views of an education where the learner was the center of the experience, was the foundation of experiential education. Dewey advocated that the most powerful learning experiences were those that engaged learners in posing and solving problems to make meaning and build understanding. Although there are a number of experiential learning cycles or models that inform OAE, Kolb's experiential learning cycle is the most commonly used (Priest & Gass, 2005). Kolb's four-stage cycle draws on the work of Dewey, Kurt Lewin, and Jean Piaget to provide a framework for learning through experience. Within this cycle, an individual engages in a concrete experience, observes and reflects upon this allowing for the formation of abstract concepts, which can then be transferred to new situations beyond the original experience. The processing of the activities "enhances the richness of the experience…these unique learnings then can be used again and generalized to other settings" (Luckner & Naddler, 1997, p.10). As such, Kolb's cycle could be, and often has been, used as a pedagogical tool to facilitate experiential learning within OAE.

However, more recently experiential learning has been criticized as a suitable learning theory for OAE due to the overemphasis on doing and reflecting. Fenwick (2001) argues that processing in experiential learning assumes that the experience is a discrete object that the learner is separated from to reflect upon and generate knowledge. This focus on experience in the absence of historical, political and social context has meant that the emphasis on the place-based approach to OAE has been overshadowed (Wattchow & Brown, 2011). Some have argued that experiential learning represents a mechanistic learning theory (Quay, 2003) and that the focus on individualism is to the detriment of the social and cultural dimensions (Brookes, 2002).

Constructivist learning provides a further theoretical foundation for experiential learning where the process and situation of learning is emphasized along with the outcome. Constructivism views learning as a process where knowledge is constructed by the learner through an active process rather than through teacher directed instruction (Vygotsky, 1978). Thus, the learner is actively engaged in knowledge creation, which is socially constructed and facilitated by the teacher who provides a learning environment that fosters self-directed learning. As such, there is a clear alignment with what occurs in OAE programs. Indeed, Kraft and Sakofs (1988) suggest there are several elements that are inherent to experiential education; the learner is an active participant in learning; activities are real and meaningful in terms of natural consequences for the learner; reflection on learning is a critical element to develop new skills, attitudes and ways of thinking; learning must have present and future relevance for the learner and the society in which he/she is a member.

Models-Based Practice

Recently models based practice has been highlighted as a future direction for teaching meaningful physical education (Lund & Tannehill, 2014; Casey, 2014; Metzler, 2000). Models based practice is a comprehensive approach to teaching physical education where one or more models can provide the framework for a physical education curriculum. Casey (2014) conducted a comprehensive review of models based practice in physical education and indicated that teachers noticed positive changes in student learning, teacher effectiveness, and teacher efficacy through the use of models based practice. As a result of his review Casey posed some interesting questions for researchers to consider in regard to the "doability and sustainability in MBP in physical education" (2014, p. 29). In light of the issues raised in Casey's review and as physical education teacher educators, with a special interest in teaching OAE, we wanted to examine the use of models based practices in physical education/teacher education. We contend that OAE can be used as both a curriculum and instructional model. Thus the purpose of this manuscript was to review the literature

regarding the use of the OAE model in physical education and physical education teacher education. Through this process we aim to challenge what stands for teaching OAE in physical education/teacher education and to offer suggestions for future use of OAE in and through physical education/teacher education.

Methods

To explore the ways of doing OAE within physical education/teacher education we used a systematic review methodology to synthesize findings from the OAE literature. Using the process outlined by Casey and Goodyear (2015), we undertook the following five-step progression to review the literature base in OAE. We focused on a specific question to guide our review: How is OAE experienced in or through physical education and physical education teacher education (PETE)? We then developed a protocol to include using peer-reviewed manuscripts specifically related to our question, and identified relevant literature through a detailed academic database search process. Given the different terminology around OAE we attempted to be broad in our terms to maximize the search process. We searched the following databases: Academic Search Complete, Education Research Complete, ERIC, Physical Education Index, PsycINFO, SocINDEX, and SPORTDiscus. The search terms "Adventure Education", "Outdoor Education", "Outdoor Adventure Education", "Outdoor Adventurous Activities", "Outdoor Pursuits", "Adventure based Learning", and "*Friluftsliv*" were each combined with "School", "Physical Education" and "Physical Education Teacher Education". Additional articles were identified through a reading of the reference pages of the documents identified through the search process. Despite this search process, we readily acknowledge that due to the various conceptions of how OAE is conducted in and through physical education/teacher education internationally, we may have missed some relevant articles. Once we had identified the literature we decided upon the inclusion and exclusion of documents based on methodological criteria. We used the following inclusion criteria, (a) written in English, (b) published in peer-reviewed journals in the last two decades, (c) empirically based, (d) available in full-text, and (e) the focus was on OAE in or through a physical education or PETE setting. We excluded sources that were unpublished dissertations or thesis and published in conference proceedings. This resulted in 37 sources meeting all inclusion criteria and form the basis for this review. Finally, we synthesized the research findings in the contexts of physical education and physical education teacher education through the process of inductive analysis and constant comparison. The outcome of our analysis was the following two themes: *Ways of doing this in physical education,* and *Ways of doing this in PETE.*

