

OUTDOOR EDUCATION MENTORING EFFECTS ON TEACHERS

The Effects of Outdoor Education Mentoring on Teacher Job Satisfaction

THESIS

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By

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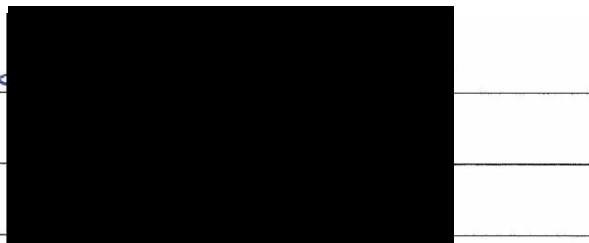
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Abstract

A strong relationship has been demonstrated between mentoring and job satisfaction in research across multiple fields. Job satisfaction is also a key indicator of teacher retention. A few programs in the US are using mentoring to incorporate outdoor education into teacher pedagogy and the broader public school system. In this model, experienced outdoor educators work with teachers individually over a period of time to model curriculum and to provide feedback, logistical and personal support in incorporating this method into the classroom. A case study investigation in the Bioregional Outdoor Education Project on the Colorado Plateau found that outdoor education mentoring resulted in increased use of outdoor education by teachers, reports of enhanced student achievement, especially engagement, and positive change in teacher feelings of satisfaction with work. Meaningful benefits that result from incorporating outdoor education may increase the likelihood that teachers continue to use this method, a topic for future investigation. Infusing outdoor education through the curriculum with the help of mentors may offer a potential means of school reform, if support from peer teachers and administrators is garnered through information about the potential benefits to both students and teachers.

Dedication

This work is dedicated to all the kids who have brought insight, richness and love into my life, especially Utah Hester, Wylder and Olin Moriarty, Gwen and JudahValentine, Grae Ranier, and the countless students who have shared their sense of wonder with me through the years.

We leave this world to them.

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Finally, thanks to my UMD Environmental Education cohort. If we hadn't collectively been so determined to complete our projects, and complete them well, I'm not sure this research would have reached completion. Sometimes all you need is a little help from your friends. I look forward to continuing our work together in the future, as professionals in the best field ever.

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Chapter 1

Introduction

Background and Setting

Outdoor education has been defined as an experiential and interdisciplinary means of curriculum enrichment, where the process of learning takes place outdoors (Hammerman, Hammerman, & Hammerman, 1985; Lappin, 2000). Teaching outdoors may offer an opportunity for inquiry-based learning in schools by connecting language arts, science, social studies and mathematical concepts to the real environment (Hoody, 1995). Likewise, it may offer teachers the opportunity to integrate subjects in a real-world context, develop inquiry-based learning opportunities, and increase student-retention and engagement (Gilbertson, Bates, McLaughlin & Ewert, 2006; Lisowski, & Disinger, 1996).

Despite the fact that learning based on the environment and the outdoors has been shown to improve student's academic achievement and standardized test scores (Bartosh, 2003) and improve critical thinking skills (Ernst & Monroe, 2004), outdoor education methods are still not widely included in university and college pre-service teaching coursework (McKeown-Ice, 2000). Thus when pre-service teachers enter the work force, they may lack the pre-requisite knowledge, confidence and experience to incorporate outdoor education in their classrooms (Powers, 2004a). Preliminary studies and reports have demonstrated that teachers who are provided with professional development opportunities and resources to ground curriculum in the local environment may be more

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satisfied with their profession and may have increased confidence in their teaching (Erickson, 2009; Powers, 2004b).

In order for inservice teachers to incorporate outdoor education and its' potential benefits into their classrooms, professional development related to outdoor education is needed. Such professional development programs must utilize professional development best practices, as described by education research. Such professional development takes place over an extended period of time, involves collaboration between teachers, is situated at the school itself, and uses non-traditional reform methods such as team teaching, classroom observations or coaching (Garet et al., 2001).

Mentoring is a facilitated structured process whereby an experienced person introduces, assists and supports a less experienced person in personal and professional growth (Nolan, 2007). As applied to outdoor education in the formal school environment, a professional outdoor educator may act as a mentor to teachers, assisting them to learn and incorporate outdoor education methods into the curriculum. Australian school change expert Peter Cole (2004) states that the most effective means for promoting professional development include classroom observation, feedback and lesson study, all of which could be provided by a mentor in the context of learning outdoor education skills.

Mentoring is positively correlated with job satisfaction levels in many different professions, such as health care, education, and social work (Johnson, 2004). Through professional and psychosocial support, the assistance and guidance of a mentor may provide a protege with enhanced feelings of self-efficacy and organizational support, which in turn supports job satisfaction. Job satisfaction has significance to schools;

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dissatisfaction with work is cited as a reason for leaving a teaching position more often than retirement (Alliance for Excellent Education, 2008). Enhanced teacher self-efficacy and job satisfaction have been associated with improvements in student achievement (Caprara, Barbaranelli, Steca & Malone, 2006).

This research will examine the use of outdoor education mentoring as a potential tool for incorporating outdoor education into schools and will examine the impact of outdoor education mentoring on teachers' feelings towards their job.

Research Questions

- What are the characteristics of an effective outdoor education mentoring program for teachers?
- Do teachers enrolled in a mentoring-based outdoor education professional development program show a change in feelings toward their job? If so, is that change related to the mentoring program?

Objectives of the Study

This thesis seeks to:

- Determine the characteristics of inservice mentoring using outdoor education methods.
- Evaluate teachers' level of job satisfaction before and after outdoor education mentoring takes place.

Definitions of Terms

Environmental education: A learning process that increases people's knowledge and awareness about the environment and associated challenges, develops the necessary skills and expertise to address the challenges, and fosters attitudes, motivations, and

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commitments to make informed decisions and take responsible action (National Association for Interpretation, 2007).

Operational definition: The process of learning about the natural history, human history, scientific processes, and sociopolitical processes relating to the environment in a school setting, in order to develop students that are positively responsive to the environmental context of the Colorado Plateau.

Experiential Education: A methodology in which educators purposefully engage with learners in direct experience and focused reflection in order to increase knowledge, develop skills, and clarify values (Association for Experiential Education, 2010)

Operational definition: Direct experiences in the outdoors that take place in or near Bioregional Outdoor Education Project enrolled school settings in order to develop knowledge, skills and values related to the Colorado Plateau region.

Formal education: The hierarchically structured, chronologically graded school system, offering general academic studies (National Association for Interpretation, 2007).

Formal educator: Certified professionals who teach in the P-12 formal education system.

Job Satisfaction: The overall negative or positive emotions that teachers hold regarding their work experience. Job satisfaction can be regarded as a combination of four measures: self-esteem, generalized self-efficacy, locus of control and emotional stability (Judge & Bono, 2001).

Operational definition: The self-esteem, self-efficacy, locus of control, emotional stability and experience of the natural world experienced by teachers enrolled in the Bioregional Outdoor Education Project (BOEP), possibly correlated with mentoring.

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Locus of control: the extent to which individuals believe that they can control events that affect them (Rotter, 1990)

Operational definition: The extent to which BOEP teachers believe they can control events in their work environment.

Mentoring: A facilitated, structured process whereby an experienced person introduces, assists, and supports a less experienced person in a personal and professional growth process through learning and using outdoor education skills. (Nolan, 2007, p. 3)

Operational definition: The structured process whereby an experienced outdoor educator works with formal educators in the BOEP in order to introduce, model, evaluate and assist them in using outdoor education methods with their students.

Outdoor education: An experiential and interdisciplinary means of curriculum enrichment, where the process of learning takes place outdoors (Hammerman, Hammerman, & Hammerman, 1985; Lappin, 2000)

Operational definition: An experiential and interdisciplinary means of curriculum enrichment provided to students by teachers and an outdoor education mentor, taking place outdoors on the Colorado Plateau.

Place-based education: An interdisciplinary instructional strategy grounded in the resources, issues, and values of the local community which focuses on using the local community as an integrating context for learning at all levels (Powers, 2004b).

Operational definition: An interdisciplinary instructional strategy grounded in the resources, issues, and values, of the Colorado Plateau, which uses the local context, including Navajo cultural practices and beliefs, for integrating subjects.

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Professional development: Learning activities to enhance professional career growth (Education Resources Information Center, 1979). For teachers, this may include individual development, continuing education, and inservice education, as well as curriculum writing, peer collaboration, study groups, and peer coaching or mentoring (North Central Regional Educational Laboratory, No date).

Operational definition: A two year in-school mentoring program in outdoor and place-based education methods designed to enhance professional career growth for elementary teachers on the Colorado Plateau enrolled in the BOEP.

Self-efficacy: Individuals' beliefs about their capability to carry out a particular course of action successfully (Bandura, 1997).

Operational definition: BOEP teachers' beliefs about their capability to carry out successful educational practices, including in the outdoors.

Limitations of the Study

Job satisfaction is a multi-faceted attribute. Because such attitudes may result from circumstances beyond the scope of the study but to some degree inherent to a particular school (for example, administrative practices), the measure of job satisfaction may be biased by confounding variables, including time of year surveys are administered and the age of students taught. Additional confounding variables may exist because teachers who enroll in the Bioregional Outdoor Education Project share attributes such as an interest in the outdoors or professional development, or higher levels of self-efficacy that are positively correlated with job satisfaction. An additional source of bias may come from participant non-response. Participants in the program also utilize place-based educational strategies in conjunction with outdoor education and it is difficult to separate

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the effects of these techniques. Information was collected from groups who were comparable but not matched, and there was no pre- and post- data collection with a single group of teachers.

While the intent of the research is to investigate the impacts of a specific outdoor education mentoring program on teacher job satisfaction through qualitative and quantitative means, the selection of participants is not random and the results are not generalizable. The Bioregional Outdoor Education Project (BOEP), an outdoor education mentoring program administered by the Four Corners School of Outdoor Education, is a specific program occurring only on the Colorado Plateau and the findings of this study are limited to this program in their implications.

Chapter 2

Review of Literature

Outdoor Education & Schools

In 1947, outdoor education pioneer L.B. Sharp stated “that which ought and can best be taught inside the schoolrooms should there be taught, and that which can best be learned through experience dealing directly with native materials and life situations outside the school should there be learned.” This statement, while contributing to the establishment of outdoor education as a salient discipline, also reveals interrelationships between outdoor education and related fields. The idea that a student should learn through direct experience is common to the field of experiential education (Association for Experiential Education, 2010). That they might use “native materials” suggests learning from the local environment, an idea common to the more recently emerged field of place-based education (Sobel, 2005). That they learn from “life situations”, instead of only academic material, is a concept shared with the field of adventure education (Outward Bound, 2010). Outdoor education is a means of teaching that is enmeshed in a variety of other methods and disciplines and in examining its’ roots, it is difficult to avoid theoretical overlap with related fields of environmental education, adventure education, experiential education, place-based education or environment-based education. Priest (1986) recognized this overlap and proposed that outdoor education be viewed as four types of relationships: interpersonal (self with others), intrapersonal (self), ecosystemic (environment), and ekistic (humans with environment). Whatever type of outdoor

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education is used (environmental education, for example), it should address all four relationships in some capacity, though it might emphasize only two (ekistic and ecosystemic, in the case of environmental education). Another model incorporating experiential, adventure, and environmental education along with ecotourism and interpretation was developed by Gilbertson, Bates, McLaughlin & Ewert (2006). This model uses experiential education as the basis for all other methods, while outdoor education functions as the center of the wheel, containing elements of all disciplines while contributing to each of them. While this proposal focuses on outdoor education, it will draw on research and techniques from these related disciplines to provide a complete picture of outdoor education professional development and the role of outdoor education in schools.

Outdoor education as it exists today builds on many established educational theories. Both formal education and outdoor education have been influenced by the work of theorist and philosopher John Dewey (Gilbertson, Bates, McLaughlin, & Ewert, 2006). Dewey believed that when students are allowed to experience and interact with curriculum, they will thrive, and that students' prior knowledge and experiences should be considered in their education (Dewey, 1938). The theory of constructivism, which states that learning must be developed from a students' prior knowledge, and experiential education, which relies on direct experience, are both influenced by Dewey's ideas (Kolb, Boyatzis & Mainemelis 1999). Dewey's ideas and constructivism itself challenge outdoor educators to teach whole concepts that are relevant to students' lives and prior experiences, are challenging, and provide the learner with a direct experience (Gilbertson, Bates, McLaughlin, & Ewert, 2006).

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Outdoor education, like formal education, is also influenced by the learning theories of Jean Piaget, an epistemologist who proposed four stages of human development from birth through adulthood (Kolb, Boyatzis & Mainemelis 1999). The first stage is sensorimotor, from birth to two years old. In this stage, children learn through their senses and movement and are only able to understand the world through their own viewpoint. Next children move into the preoperational stage, from two to seven years old. This stage is characterized by imaginative magical thinking; children do not use logic. From seven to twelve years, children are developing the ability to use logic and are in the concrete operational stage. The development of abstract reasoning occurs in the formal operational stage from twelve onward (Wikipedia, 2010). Like Dewey, Piaget was a constructivist who believed that children's experience was the basis for their development of knowledge. He understood children as active builders of knowledge, constantly testing their own theories of the world (Papert, 1999). For outdoor education then, learning must meet the needs of a child's developmental stage and allow children to make meaning from inquiry.

Both Piaget and Dewey's ideas, which offer a basis and support for outdoor education, also influence formal education. However, a dichotomy still appears between outdoor or experiential education and indoor traditional education. Resnick differentiated between the traditional school and experiential education by suggesting that school learning is often a matter of an individual manipulating symbols versus the contextualized reasoning, tool manipulation and shared cognition that takes place in the real world (Kraft, 1990). Coleman (1977, in Kraft, 1990) delineates the steps that a student takes to transfer symbolic classroom learning to knowledge application in the

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process of daily living. Students must first receive information, then process and organize it in a way they can understand, and then make implications about real world application before finally making use of the information in their day to day life.

Experiential learning happens almost in reverse, with the student first carrying out an action and observing the effects, then making symbolic meaning to apply to future circumstances (Kraft, 1990). In synthesizing the work of Resnick, Kraft states

“The discontinuity between the worlds of school and work suggest that we should not focus so much on “symbols correctly manipulated but divorced from experience.” Successful schooling must involve socially shared mental work and more direct engagement with the referents of symbols. Schooling should begin to look more like out-of-school functioning and include greater use of reflection and reasoning.”

Outdoor education offers this sort of direct experience to traditional symbol-based instruction. Stated differently, Ebersole and Mueller Worster say in their research on place-based education, “it is our hope that place-based education can overcome the disjuncture between schools and communities” (pg. 24).

Before examining the impact of outdoor education and professional development on teachers, it is important to overview its impact on students and the benefits that outdoor education may offer to schools. With the advent of uniform standardized testing in schools, many studies of the effectiveness of outdoor and environment-based education have examined the relationship between outdoor education and standardized test scores. The State Environmental Education Roundtable (SEER) produced one of the most frequently cited studies of this genre. SEER paired schools using environment-based

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education (EBE) techniques with schools using traditional curriculum on the basis of demographics and compared standardized test scores for each pair. After examining 12,700 sets of student data from eight schools over a five year period, SEER concluded that students in the EBE treatment schools outperformed students in the control schools. Notable among the findings is that 100% of students in environment-based schools scored as well or better than students in control schools in reading, while 92.5% scored as well or better in math.

Other studies have shown similar results using standardized test scores as the independent variable. Bartosh (2003) analyzed standardized test scores in a cohort of schools that had been using environment-based education strategies for at least three years and compared them to schools using traditional curriculum. She found that out of seventy-seven pairs of demographically matched schools in the state of Washington, seventy-three schools using environmental education methods had higher standardized test scores in at least one subject (math, reading or writing).

Place-based education has a close relationship with outdoor education and environment-based education and research from this field has also examined standardized test scores. Loveland (2003) reported on marked test score improvements after curriculum in largely indigenous communities in rural Alaska was modified to reflect local cultural values and involve elders and community members through a project called the Alaska Rural Systemic Initiative.

Place-based education demonstrated similar results in East Feliciana, Louisiana when the struggling school district instituted place-based education summer institutes for teachers focusing on local natural resources (Emekauwa, 2004b). Academic performance

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of fourth grade students on the Louisiana standardized test LEAP-21 improved at nearly every school in the district from 1999 when the program was implemented until 2002.

Standardized tests are only one measure of student success. Ernst & Monroe (2004) assessed the impact of environment-based education by measuring high school students' critical thinking skills. They also examined disposition towards critical thinking, which includes measures of "open-mindedness, inquisitiveness, cognitive maturity, truth-seeking, analyticity, systematicity (sic) and critical thinking self-confidence" (pg. 509). Four hundred Florida students participated in the study, which found that environment-based education methods had a significant positive impact on critical thinking and disposition towards critical thinking when compared to students in matched schools using traditional curriculum models.

Outdoor, place-based, and environment-based education, as well as time spent in unstructured nature play, may also improve attentional functioning of children, a potential benefit to schools. Parent surveys of children with Attentional Deficit Disorder (ADD) found that time spent in green play settings was effective in improving attentional functioning. The "greener" a play area was, the more significant the reduction in attention deficit symptoms (Faber Taylor, Kuo, & Sullivan, 2001). With over 2 million children in the United States diagnosed with ADD, the impact of time spent outdoors on classroom dynamics might be significant.

Outdoor education may also improve the amount of information students retain. When students were exposed to a multi-day field experience in ecology, they exhibited both improved understanding of ecological concepts and retained the information four weeks after the experience (Lisowski & Disinger, 1996). Sixth-grade students (n=255)

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attending a multi-day outdoor education program in California raised their science scores by 27% and the increase was retained six to ten weeks later (American Institute for Research, 2005).