Findings

Two themes, with subsequent subthemes, were developed during the analysis process. The first theme was *Ways of doing this in physical education* and included the subthemes of a) external influence, b) student outcomes, c) not all smooth sailing, and d) pedagogical considerations. The second theme was *Ways of doing this in PETE* and included the subthemes of a) in the name of OAE, b) power of experience, and c) bumpy road from PETE to physical education.

Ways of Doing This in Physical Education

The historical background on how Outdoor and Adventure Education is conceptualized in different countries has clearly had an impact on how OAE is implemented in physical education. It is within the context of how OAE is embedded within physical education internationally that we will discuss the findings of this theme.

External Influence. The nature of the OAE model represented in the research has been shaped by external influences of a national curriculum/framework of standards and the use of external providers for OAE. The primary external influence on ways of doing OAE or *friluftsliv* is the inclusion within a national curriculum or national syllabus or framework as seen in Aotearoa New Zealand, Australia, Singapore, Sweden, and the UK. The vehicle for the delivery of OAE differs both within and between these counties. Within Aotearoa New Zealand and Australia, where OAE is one of the key areas within the Health and/or Physical Education curriculum, it is often implemented through an OAE camp experience or an outdoor pursuits/adventure skills-based program (Mikaels, Backman & Lundvall, 2015; Hastie, 1995; Smith, Steel, & Gidlow, 2010; Quay, Dickinson, & Nettleton, 2002/2003). Sweden follows a similar pattern with the addition of skills based trips, such as alpine skiing, and orienteering to meet the *friluftsliv* requirement in physical education (Backman, 2011a; Backman, 2011b). OAE is included within the National Curriculum within Singapore but can be implemented through physical education or other areas of the curriculum (Atienco & Tan, 2016; Atienco, Tan, Ho & Ching, 2015). Within the USA, OAE is not tied to a specific curriculum area through a national curriculum, as it is in some other countries. However, OAE addresses the SHAPE America National Standards for Physical Education and is most often taught as *Adventure Physical Education* or *Adventure-based Learning* (e.g., Tischler & McCaughtry, 2014; Sutherland, Stuhr, & Ayvazo, 2016).

The external influences were perceived to be either an enhancer or concern (in the eyes of teachers) to the ways of doing OAE in physical education. As an enhancer, the external influence provided more legitimacy to OAE and was best demonstrated through the

development of a pretertiary outdoor leadership course within Tasmania, Australia which counts toward university entrance scores to supplement the non pretertiary outdoor education courses (Dyment, Morse, Shaw, & Smith, 2014). The outdoor leadership courses provided teachers with a "welcomed set of teaching challenges" (Dyment et al., 2014, p.88), such as teaching new content and higher order thinking skills. In addition, the course was "taken more seriously" (Dyment et al., 2014, p.88) by students due to the pretertiary status, which resulted in a perceived increase in motivation and enthusiasm for the course.