Even a relatively brief field experience may have a positive impact on student learning. Researchers in Spain compared the study of wetlands in two classrooms; both covered the exact same material but one group experienced a single six-hour field trip to a local wetland. Students that experienced the field trip not only expressed deeper understanding of wetland concepts, they experienced a deeper level of concern for the local wetland (Fernandez Manzanal, Rodriquez Barreiro, & Casal Jimenez, 1999).

Outdoor Education & Teacher Professional Development

Of course, the benefits of outdoor education to students cannot be realized unless teachers are trained in and use this methodology. In a survey of preservice teacher education programs, most respondent schools indicated that they had very few requirements related to environmental education and that environmental education was not institutionalized in teacher training programs (McKeown-Ice, 2000). Powers (2004a) interviewed eighteen professors of education at universities around the country regarding their attitudes towards environmental education and institutional EE practices. While all interviewees agreed that preservice teachers should be prepared to infuse environmental education into their classroom, most did not incorporate environmental education methods to any significant extent into their courses due to time constraints and already heavy course loads. Other barriers included the needs and demands of the schools preservice teachers are placed in, which emphasize reading, math and standardized

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testing, as well as competition from other educational methodologies or “special interest groups” who wish to stake a claim in the curriculum. In terms of outdoor education, faculty generally expressed a desire to take students outdoors but they were often unable to do so because of the time limitations inherent in the college classroom (Powers 2004a).

This inadequate amount of environmental and outdoor education in preservice teacher training may result in teachers who are unprepared to foster ecological understanding in their classrooms. Interviews with ninety-three inservice teachers in Australia found that they were likely to be functioning at a level of nominal ecological literacy, and preferred to focus on attitudes and values (versus information) when teaching about the environment (Cutter-Mackenzie & Smith, 2003). Of these teachers, nearly eighty percent had never had inservice training in environmental education; of those, the majority said they had never participated in inservice environmental education training because it was not available. Almost eighty-five percent had not experienced pre-service training in environmental education. It comes as no surprise, given these findings, that the interviewed teachers made teaching environmental education a priority only occasionally (Cutter-Mackenzie & Smith, 2003).

However, positive results have been documented when outdoor and environmental education is included in preservice or inservice teacher training. A study of preservice biology teachers who participated in a university training program in Education for Sustainable Development (ESD) demonstrated high mean scores in environmental knowledge and overall positive environmental attitudes, findings which suggest that they will later incorporate ESD into their classroom curriculum (Esa, 2010). The author states that results of such training would be improved if a full integration of

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ESD were required in preservice coursework, however this recommendation is confounded by the concerns expressed by respondents in Powers (2004a) and McKeown-Ice (2000). Such integration of environmental and outdoor education might be more feasible through later inservice training.

A 1996 review of inservice professional development in environmental education offers interesting historic food for thought. Wade (1996) surveyed environmental education coordinators nationwide regarding EE inservice practices. The results showed that most inservice environmental education training for teachers focused on nationally produced curricula, mainly Project Learning Tree and Project WILD. Primarily science-oriented, it attracted an audience of life science teachers instead of achieving an interdisciplinary scope. Additionally, most EE inservice teacher education focused on the delivery of environmental content, rather than providing a means to improve education itself. Thus while environmental educators continually seek access to the education system, the education system does not look to environmental education as a means of school reform. To remedy the problem, Wade recommends decentralized, local EE professional development that involves a direct connection between learners and communities based on local values, sociopolitical structures and environmental issues of local concern. She also suggests that environmental education has a critical role to play in education reform, particularly if practitioners begin to better demonstrate its' interdisciplinary nature (Wade, 1996).

Inservice training that meets these parameters has demonstrated significant impact on teachers and their teaching. Meichtry and Smith (2007) investigated the impacts of a place-based education professional development program on teacher confidence-levels,

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classroom practices and attitudes toward the environment. Teachers who took part in this unique program- a watershed investigation involving a six-day river trip- showed an increase in confidence to use place-based education in their classrooms as well as an increase in its actual use. They also showed a significant increase in pro-environmental attitudes following the program. Based on this finding, the researchers recommend that similar professional development programs develop clearly stated objectives linked to the state standards, evaluate the program in light of these objectives, connect program learning to established curriculum, assist teachers with curriculum development, and establish relevancy by using local environmental and community-based experts (Meichtry & Smith, 2007). They recommend that such training programs be sustained over time. The recommendations made by Wade (1996) and methods of Meichtry & Smith (2007) dovetail with the recommendations of other research in education professional development.

Current research suggests that professional development efforts as they are typically practiced are often ineffective at generating substantial changes in teacher practice and school culture (Cole, 2004; Garet et al., 2001; Lewis, 2002; Owen, 2004; Reeves, 2010). Australian school change expert Peter Cole (2004) contends that much of education professional development is based on misperceptions of what constitutes effective learning; that it is an event, often costly, delivered by an expert outside the school. He claims instead that the most authentic learning for teachers takes place in the school and rests on techniques that teachers often avoid; classroom observation, feedback and lesson study. While not recommending a certain time frame for professional development, Cole suggests that short, medium and long range goals be chosen based on

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the needs of an individual teacher and that professional learning be embedded in the context of the school on a daily basis. His ideas support those of American education expert Douglas Reeves (2010), who reports that teacher professional development suffers from a lack of accountability and assessment. He observes an overabundance of professional development strategies in schools and decries “the toll that proliferating initiatives has taken on the finances, morale and organizational energy of school systems.” (Reeves, 2010, p. 3). For Reeves, professional development with dedicated focus on teaching, curriculum, authentic assessment and leadership ultimately improves student learning. Garet et al.(2001), like Wade (1996), also maintains that most education professional development is delivered in short term workshops, but that these offer inadequate duration, activity and content to effect teacher pedagogy change.

In response to these concerns, a trend is emerging toward professional development (now sometimes referred to as professional learning) that takes place over a longer period of time, involves collaboration with peers through “professional learning communities”, takes place in the school instead of away from it, and uses reform methods such as teacher-run training sessions, team teaching, research projects or reading groups, and mentoring or coaching (Cole, 2004; Penuel, Fishman, Yamaguchi, & Gallagher, 2007; Reeves, 2010). Many of these reforms have been spurred by a landmark study involving a national probability sample of mathematics and science teachers in 2001 (Garet et al). Teachers surveyed regarding the effectiveness of professional development methods suggested that professional development was most effective when it focused on providing teachers with strong content knowledge, offered opportunities for active rather than passive learning, and was placed in the context of other learning activities in the

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classroom (Garet et al., 2001). Structurally, professional development was more effective when it focused on groups of teachers in the same school, therefore allowing teachers to share resources and contribute to an enhanced professional culture. Two aspects of duration were investigated; contact hours and actual duration of the program. Longer programs with more contact hours appeared to be more effective. Structure of activity was also important. They report improved success with non-traditional methods of delivery, such as study groups, coaching or mentoring, stating that “by locating opportunities for professional development within a teacher’s regular work day, reform types of professional development may be more likely than traditional forms to make connections with classroom teaching and they may be easier to sustain over time” (Garet et al., 2001, p. 921).

As reported in Garet et al. (2001), the amount of time invested in professional development appears to be an important predictor of implementation. A multi-faceted study of professional development in the GLOBE science and inquiry program found that providing teachers with dedicated time to plan and integrate the program into their curriculum was a predictor of program implementation (Penuel, Fishman, Yamaguchi, & Gallagher, 2007). The time span of the professional development was also positively correlated with changes in teacher knowledge and practice (Penuel, Fishman, Yamaguchi, & Gallagher, 2007). A professional development model proposed by Guskey (2002) points out that lasting change in teacher practice takes place only *after* implementation, when confirmation of student learning is available to the teacher. Therefore extending the professional development experience through follow-up, support and pressure may be even more crucial than the initial training (Guskey, 2002).

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Professional development that involves collaboration between teachers is also an emerging trend. The National Staff Development Council (2001) developed standards for education professional development, which state “Staff development that improves the learning of all students organizes adults into learning communities whose goals are aligned with those of the school and district.” They recommend that these teams meet regularly, every day or several times per week, to focus on sharing information, examining student progress, and work towards solutions of common problems. Because group collaboration supports a common culture in the school and provides an opportunity to share resources, such professional development is more likely to have a lasting impact on school effectiveness (Cole, 2004). Such learning communities may also circumvent the ever present time restrictions in schools by adjusting schedules to meet briefly but regularly (Lewis, 2002). This often takes place on a voluntary basis, thus placing ownership for professional development with the teachers. Collaborative learning has a documented beneficial impact on student achievement. Chicago schools that developed learning communities were four times more likely to be improving academically than schools with underdeveloped professional communities (Lewis, 2002).

Likewise, professional learning that takes place within the school appears more effective than learning isolated from the school setting. In a report by the National Partnership for Excellence and Accountability in Teaching, Lewis (2000) states that “In the new view of professional development, teachers are engaged in professional learning every day, all day long. It pervades the classroom and the school.. .Rather than looking only outside of the school for expertise, teachers build it within their own environment.” (p. 7). Research suggests that school-based professional development allows teachers to

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link learning to the actual problems in their school, thus allowing them to reinforce new skills immediately (Cole, 2004). It is also reasonable to expect teachers to be pragmatic in their pursuit of professional development; in spending time to gain new skills, they want learning to specifically relate to day-to-day work in their classroom (Fullan & Miles, 1992 in Guskey, 2002). This may be best accomplished when professional learning takes place with peers who relate to their school-specific circumstances in the school environment itself.

Finally, so-called “reform methods” of professional development exhibit promise for effective teacher learning (Cole, 2004; Garet et al, 2001). While reform methods cover a broad range of learning techniques, from team-teaching to classroom demonstrations to reading groups, their commonality is the absence of didactic instruction. While many variations of reform professional development methods exist, for the purposes of the research at hand this review will focus on the impacts and techniques of direct mentoring.

Mentoring & Job Satisfaction

Mentoring is professional development based on a personal relationship between an experienced person (the mentor) who acts as a guide and role model to a less experienced person, often called the protege (Johnson, 2004). In a school, mentoring reflects the emerging trends in professional development; it is a reform method that is school-situated, involves collaboration, and takes place over an extended period of time (Pegg, Schmook & Gummer, 2010). It also has a well-researched track record drawn not just from education but also from public and private enterprise. Says Johnson (2004), “Research consistently demonstrates the following benefits for mentored proteges:

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enhanced promotion rates, higher salaries, accelerated career mobility, improved professional identity, greater professional competence, increased career satisfaction, greater acceptance within the organization and decreased job stress and role conflict.” (p. xv). It is possible that mentoring may also improve teacher job satisfaction and self-efficacy (Hanuscin & Lee, 2008). Typically in education, established teachers act as mentors for preservice and new teachers in their school to aid in retention, but the technique is not limited to these circumstances (Hawkey, 1997). Mentoring has been used successfully by science educators and scientists to enhance the pedagogy and content knowledge of secondary science teachers (Pegg, 2010). Programs in the Place-based Environmental Education Collaborative successfully rely on staff members working in schools to provide coaching and mentoring in place-based education (Powers, 2004b). A similar model is employed with outdoor and place-based education in the Bioregional Outdoor Education Project on the Colorado Plateau (Erickson, 2009). It is highly plausible that outdoor education methods might also be infused into school curriculum using a mentoring approach.

High quality mentoring has established best practices, but is also an art, melding formal procedures that address career functions and soft skills that address psychosocial functions (Grenade Sullivan, 1992; Johnson, 2004). Essentially, the job of a mentor is to create a beneficial environment and nurture the skills that allow a protege to succeed (Grenade Sullivan, 1992). This requires a broad range of skills. Johnson (2004) offers extensive recommendations for successful mentoring. In arranging a mentoring relationship, these include the careful selection of proteges, clear expectations and relationship boundaries, transparency regarding the benefits and risks of mentoring

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relationships, sensitivity to needs that arise from gender or race differences, and periodic evaluation of the structure of the mentoring relationship. These more formal established procedures are then combined with social skills. Excellent mentors exude warmth, listen actively, show unconditional regard, tolerate idealization, embrace humor, do not expect perfection, attend to interpersonal cues, are trustworthy, respect individual values, and do not stoop to jealousy (Johnson, 2004).

There are other factors involved in creating effective mentoring relationships. Tauer (1996) followed pairs of mentor teachers and their proteges at two school districts and found these relationships were more successful in a smaller school system, in a well-defined mentoring program with clear goals and expectations. The larger school system offered a more individually defined approach to mentoring that left teachers to establish (or not establish) mentoring relationships on their own. Mentoring relationships in the larger school tended to remain superficial (Tauer, 1996). Thus school structure and culture provided a backdrop for mentoring that influenced its success. Tauer (1996) also observed the unpredictable nature of mentoring relationships, which may be attributed to any number of factors including age, gender, race, class, education, and personality. These findings are reflected in a 1997 literature review on mentoring between established and new teachers (Hawkey, 1997). Because all functions of the mentoring relationship are filtered through complex cognitive, affective and interpersonal traits of the participants, these traits can have a significant influence on outcomes (Hawkey, 1997). This has been so clearly demonstrated in the literature on mentoring that many authors strongly emphasize the importance of proper pairing between mentors and proteges (Bey & Thomas Holmes, 1992; Hawkey, 1997; Grenade Sullivan, 1992; Johnson, 2004).

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However this may not always be possible based on the conditions in any given school, which poses a possible limitation to the technique.

As mentoring relationships appear more successful when they have clear objectives and structure, several structural recommendations can be found in mentoring literature. The simple four steps of mentor management espouse the following approach:

- “1. Teach them how,
2. Let them do,
3. Help them learn from having done,
4. Accept them unconditionally (Kay, 1990 in Bey & Thomas Holmes, 1992).”

The simplicity of this approach, while succinct, leaves out some additional details. Pegg, Schmook & Gummer (2010) found that the mentoring of science teachers by scientists and science educators was most successful when mentors were objective, relationships were sustained over time, and a system of accountability was in place. These structural elements may benefit the unpredictable nature of mentoring relationships by providing expectations that diverse individuals share in common. The National Science Teachers Association recommends that mentors help develop the capacity of teachers by providing them with accurate science content, reinforcement of successful pedagogical practices, adequate safety information, and by supporting the use of inquiry in the classroom (Hanuscin & Lee, 2008). It is also important that teachers are properly instructed in using materials and equipment specific to the tasks they are being mentored in; while this appears to be merely instructional, it may impact the success of mentoring (Meichtry & Smith, 2007; Pegg, Schmook, & Gummer, 2010).

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Mentoring programs, while potentially aiding teachers in the use of outdoor education methodology, may also affect the way teachers *feel* about their jobs. Research-based evidence from other professions indicates that mentoring may sustain or improve job satisfaction. An experiment using randomized control-group design to compare the impacts of a formal mentoring and informal mentoring program on workers in a health care organization found increases in job satisfaction in both groups, with larger gains made by participants in the formal program (Egan & Song, 2008). When 635 hospital employees participated in a mentoring program, participation was associated with increased job satisfaction and decreased work alienation (Koberg, Boss, Chappell & Ringer, 2010). A survey of 1,132 Georgia lawyers compared the impacts of mentoring on women and men, and found that having a mentor improved job satisfaction. The size of the benefit was the same for either gender (Mobley, Jaret, Marsh & Lim, 1994). Researchers in this study intended to create a model comparing the job satisfaction impacts of annual salary, gender, race, years of employment at the current firm, and hours worked with mentoring, but in this sample the *only* variable that had a significant correlation with job satisfaction was mentoring (Mobley, Jaret, Marsh & Lim, 1994). Women's soccer coaches were surveyed regarding job satisfaction and intent to leave their job; mentoring was found to play a significant role in overall job satisfaction (Narcotta, Petersen & Johnson, 2007). Nurses in Taiwan have a high turnover rate in their first year of practice, from 30% to 60% (Weng et al., 2010). To address this problem, formal mentoring programs have been established in the hospitals. A survey of 306 Taiwanese nurses found that the programs improved both job satisfaction and organizational commitment (Weng et al., 2010). In one of the few studies to look at the

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impacts of informal mentoring on an organization as a whole, survey results from 589 employees at 39 substance abuse treatment centers showed that organization-wide mentoring was related to organization-level job satisfaction, which was also related to greater overall agency performance (Allen, Smith, Mael, O'Shae, & Eby, 2009).

Job satisfaction is an important component of teaching. Job dissatisfaction is reported as a reason for leaving a teaching position more often than retirement (Alliance for Excellent Education, 2008). An estimated 12% of the teacher workforce either leaves the profession or leaves their position for another job every year; an individual school may spend up to \$70,000 per year on the cost of teacher transfer and replacement (Alliance for Excellent Education, 2008). Additionally, job satisfaction has been corroborated with student academic achievement. Researchers investigating the impacts of job satisfaction at the school level found that teacher's self-efficacy impacted their level of job satisfaction, which in turn improved student achievement when controlling for previous levels of achievement, perhaps suggesting a feedback loop between high-achieving students and teachers' satisfaction with their job (Caprara, Barbaranelli, Steca & Malone, 2006). In a sample of 1430 teachers conducted by Klassen & Chiu (2010), teachers with greater classroom management self-efficacy or greater instructional strategies self-efficacy had a higher level of job satisfaction, though this correlation does not indicate the direction of the relationship. Woods & Weasmer (2004) contend that teacher satisfaction "reduces attrition, enhances collegiality, (and) improves job performance." (p. 118). Job satisfaction has also been identified as a contributor to teacher commitment, which contributes to overall school effectiveness (Shann, 1998 in Woods & Weasmer, 2004).