The external influence also acted as an inhibitor to the ways of doing OAE in that there was concern regarding the lack of direction and the influence of external agencies in the aims, outcomes, and assessment of OAE and *friluftsliv* (Backman, 2011a; Mikaels et al., 2015). The teachers' felt that the lack of specific direction resulted in a shift from coupling the teaching of environmental education within OAE to a skills based approach to teaching OAE, which was activity based rather than a student-centered approach to OAE (Mikaels et al., 2015). In addition, the lack of distinct and explicit aims was considered a factor in "weakening the PE teachers control of teaching in Friluftsliv" through issues related to schedule time, cost, location, and risk (Backman, 2011a, p.57). The watering down of what and how much is taught in the name of *friluftsliv* was of concern to physical education teachers in Sweden (Backman, 2011a). This concern was shared by primary teachers in Aotearoa New Zealand with the outsourcing of OAE to external agencies due to the strong influence these agencies had on content, assessment and type of student learning that is occurring (Remington & Legge, 2016). This influence has raised concern that the assessment of student learning becomes skill-based demonstrations and, as one teacher stated, is "a plastic and artificial way of assessing people." (Mikaels, et al., 2015, p.8).

Student Outcomes. This subtheme highlights the student outcomes from participation in OAE and includes personal and social development, disruption of social norms, and increases in self-perception and self-concept. The positive influence on the ways of doing OAE on the student participants was frequently reported as an outcome of the model. The factors contributing to these positive outcomes were attributed to the novelty of the OAE experience, the fun and engaging atmosphere created in OAE, the social system present in the experience, and the teacher/student relationship. Personal and social skill development, considered to be an important outcome of OAE (Lugg & Martin, 2001; Zink & Boyes, 2006), seemed to be facilitated through the social experience of participating in the OAE camp experience (Hastie, 1995; Smith et al., 2010). The development of friendships and closer relationships with peers was an important outcome of the OAE experience according to the participants (Smith et al., 2010). An increase of caring for peers was also highlighted in the OAE camp experience (Quay, Dickinson, & Nettleton, 2002/2003).

Beyond the OAE camp experience, personal and social skills were also reported as a positive outcome in adventure-based learning, Team Building through Physical Challenge (TBPC), and Parkour units taught in physical education. In these units, a greater understanding of intrapersonal and interpersonal relationship skills (IIRS) was indicated (Stuhr, Sutherland, Ressler, & Ortiz-Stuhr, 2015), social skills were recognized (Fernandez-Rio & Suarez, 2016), and social regard was enhanced (Gibbons, Ebbeck, Concepcion, & Li, 2010). The novelty of the activities, the specific pedagogies, and the enjoyment of participants all contributed to these student outcomes from OAE.

The disruption of social norms as a result of participating in OAE was clearly an important outcome of the experience. Inclusion, letting down barriers, shifting social perceptions were all experienced by participants engaging in OAE. Students in these studies often commented on the difference in the inclusivity of social groups in OAE in comparison with both physical education and school settings (Fernandez-Rio & Suarez, 2016; Smith et al., 2010; Zink & Burrows, 2008), which would often occur in conjunction with letting down barriers and acting more "real" without hiding behind technology. Students perceived their peers to be different from the school personae in that they are more real and 'less plastic' (Smith et al., 2010). Counter to the usual masculinities present in boy's physical education settings, participation in OAE in the form of adventure physical education for a group of high school boys provided an opportunity for the reconsideration of social hierarchies and masculinities in physical education (Tischler & McCaughtry, 2014). In contrast to the sport based physical education curriculum, the participants felt that the usual social hierarchies and masculinities were nonexistent and when they did develop, they shifted based on the specific skills needed for each of the units in adventure physical education. The content and pedagogy of adventure physical education, along with the teacher's emphasis on personal growth, social development and participation contributed to the shifting masculinities.

The physical outcomes from participation in OAE were primarily related to self-perception and self-concept. Positive influence on perceived athletic competence, global self-worth, perceived social acceptance, perceived behavioral conduct, and enhanced perceptions of positive regard from peers were all reported after completing an eight month TBPC program, which was incorporated into physical education (Ebbeck & Gibbons, 1998; Gibbons & Ebbeck, 2011; Gibbons et al., 2010). OAE in the form of adventure physical education was perceived to be a 'different way to exercise' that was fun, engaging and motivating, and presented students with content that was physically demanding and incorporated

fitness concepts of muscle endurance, strength, balance, flexibility, and coordination (Gehris, Kress, & Swalm, 2010). Thus, this form of adventure physical education was perceived to have a positive influence on aspects of physical self-concept related to flexibility and strength, but not to appearance and health.

Not All Smooth Sailing. Despite the positive benefits of participation in OAE within physical education, there were some concerns regarding the ways of doing OAE, which could also be seen as the flip side of student outcomes. These concerns fall into three main areas, lack of physical activity time, social system more important than activities, and student resistance. Very little research has looked explicitly at the amount of physical activity time students accrue in OAE, although this is considered to be low in importance as an outcome for OAE (Lugg & Martin, 2001; Zink & Boyes, 2006). The current climate within the USA is one where a minimum of 50% moderate to vigorous physical activity (MVPA) time in physical education is recommended (Centers for Disease Control and Prevention, 2011). However, Gehris, Myers, and Whitaker (2012) found that for students in an adventure physical education unit the mean MVPA time was 28.3% (± 16.3%) which falls short of the recommended 50% MVPA. However, when considering participation across the unit, students engaged in 40.0% MVPA in high elements and only 13.7% in initiatives.

A further drawback for student engagement in OAE was the prevalence of the social system or social experience seeming to hold more weight for participants relative to what they felt they gained from OAE. Although, in general the students participated in the various activities conducted within OAE, the relevance of the actual activities rather than the social experience needs further exploration. Some students in OAE camp experiences seemed to get on with the activities quickly to gain more time to socialize with friends (Hastie, 1995). In addition, some students were happy to let others make the decisions regarding activities and solving problems which could contradict the purpose of engaging in OAE, which "calls into question the assumption that the outdoors provides clear, direct and meaningful experiences" (Zink & Burrows, 2008, p.259). However, it is interesting to note that when students saw value in OAE and were intrinsically motivated to engage they felt more satisfied with the OAE experience and conversely, if they felt 'forced' into OAE without finding value in the experience they were less satisfied (Wang, Ang, Teo-Koh, & Kahlid, 2004). For some students, the switch from their typical multi activity physical education curriculum to an adventure-based learning unit proved to be too much of a change and they engaged in active resistance to the ABL activities, such as sabotaging the activity (Sutherland & Stuhr, 2014).

Other Barriers. Within this subtheme the considerations highlighted in the data were logistical, activity based versus student centered, and support. Some teachers felt that access to outdoor settings was important for OAE and that if their school was not in a location where this was readily available then it proved to be a perceived barrier for teaching OAE (Backman, 2011a; Lugg & Martin, 2001; Zink & Boyes, 2006). The need for and cost of specialized equipment such as climbing gear, tents, and cooking equipment was also presented as a barrier for teaching OAE (Backman, 2011a; Lugg & Martin, 2001; Zink & Boyes, 2006). The cost of running OAE experiences either within the physical education setting or as an off-site camp experience was viewed as the prohibitive (Backman, 2011a; Lugg & Martin, 2001; Moreri, 2011; Zink & Boyes, 2006).

Some teachers indicated a philosophical tension between the nature of activity-based OAE experience versus the student centered approach. The representation of OAE through pursuit-based activities with a focus on skill acquisition caused personal conflict for some teachers who felt that OAE was, "autocratic teacher-led as opposed to student-centered…there are things that we only do for the assessment…that it is a box that needs to be ticked" (Paul, OE teacher; Mikaelis et al., 2015, p.7). This tension was also clear regarding the outsourcing of the OAE curriculum to agencies where the educational connection to school curriculum is not clearly delineated (Mikaelis et al., 2015). It is worth noting that depending on the intent of the OAE activities (e.g., outdoor pursuits) direct instruction versus student-centered instruction may be appropriate. In addition, the teacher's philosophical student-centered approach might not align with the skills based approach of external providers.

The need for a reconceptualization of approaches to OAE was also evident within the data. The use of place-based approach to OAE that has recently been incorporated into the physical education curriculum in Singapore has required a shift in how physical education teachers view the subject (Atienco & Tan, 2016; Tan & Atienco, 2016). This shift has not necessarily been a smooth process for teachers to change from an adventure-based camp experience to a place-based approach (Atienco & Tan, 2016; Tan & Atienco, 2016). The teachers began to realize that place-based pedagogy was more than a focus on the learning activities but lacked the pedagogical content knowledge to, "fully engage with the learning processes underpinning place-based pedagogy" (Tan & Atienco, 2016, p.32).

Ways of Doing This in Physical Education Teacher Education

The position of OAE within PETE programs is an important consideration given the inclusion of this model in or through K-12 health and/or physical education programs internationally. It is within the context of 'what and why' OAE is being embedded in PETE that we will discuss the findings of this theme.