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The relationship between mentoring and job satisfaction has been examined from several angles. Appelbaum, Ritchie & Shapiro (1994) propose that mentoring impacts career commitment, as the protege gains skills and feelings of self-efficacy in their chosen field. They also propose that mentoring is negatively correlated with absenteeism, worker turnover and stagnation due to reaching a career plateau. The possibility that mentoring may improve job satisfaction for workers who have reached a plateau, will not achieve higher rank and have held their position for an extended period of time, is significant for inservice teachers. A survey of teachers in New Brunswick showed that those who stayed in the profession longer were less satisfied with their jobs (Ma & MacMillian, 1999).

Mentoring, when espoused by an organization as a whole, may also enhance the level of organizational support perceived by an employee (Baranik, Roling & Eby, 2010). As an employee in a mentoring relationship reaps career benefits such as coaching or challenging assignments and psychosocial benefits such as friendship, counseling and acceptance, they associate these benefits with their employing organization. The perception of a supportive organization then may result in improved job satisfaction (Baranik, Roling & Eby, 2010). Similarly, Woods & Weasmer (2004) contend that a central component of school culture is collegiality and collaboration, and that when these elements are present teacher satisfaction and professional involvement are enhanced.

Job satisfaction is also significant because it acts as an overarching construct comprised of multiple variables. A 2001 meta-analysis correlated job satisfaction with the so called self- evaluation traits of self esteem, self-efficacy, locus of control and emotional stability (Judge & Bono). Of these, self-efficacy was the strongest correlation.

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Similar correlations were found between these self-evaluation traits and job performance (Judge & Bono, 2001). Self-efficacy may also be a particularly important component of teacher effectiveness. Self-efficacy in teachers is related to competence as rated by schools superintendents (Trentham, Silvern & Brogdon, 1985 in Caprara, Barbaranelli, Steca & Malone, 2006). Caprara, Barbaranelli, Steca & Malone (2006) found that “teachers satisfaction is most likely to derive from their sense of competence” (p. 476).

Job satisfaction may be enhanced by professional development opportunities that allow teachers to improve existing skills and learn new ones (Klassen & Chiu, 2010; Ma & MacMillan, 1998; Woods & Weasmer, 2004). Might an outdoor education program for teachers, which may result in pedagogy improvements and improvements in student learning also impact the level of satisfaction inservice teachers feel towards their job? While many studies are devoted to clarifying the relationship between outdoor and environmental education and student performance, very little research examines the impacts of *teaching* in the outdoors on the teachers themselves. A limited number of evaluations, observations and preliminary studies suggest however, that making use of these techniques might offer numerous benefits to teachers, including enhanced “collaboration with other teachers, teacher leadership and personal growth, (and) stronger curriculum planning skills” (Erickson, 2009; Powers, 2004a, p. 24). Hence this study seeks to clarify the relationship between mentoring, outdoor education, and teacher job satisfaction.

Chapter 3

Procedures

Research Design

This research investigates the effects of an outdoor education mentoring professional development program on a group of teachers enrolled in the program during the 2010-2011 school year. Because this professional development program represents a single discrete case to be studied, the research design will be a case study (Denzin & Lincoln, 2008). As it gathers data to describe the conditions in the outdoor education mentoring program and intends to generate hypotheses for future investigation, it may be described as an exploratory case study. Per the research questions, research examined job satisfaction and the characteristics of the outdoor education mentoring program.

Because the role of a case study is to delve in depth into the case itself, it does not intend to generalize to the population. Therefore, the methodology does not emphasize external validity.

Participant Selection

The first group of participants consisted of teachers who participated in a year-long outdoor education mentoring program during the 2010-2011 school year. Teachers worked with students from grades K-12 and taught full time. They were from a variety of schools and districts, in order to minimize noise associated with school-specific conditions that can affect job satisfaction levels. All teachers who had completed the requirements of the outdoor education mentoring program were selected to complete the Job Descriptive Index and an outdoor education mentoring survey. Because the outdoor education mentoring program is divided into three regional divisions each served by a different outdoor education mentor, two teachers from each region were selected to

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participate in interviews. Interviewed teachers were selected via convenience sample based on their participation in the outdoor education mentoring program. Teachers who completed all the requirements for the program in a timely fashion and who met with their mentor regularly were prioritized. This was determined through communication with the outdoor education mentors. Additional criteria for interviewed teachers included availability for the interview and willingness to voluntarily participate.

The second group of participants were professional outdoor educators employed as outdoor education mentors for formal educators. The criteria for selection was full-time employment as a mentor in outdoor education for the year prior to June 1st, 2011. Three mentors are currently employed by the program. All of the outdoor education mentors, who bear the job title “Regional Coordinator”, are certified teachers with extensive experience in outdoor education. One mentor is based Moab, UT and works with teachers in Utah and Southwest Colorado, another is based in Farmington, New Mexico and works with teachers in New Mexico, and the third is based in Flagstaff and works with teachers in Arizona.

The final group of participants consisted of teachers entering the BOEP program in summer 2011. Teachers in this group were administered surveys and the Job Descriptive Index on their first day of BOEP introductory training, prior to receiving training in outdoor and place-based education.

Outcome Measures

Outcome measures in this study are both quantitative and qualitative. The Job Descriptive Index, a measure of job satisfaction, was administered to all participating BOEP teachers from school year 2010-2011 and school year 2011-2012. This measure

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was accompanied by a survey of outdoor education use and the mentoring experience. In order to investigate the link between job satisfaction levels and the outdoor education mentoring program, interviews were conducted with six teachers participating in the program. In order to triangulate this data, a focus group discussion about the process of the outdoor education mentoring program and observed teacher outcomes was held with the outdoor education mentors.

The quantitative instrument used to measure job satisfaction in this study is the Job Descriptive Index, an instrument established by Smith, Kendall & Hulin in 1969. The Job Descriptive Index (JDI) is a popular and well established measure encompassing five dimensions of satisfaction: work, supervision, coworkers, pay, and promotion (Kinicki, McKee-Ryan, Schriesheim, & Carson, 2002). Additionally, the instrument includes the Job In General index, a combination of all five measures that can also be used alone.

A 2002 meta-analysis of the JDI found that the instrument had adequate validity and reliability (Kinicki, McKee-Ryan, Schriesheim, & Carson). Consistency and test-retest reliability are reported in Table 1. Construct validity is determined for each construct and convergent validity compares the JDI with all other common instruments measuring similar aspects of job satisfaction. While the results are too extensive to report here, they are generally positive and supported by a number of other analyses of the JDI (Kinicki, McKee-Ryan, Schriesheim, & Carson, 2002). Overall validity and reliability appear to be established and acceptable.

Job satisfaction may be influenced by factors external to the study, which may have a confounding effect on internal validity. In order to minimize the threats to internal

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validity, the Job Descriptive Index divides satisfaction into several items addressing pay, opportunities for promotion, supervision, work, and co-workers. It also includes a “Job in General” index, a single item that assesses overall feelings toward the job. It was

Table 1

Job Descriptive Index Reliability (Kinicki, McKee-Ryan, Schriesheim, & Carson, 2002)

	Reliability Measures			
	Internal Consistency Reliability		Test-Retest Reliability	
	<i>M</i>	(<i>SD</i>)	<i>M</i>	(<i>SD</i>)
Pay	.80	(05)	.65	(01)
Promotion	.84	(05)	.63	(14)
Coworkers	.85	(05)	.59	(10)
Work	.81	(11)	.67	(01)
Supervision	.84	(06)	.56	(13)

anticipated that improvement would be seen in both the “Job in General” index and the work index, as these relate specifically to job skills related to professional development.

The JDI was administered to currently enrolled teachers via mail and at interviews. It was accompanied by a one-page survey investigating the impact that the outdoor education mentoring program has had on the teacher’s use of outdoor education methods, changes they may have observed in their students as a result of their participation in the outdoor education mentoring program and changes in their feelings toward their job as a result of the mentoring program (Appendix B). The one-page survey, the Job Descriptive

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Index instrument, a notice of confidentiality and consent, and an introductory letter were mailed to teachers along with a self addressed stamped envelope on May 25th, 2011.

Qualitative measures consisted of a series of interviews with six teachers who spent the prior year enrolled in an outdoor education mentoring program and a focus group discussion with the outdoor education mentors. Interviews (Appendix G) addressed the teacher's experience in the mentoring program, if and how participation has changed the way they feel about teaching, any changes they've made or experienced based on participation in the program, and changes observed in their students as a result of the program. Interviews were audio-recorded and transcribed to find patterns in attitudes toward work and outdoor education. Teacher interviews (lasting approximately 30-45 minutes) took place from May 24th thru May 27th, 2011.

The use of the Job Descriptive Index, recorded transcripts with the outdoor education mentor focus group, and recorded transcripts of teacher interviews will allow for triangulation of information, thus strengthening the reliability of the outcome measures.