In the Name of OAE. Of note in this theme is the conflict surrounding what counts as OAE within the PETE programs internationally. As we have indicated

previously, there is not one universal definition of OAE, but rather it can be an amalgam of different activities, philosophies, and pedagogical approaches. Although we have provided our understanding and interpretation of OAE, this may not always align with the definition used in the PETE programs covered in this review.

The most common form of addressing OAE within the studies we considered was either through a specific course or series of courses, or as OAE camp based experiences, which may be run in conjunction with a course or as a stand-alone experience. A number of studies reported that the inclusion of an OAE course within the PETE program (Backman, 2008; Dorovolomo, 2008; Sutherland, Ressler, & Stuhr, 2011; Sutherland & Stuhr, 2014; Sutherland, Stuhr, & Avvayzo, 2016; Timken & McNamee, 2012; North, 2015) was the means through which the preservice teachers came to understand OAE. However, what is not as clear is how many of these courses provided the preservice teachers with knowledge and understanding of OAE through experience, versus the knowledge and understanding of OAE and how to teach OAE in a physical education context.

OAE camp based experiences either as a part of a course or as stand-alone experiences was another way that OAE was embedded or addressed in PETE programs (Carlson & McKenna, 2000; Dorovolomo, 2008; North, 2015; Timken & McNamee, 2012). These camps provided preservice teachers with an opportunity to engage in and experience OAE first hand, and were a very intentional provision within the PETE program. At the University of Auckland in Aotearoa New Zealand the four-year PETE program includes a series of camps, each with a different focus. Final year PETE students lead and peer teach a three-day beach camp for year 1 students. Maureen works in partnership with Māori-indigenous people to use the outdoors with year 2 students to shape knowledge and understanding of Māori culture during a four-day marae stay. Year 3 students participate in a five-day bush-based camp to learn outdoor skills with Maureen and other staff. All aspects of the OAE program are supported through on campus course work (Legge & Smith, 2014).

Whatever methods was used in the name of including OAE within PETE programs, intentional instruction in OAE is important when considering the level of risk that is often associated with this content area. In a recent study of the use of *friluftsliv* in Swedish schools, Dahl, Lynch, Moe, and Adland (2016) indicated that the amount of instruction in teacher education in the content of *friluftsliv* impacted the number of accidents reported. One year of teacher education in *friluftsliv* reduced the number of accidents.

Power of the Experience. Within the data from the empirical studies explored in this paper, it was evident that preservice teachers found the OAE experience to be influential both personally and professionally. The OAE camp experience provided the opportunity to explore personal growth and boundaries through engagement in a variety of activities. This personal growth came in various forms including overcoming fear, realizing the importance of a supportive environment and peer support, power of peer influence, and coping mechanisms (Carlson & McKenna, 2000), fear, risk and challenge (Timken & McNamee, 2012), coming to know and understand differences, building cooperation and teamwork within the group, and fending for self (Dorovoloma, 2008).

Professional growth seemed to occur through the intentional instructional strategies of the OAE facilitators through reflective journals or reflective assignments (Carlson & McKenna, 2000; Sutherland et al., 2011; Sutherland & Stuhr, 2014; Sutherland et al., 2016; Timken & McNamee, 2012), interviews (Dorovoloma, 2008; Sutherland et al., 2011; Sutherland & Stuhr, 2014; Sutherland et al., 2016), and group debriefing (Dorovoloma, 2008; North, 2015). These strategies provided the preservice teachers with the opportunity to consider how the OAE experience influenced their growth as professionals in the areas of experience of K-12 students (Carlson & McKenna, 2000; Timken & McNamee, 2012) the importance of creating a supportive environment (Carlson & McKenna, 2000; Timken & McNamee, 2012), the power of peer influence in both a positive and negative way, goal setting (Carlson & McKenna, 2000), the use of the full value contract and the possibility of curricular change in physical education (Timken & McNamee, 2012).