Setting

Selection criteria for the outdoor education mentoring program were designed to meet the best practices of professional development using outdoor education. While this does not determine the success of the program, it may enhance the impact of the outdoor education mentoring programs on teacher pedagogy and therefore have a stronger influence on job satisfaction.

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- Teacher professional development has been shown to be more impactful when it is longer term. Therefore, a mentoring program which works with teachers for six months or longer was selected.
- Job satisfaction has been shown to be related to specific conditions (administration, co-workers) that occur within a specific school. Therefore, a program mentoring teachers in a variety of schools will strengthen my ability to connect levels of job satisfaction to the outdoor education mentoring program.
- Formal mentoring programs are more strongly tied to job satisfaction. A program with structured formal mentoring will allow the researcher to assume some commonalities between the mentoring experiences of the teachers.
- Impactful teacher professional development programs allow opportunities for teacher collaboration, development of curriculum, observation and evaluation. A mentoring program using these methods is more likely to result in a change in teacher methodology.
- Because professional development that takes place in the school has been shown to be more effective, a program that mentors teachers in their school is preferred.

The Bioregional Outdoor Education Project (BOEP) is a teacher-mentoring program of the Four Corners School of Outdoor Education in Monticello, Utah. The program uses experiential outdoor curriculum to address core subjects in a context that is reflective of and responsive to the Colorado Plateau bioregion. The area served

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encompasses the Four Corners region of the United States including southern Utah, southwest Colorado, northwestern New Mexico and northern Arizona, including the Navajo, Ute and the Hopi American Indian Reservations. The BOEP uses a “roving teacher education and mentoring delivery system” (p. 5, Bioregional Outdoor Education Project, 2005). For some components of the program, teachers gather together in a central location, however it is more typical for the mentor to meet with each teacher in their schools to co-develop, assist with, and observe lessons. Each year, teachers from each quadrant of the region are recruited and enroll in the program, which runs from August through June of the following year. The long-term goal of BOEP is to “educate a generation of residents of the Colorado Plateau bioregion who understand its’ ecosystems and natural processes” (p. 6, Bioregional Outdoor Education Project, 2005). The program will achieve this goal by mentoring teachers in all 96 school districts (426 elementary schools) on the Colorado Plateau over a 25 year period.

Treatments

Due to the nature of this research, no treatment is given. However the structure of the BOEP outdoor education program that teachers participate in is as follows:

- Schools are enrolled in the BOEP program via outreach to school superintendents and principals. When schools respond favorably, two teachers are recruited per school.
- Two teachers per school per year attend a five-day summer institute. The purpose of the summer institute is to assist teachers in integrating outdoor education methods into their classrooms, specifically to address science and math curricular goals.

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- During the school year, BOEP teachers complete the following requirements:
 1. Conduct two half-day inservice events per year with the teachers in their school.
 2. Meet with mentors in their schools on a bi-monthly basis.
 3. Attend an annual conference hosted by the BOEP and focusing on service learning, outdoor education, and a sense of place on the Colorado Plateau.
 4. Attend a weekend workshop provided by an outside provider such as Project Wet or Project Learning Tree.
- Following the completion of the school year, teachers and BOEP staff participate in a voluntary 5-day celebration event, typically a river rafting trip.
- Teachers are required to submit an article to the programs' newsletter, which is mailed to all present and past BOEP participating teachers and stakeholders.
- A log of BOEP activities is maintained by the teacher through the school year and submitted at the conclusion. Teachers are required to be observed teaching outdoor or place-based lessons by their mentor five times throughout the school year.
- Teachers write and submit five original place-based or outdoor lessons. These lessons are posted on the BOEP website and are available for other participants.
- Teachers are compensated for their participation in BOEP and receive funding to purchase a resource center for their school as well as five credits from the Colorado School of Mines.

For the 2010-2011 school year, twenty-six teachers representing thirteen schools are enrolled in the Bioregional Outdoor Education Project program.

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The following procedures will constitute the research component of this proposal:

- A research proposal was submitted for approval to the executive director of the Four Corners School of Outdoor Education on May 5th, 2011 (Appendix A). A corresponding email was also sent to the regional coordinators for approval, with an outline of the research proposal and details regarding their time commitment.
- Envelopes containing an introductory letter and confidentiality notice (Appendix D), Job Descriptive Index (Appendix F), and outdoor education survey (Appendix B) along with a self-addressed stamped envelope were prepared. These were sent to all teachers currently enrolled in the BOEP program on May 25th.
- Six interviews with teachers currently enrolled in the BOEP were conducted. Teachers were selected for interviews based on criteria listed above and the recommendations of the BOEP regional coordinators. They were contacted by email and phone to arrange interview dates and times. Interviews took place after the completion of a school day in the teachers own classroom between May 24th and May 27th.
- A focus group with the three current BOEP regional coordinators was conducted via teleconference on May 27th. Focus group guiding questions can be found in Appendix E.
- Pre-surveys (Appendix ?) were administered to Group 2 (pre-BOEP) at their introductory summer institute trainings by the Regional Coordinators, along with the Job Descriptive Index.

Table 2

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Research Calendar

Event	Dates (2011)
Mail JDI & outdoor education survey	May 25 rd
Interview enrolled BOEP teachers	May 24 th , 25 th , 26 th , 27 th
Focus group held with Regional Coordinators	May 27 th
Completed surveys due	June 10 th
Group 2 (Pre-BOEP) surveys given	June 20, July 11, September 16 th

Data Analyses

The Job Descriptive Index results were scored according to the instructions that accompany the instrument (Brodke, M. R. H. et al., 2009). JDI data was entered into Excel spreadsheets and cleaned, checked for straightline answers and unanswered items. Note that this instrument contains both positive and negatively worded items (for example, “Responsible” or “Boring”), and it must be reverse scored. Scores are then calculated by adding together the results in each facet of the JDI. Total scores for all teachers were used to determine the mean job satisfaction of all teachers enrolled in the program. The mean of teachers was calculated for each region in the BOEP, to see if differences exist regionally between teachers who are mentored by different regional coordinators.

Analysis of the outdoor education surveys (Appendix B) looked for trends in the results of the outdoor education mentoring program. Overall teacher responses were

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assigned a numerical value representing negative, positive or neutral responses and averaged for each question. Open-ended questions were coded and analyzed for trends that suggest teachers change in use of outdoor education and attitudes as a result of the BOEP program.

Interviews and the focus group were transcribed and coded to identify trends in teacher attitudes, difficulties and benefits of the outdoor education mentoring program as well as overall commentary on teacher experience in the program. Overall, data was analyzed to look for trends in teacher use of outdoor education, experience in the mentoring program, implications for other similar programs and for future research regarding mentoring, outdoor education, and job satisfaction.

Chapter 4

Results

Introduction

Information was gathered from two separate groups of participants, Group 1, consisting of teachers who had completed the BOEP outdoor education mentoring program (n=12) and Group 2, teachers who were just entering the BOEP program (n=15) for a total of 27 respondents. Two different surveys containing Likert-type scale items with open ended follow up questions were administered to the pre-group and the post-group. In addition to the surveys, the Job Descriptive Index was administered to pre-group and post-group participants, though it was not completed by all (n=21). Interviews were conducted with six of the post-group participants. A focus group was also conducted via teleconference with the BOEP Regional Coordinators (n=3) who function as the mentors in the program.

Survey Data

The post test survey was administered in person to all interviewees between May 25th and May 27th, and was mailed to all other participants on May 26th, 2011. Twenty-one total surveys were sent, one to each participant who had completed the requirements of the BOEP program. Twelve total surveys were completed, a response rate of 57%. Pre-surveys were administered between July and September of 2011 by BOEP Regional Coordinators at each of the programs' introductory trainings. Fifteen completed surveys were returned, 100% of the 2011-12 teachers trained.

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The groups were overall comparable in terms of teaching experience and demographics (see Table 3). The pre-BOEP group of teachers consisted of twelve women and three men who had spent a mean of 5.7 years teaching. Five were elementary teachers, nine taught middle school and one taught high school. Seven (47%) taught in tribally operated schools, mainly on the Navajo reservation. They were distributed among the four program area states, with four from Arizona, eight from New Mexico, one from Utah and two from Colorado.

The post-BOEP group of teachers was made up of eleven women and one man who had taught for an average 7.4 years, 1.7 years longer than the pre-group. Nine were elementary teachers and three taught middle school. Five (45%) taught in tribally operated schools. As far as state distribution, four were from Arizona, six were from New Mexico, two from Utah and none from Colorado.