Bumpy Road From PETE to PE. Despite the powerful influence of OAE courses and experiences on pre service teachers' personal and professional selves, it was far from an easy road to transfer what was experienced and learned in the PETE program to the K-12 PE setting. The bumps in the road signified a) experience is all they need, and b) lack of relevant content knowledge (CK) and pedagogical content knowledge (PCK) occurred in a number of different countries. A number of preservice and in-service teachers felt that while they enjoyed their OAE experiences in their PETE programs, they did not gain knowledge, understanding and experience in how to teach OAE within a school setting (Backman, 2011a; Moreri, 2011). The feeling that PETE programs did not provide the specific content knowledge and pedagogical content knowledge necessary to teach OAE in a school setting was expressed by a number of teachers. This lack of CK and PCK seemed to occur either through the complete lack of OAE courses within the PETE program (Capel & Ketene, 2000; Carney & Chedzoy, 1998; Moreri, 2011), or the emphasis of the OAE course/experience on participation rather than learning to teach (Atienco et al., 2015; Carlson & McKenna, 2000; Dorovoloma, 2008). This is an important consideration given that the CK and PCK of OAE is very different from the typical sport based curriculum that is delivered in PETE programs (Sutherland et al., 2016). Even within the inclusion of one or two courses in a PETE program focused on OAE it is difficult to cover the CK and PCK that is needed to be able to effectively teach OAE in K-12 schools (Sutherland et al., 2016). It is important to note however,

that even when learning to teach OAE was the focus of the PETE course, preservice teachers still experienced some difficulty transferring that knowledge to teaching K-12 students (North, 2015; Sutherland et al., 2011; Sutherland & Stuhr, 2014; Sutherland et al., 2016).

The findings indicated that external influences were an important factor on the ways of doing OAE in and through physical education/teacher education, student outcomes from participation in OAE were largely positive although it certainly was not a smooth process at times, and pedagogical considerations are important to reflect upon when implementing OAE in this context. Within PETE, the delivery of OAE occurs through a number of different ways and there is a strong belief that the power of the experience has an important influence on preservice teachers. However, attention must be paid to developing the relevant content knowledge and pedagogical content knowledge.

Discussion

The shared historical influence has helped to shape how OAE is offered in and through physical education/teacher education in the countries we considered for this paper. The external influence highlighted in the findings, coupled with the historical underpinnings, also affects the ways in which OAE occurs. We position the findings from this research within ways of teaching OAE in and through physical education/teacher education illustrated through examples from our own lived experience.

Gaining legitimacy through inclusion in a national curriculum or framework has certainly resulted in the presence of OAE in physical education within Aotearoa New Zealand, Australia, Singapore, and Sweden. While the predominant version of OAE in physical education in these countries is through an OAE camp experience or adventure skills-based activities, questions arise to the congruence of these experiences or activities to the philosophy of experiential learning. The outsourcing of OAE experiences needs to be problematized as it could be both a facilitator and/or inhibitor for the participants' experiential learning. While we recognize that instructors in outdoor residential centers or adventure agencies will likely possess the necessary technical skills to teach OAE, it is not clear if they also have the necessary knowledge of learners, learning, schooling, curriculum, pedagogy, and assessment that teachers possess. The consequences of handing over the teaching of OEA to outside instructors means that, teachers lose sight of the educative value of the process, participants do not experience their teacher's knowledge and understanding of the learning process, and that teachers are unable to make changes to the process to meet the needs of the participants (Remington & Legge, 2016)

We contend that the blurred naming or terminology used to identify the provision of OAE internationally is problematic and can lead to the devaluing of the educative purpose of OAE in and through physical education. With the exception of *friluftsliv*, which has a clear historical and cultural identity as a philosophy of outdoor life in Scandinavian countries, the different terminology for OAE seemed to be used interchangeably and without clear definition. Terms such as outdoor education, adventure education, outdoor adventure education, outdoor adventurous activities, outdoor learning, learning outside the classroom, adventure physical education, and adventure-based learning were all used within the growing body of research on the use of OAE in and through physical education/teacher education. As we indicated earlier, there is an abundance of terms used to describe OAE and which we believe has led to confusion of what constitutes OAE within physical education. Our understanding and interpretation of OAE is an experiential endeavor that incorporates a contextualized sequence of activities combined with a reflective process that may or may not take place in the outdoors. In this is a strong belief that a socially critical perspective incorporating a connection to the local environment, culture, and history is emphasized. However, to build a strong foundation for an OAE program, there must be a clear alignment between the term and the philosophical approach used to teach the activities, whether it is a program aimed at fostering personal growth or skill based outdoor activities. Thus, with OAE situated as an umbrella term, there could be a myriad of different outcomes and pedagogical approaches used to achieve these outcomes. One such approach is adventure-based learning (ABL).

Situated within our own lived experience as participants, practitioners and teacher educators, we use the term and philosophy of ABL to represent how we incorporate OAE within physical education/teacher education. To us ABL embodies a student-centered approach, encompassing a form of adventure, where the educative purpose of the experience is emphasized, and students reflect on their personal and social development through a debrief process. We propose that the key components, or nonnegotiables, for ABL include experiential learning, sequence and flow of activities, student centered facilitation, processing (brief and debrief), emotional and physical safety (including Challenge by Choice and Full Value Contract), and cultural responsiveness. Conceptualized this way, we argue that ABL can be used with a variety of content, in different cultural contexts, and with different participants.

Given our positionality on ABL, we found it difficult to discern if the key components of experiential learning were adhered to in the research studies reported. The quality of the experiential learning process was at times questionable or difficult to determine. We would challenge future researchers in the area of OAE to delineate the philosophical underpinnings of the program or experience to allow for a deeper understanding of the nature of the program/experience and the outcomes on participants or instructors. It was also difficult to ascertain who is doing the actual teaching of OAE in the trenches and how they are being trained. At times it seemed as though those doing the teaching of OAE in and through

physical education/teacher education may not have had training either through teacher education or professional development to actually facilitate the experiential process in OAE (e.g., Dorovolomo, 2008; Gehris et al., 2010; Tischler & McCaughtry, 2014).

Learning to teach OAE is not an easy process (Remington & Legge, 2016; Sutherland & Stuhr, 2014; Sutherland et al., 2016). The CK and PCK required to successfully teach OAE in physical education needs to be addressed within PETE programs. However, we fully acknowledge the time constraints that PETE program operate under and that physical education majors often possess little if any OAE CK or PCK entering PETE programs. Our own lived experiences foreground our intentional inclusion of ABL as a philosophy, curriculum, and instructional model within our own teaching in our respective university PETE programs.

Conclusion

Notwithstanding the limitations of the scope of this paper, we assert that the growing body of research in OAE cements its inclusion as both a curriculum and instructional model within physical education/teacher education. We feel that often OAE is experienced as a controlled orchestration and there is a need to pedagogically change the key of this orchestration. To accomplish this, we recommend using ABL to define the inclusion of OAE within physical education/teacher education. ABL is grounded in experiential learning and provides a framework for a pedagogical model where the content, location, cultural context, and people (both teachers and students) can be interchangeable making it applicable within physical education/teacher education internationally. In our own teacher education programs, we use the framework of ABL although we do with different content, in a different location both physically and culturally, and with different people. The pedagogical importance of understanding the sociocultural context when teaching ABL cannot be overstated. As teacher educators working within PETE programs in two different countries and who did not know each other personally before this project, we welcomed the opportunity to explore our own understanding of, and opportunity to learn from each other about, the possibilities of 'doing' OAE in physical education/teacher education. We would challenge our international PETE colleagues to consider the possibilities of doing OAE within their own physical education/teacher education programs.

Experiential learning has become the theoretical base that provides an explanation for why OAE seemed to be effective. From our research we have realized there is a need to examine more PETE and school programs to identify the gap between the rhetoric and the reality when teaching OAE. Does what we teach about OAE translate into appropriate educative outcomes for our students? In our view, added to the skill development possible through OAE, a socially critical perspective with the central aims of producing healthy citizens with the knowledge, skills and power to participate in society in a just and ethical manner (Tinning 2002) aligns well with the philosophy underpinning OAE.

Karppinen, (2012) suggests that in OAE nature and the environment are regarded as important. It makes sense then to consider how well environmental awareness and understanding is being taught alongside OAE activities. In the future it would be interesting to research a variety of school cultures internationally before and after interventions of OAE to include and examine educative outcomes associated with environmental care and protection, to gain new insights into how the USA and other countries align their HPE teaching and PETE practices to their unique outdoor adventure settings. Aligning with the philosophy of a model such as ABL is the belief that learning is a result of direct experience, innovative research practices that use visual ethnography, poetic representation, autoethnography, and self-study could highlight lived experiences of students, teachers, and teacher educators to make what happens in the outdoors, and often seems intangible, tangible.

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