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Table 3

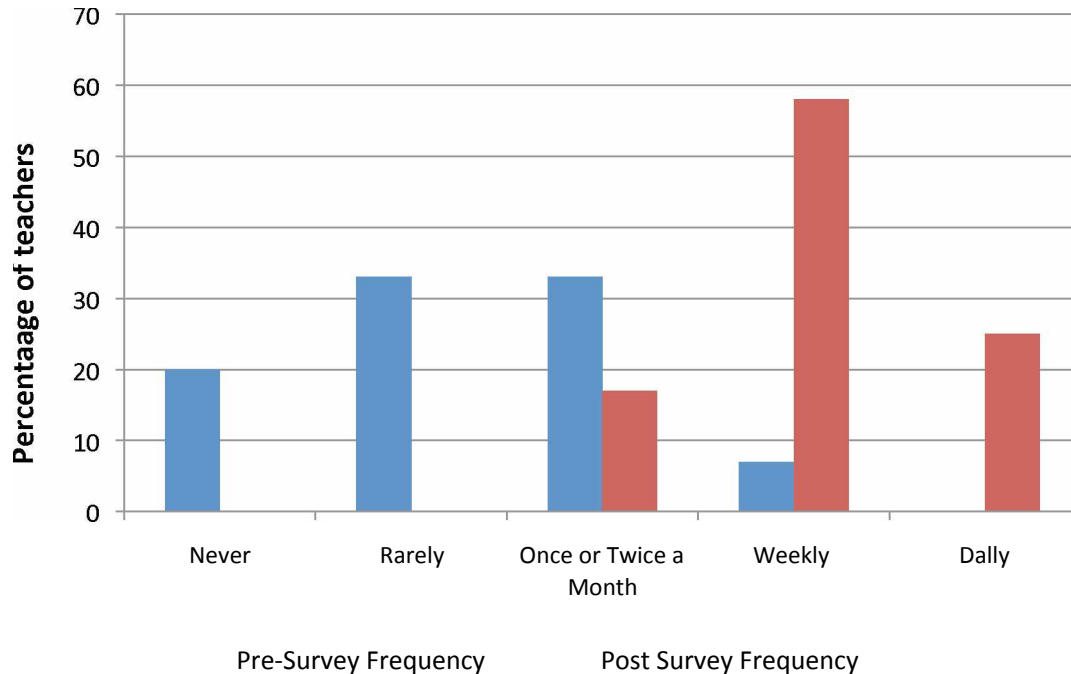
Group 1 and Group 2 Teacher Characteristics

	Gender		Years Spent Teaching	Age Taught				State			Tribal Schools	N
	<i>M</i>	<i>F</i>		<i>Elem</i>	<i>M.S.</i>	<i>H.S.</i>	<i>AZ</i>	<i>NM</i>	<i>UT</i>	<i>CO</i>		
Group 2	3 (20%)	12 (80%)	5.7 (<i>SD</i> =4.28)	5 (33%)	9 (60%)	1 (7%)	4 (26%)	8 (53%)	1 (7%)	2 (13%)	7 (47%)	15
Group 1	1 (9%)	11 (91%)	7.4 (<i>SD</i> =6.78)	9 (75%)	3 (25%)	0 (0%)	4 (33%)	6 (50%)	2 (17%)	0 (0%)	5 (42%)	12

The groups were quite different in their use of outdoor education. In the pre-group, most teachers reported using outdoor education infrequently (n=14, 93%), at most once or twice a month. Only one (7%) reported using OE on a weekly basis. In the post-group, most teachers reported frequent use of outdoor education (n=10, 83.3%), on at least a weekly basis. This suggests a substantial shift in reported teaching practices (Figure 1). Post-group teachers were also asked about their commitment to using outdoor education in the future. One teacher reported the intent to use OE ‘once or twice a month’, while seven planned to use it weekly, and four anticipated daily use.

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Figure 1 *Frequency of OE/PEE Use by Pre- and Post- Program Teachers*

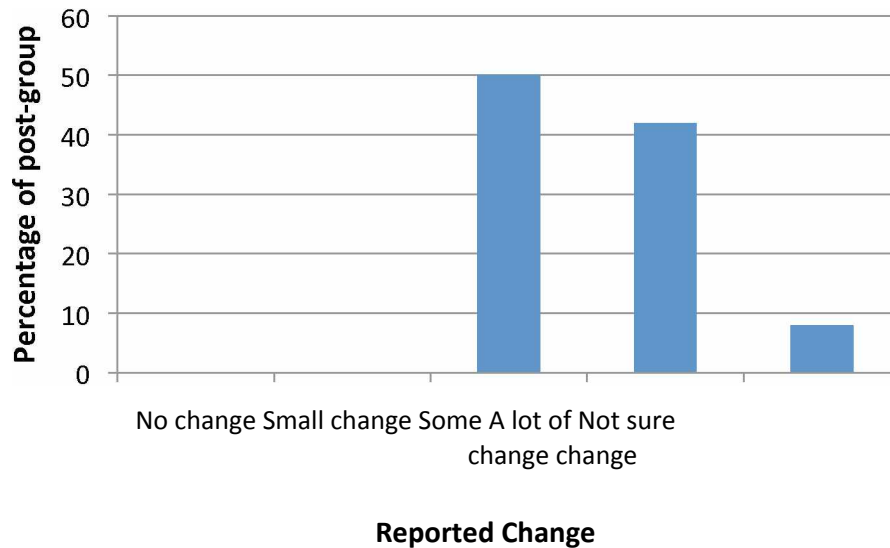


Note. OE/PBE= outdoor education/place-based education.

Post-BOEP teachers were also asked if participating in the program had changed the way they feel about their jobs. Eleven teachers (91.7%) indicated it had. One teacher (8.3%) indicated they were ‘not sure’ (see *Figure 2*). An open ended follow up question (“If yes, how?”) allowed for elaboration. Eleven teachers (91.7%) answered this question and all comments were positive, for example, “I have more fun!” (Participant 5), “It is energizing to have so many new ideas” (Participant 7) or “enthusiastic, happy, free to do what I love!” (Participant 8).

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Figure 2 Post-group Change in Feelings Towards Their Job



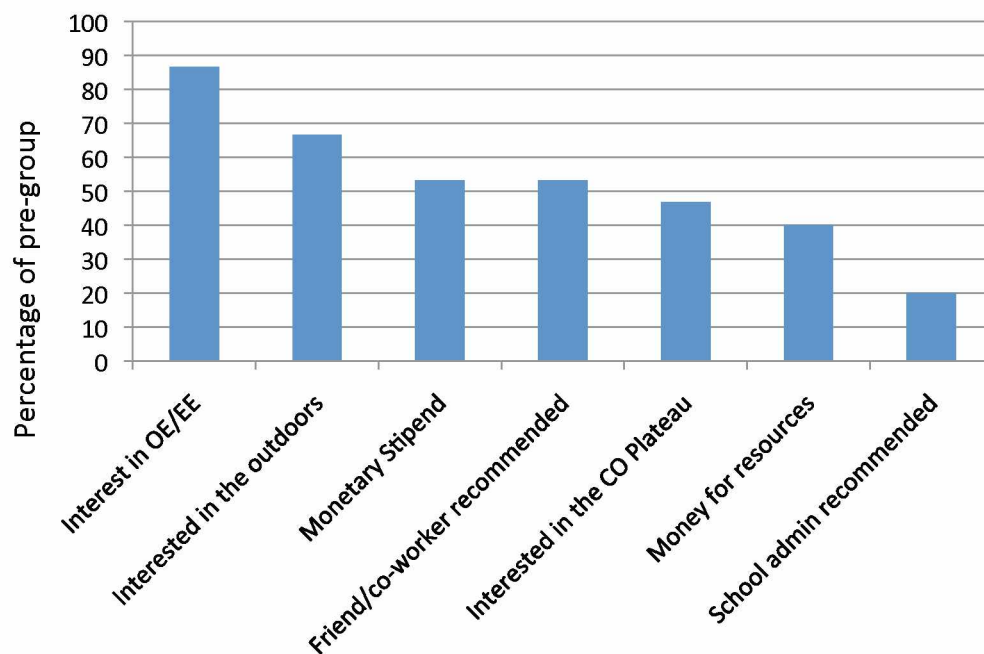
Post-BOEP teachers were asked if they had observed any change in student academic performance as a result of their participation in the BOEP program. Ten teachers (83%) indicated that they had, while two (16.7%) indicated they were unsure. When asked about changes observed, most teachers (n=10, 83%) commented on improved academic performance and an increase in student engagement. Comments include “increased student engagement and enthusiasm for science” (Participant 6), “more retention of new knowledge learned” (Participant 9), and “students love the relevancy of their learning” (Participant 4). One teacher (8.3%) expressed uncertainty by reporting some improvement on standardized test scores and some decline, stating “On our high stakes testing, 50% of my classes improved scores from last year (no outdoor ed taught) and 50% of my classes dropped” (Participant 13).

Pre-BOEP teachers were asked additional questions, some with the intent to continue research with this group beyond the scope of this thesis. One of these was administrative support, which was reported to be highly varied. Five teachers perceived

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minimal support for their participation in the project by choosing ‘none’ (n=1, 6.7%) or ‘little support’ (n=4, 26.7%). Two teachers perceived ‘some support’, while eight reported considerable support by choosing ‘supportive’ (n=2, 13.3%) or ‘very supportive’ (n=6, 40%). Teachers were also asked to report their level of confidence in teaching outdoor lessons. The pre-group expressed strong levels of confidence overall; most chose ‘confident’ (n=6, 40%) or ‘very confident’ (n=6, 40%). One teacher (6.7%) reported they were ‘a little confident’ and two (13.3%) reported they were ‘not confident’. The strongest reported reason for joining the BOEP program was an interest in outdoor and environmental education (n=13, 86.7%), followed by interest in the outdoors (n=10, 66.7%) or in the Colorado Plateau (n=7, 46.7%). Recommendations of friends or co-workers (n=8, 53.3%) and the monetary stipend (n=8, 53.3%) or money for school resources (n=6, 40%) came next. Three people (20%) cited the recommendation of a school administrator (Figure 3).

Figure 3 Pre-Group Reasons for Joining BOEP



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Quantitative measures: The Job Descriptive Index

The Job Descriptive Index (JDI) was administered to teachers in the post-OE mentoring program between May 25th and 28th, 2011, approximately one to two weeks before the end of the school year. It was administered to the pre-OE mentoring group in July and August of 2011 as teachers attended the introductory trainings for the Bioregional Outdoor Education Project. The JDI is divided into six sections (work, pay, promotion, supervision, people, job in general) that are scored separately and a total score is produced by finding the sum of all components. Not all teachers completed the entire instrument, but portions that were complete were included in the sample. See Table 5.

Table 4

Pre- and Post-group Scores on the Job Descriptive Index

	Work		Pay		Promotion		Supervision		People		General		Total	
	<i>M</i>	<i>(SD)</i>	<i>M (SD)</i>	<i>M (SD)</i>	<i>M (SD)</i>	<i>M (SD)</i>	<i>M (SD)</i>	<i>M (SD)</i>	<i>M (SD)</i>	<i>M (SD)</i>	<i>M (SD)</i>	<i>M</i>	<i>(SD)</i>	
Pre-test	41.91	(9.72)	8.54 (9.14)	8.64 (6.45)	41.64 (16.09)	41.11 (13.16)	49.00** (13.55)	196.33*	(39.70)					
Pre-test n	n=11		n=11		n=11		n=11		n=11		n=9		n=9	
Post-test	46.50	(10.01)	8.40 (7.55)	8.40 (8.85)	35.60 (13.29)	35.33 (10.99)	39.11** (4.66)	170.00*	(36.94)					
Post-test n	n=10		n=10		n=10		n=10		n=10		n=9		n=9	
<i>P</i> value	p=.151		p=.484		p=.473		p=.182		p=.164		p=.032		p=.082	
High score	54		27		27		54		54		54		270	

Note. Shaded areas represent a higher level of job satisfaction when comparing the pre- and post- groups. *Results significant at the .10 *a* level. ** Results significant at the .05 *a* level.

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A one-tailed T-test was used in each category to determine significant differences in level of job satisfaction between the groups. At the .05 p level, the difference between pre- and post groups was significant only on the 'job in general' section of the instrument, with Group 2 (pre-BOEP) teachers showing a higher level of job satisfaction ($p=.032$).

At the .10 p level, a significant difference was shown on the overall JDI score, with Group 2 (pre-BOEP) showing higher levels of satisfaction ($p=.082$)

The Job Descriptive Index showed that the pre-test group of teachers surveyed in the summer had a higher overall level of job satisfaction than the post-test teachers surveyed in May in every area of the JDI except for 'work'.

Qualitative Measures: Interviews and Focus Group

Interviews were conducted with six teachers who had completed the BOEP program between May 25th and May 27th, 2011 in their schools. Teachers were selected for the interview via convenience sample. They were solicited via email from the researcher and BOEP Regional Coordinators. Teachers who responded to a request for an interview and were able to meet during the specified time were selected. Two teachers were chosen from each region (AZ, NM, and CO/UT) to offset differences between the mentors. Interviews lasted an average of 18 minutes. Each teacher was asked the questions found in the "Guide for Interviews with BOEP Teachers" (Appendix C), along with additional clarifying questions as needed. Interviews were recorded with an audio recorder and transcribed.

Following the interviews, themes were selected. Major themes fell into two categories: experience of the BOEP program and results of the BOEP program. Themes in the category of experience included "Teacher Experience", "Mentoring" and

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“Teaching Outdoors”. Themes in the category of results were “Dissatisfaction”, “Satisfaction”, “Student Academic Achievement” “Special Education Students” and “Native American Student Experience”. Key words were listed for each theme, for example key words for the theme of dissatisfaction included pressure, stress, hard, unhappy and busy. Each interview was then coded three times on a sentence by sentence basis, except in the case that multiple sentences were required to constitute one relevant idea. Open-ended survey answers were likewise coded and added to the total number of comments from interviews. A total of 291 relevant comments were sorted by theme, analyzed and coded for emergent sub-themes, then tallied (Figure 4).

Figure 4 Number of Responses By Theme

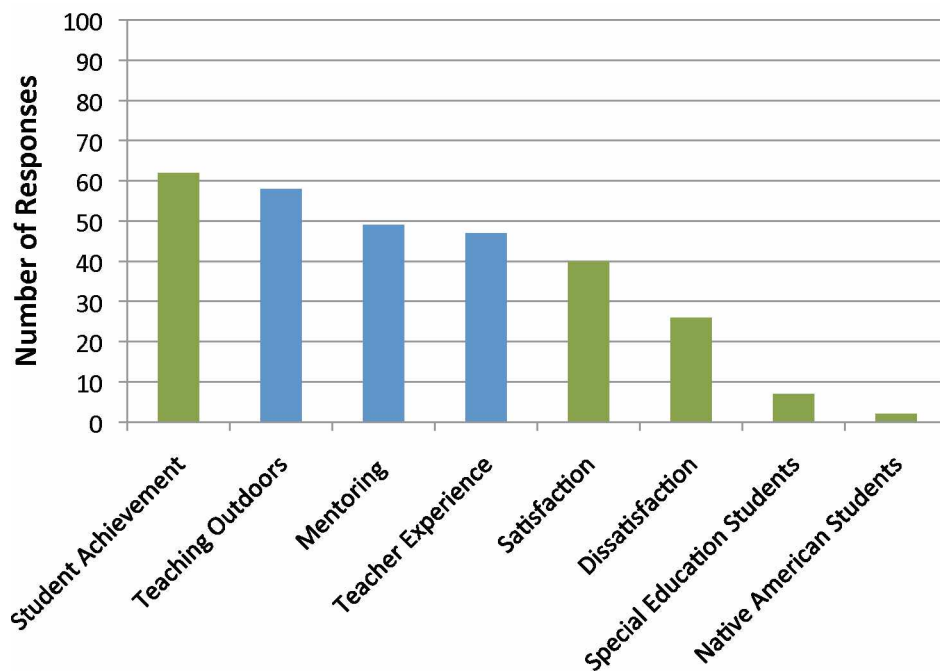


Figure 4. Themes falling under the category of experience are shown in the color blue, while themes shown in green are in the results category.

A 54-minute focus group was conducted via teleconference on May 27th with the three Bioregional Outdoor Education Program Regional Coordinators, who function as

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the program mentors. The focus group was also recorded, transcribed and coded according to the same themes used in the teacher interviews. Comments made by mentors were aligned with the emergent sub-themes, in order to triangulate teacher reports. The total number of relevant comments made by mentors was 107.

In the category of results, the dominant theme was student achievement (62 total comments, 21.3% of total comments). Almost all (92%) responding teachers reported observed improved student achievement as a result of their participation in the program. Teachers each made an average of 5.16 comments (SD=5.14929). Eleven teachers (91.67%) reported enhanced student engagement as a result of place-based and outdoor lessons (30 comments, 12% of total comments) with comments such as “They’re engaged the whole time” (Participant 12), “Behaviors are better to handle” (Participant 15) and “Students love the relevancy of their learning” (Participant 4). Teacher reports of enhanced engagement correlated with 11 comments (10% of all comments) made by all three mentors. Mentor C stated “They’re just more excited about learning” while Mentor B also said “The students, the engagement, they don’t have trouble with the discipline as much because the students are involved and it means something to them.”

Four teachers (33%) reported improved academic performance and/or standardized test scores as a result of BOEP methods. “We had the highest score in the district in our assessments.” said Participant 15. Participant 10 reported “..but then [when] we started going outside and tying more things that were around us to our story and making the learning more authentic, did those scores finally start to come around.”

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Mentors did not mention standardized test scores, but Mentor B did state “[They] understand the concepts a lot better than the students in classrooms that are not using the program.”

Through comments such as “they had retained so much of the information” (Participant 5), and “You could see and feel the “A-ha moments” and you’re feeling that kids finally get it and they are understanding when they had to recall” (Participant 15), several teachers (n=5, 41.7%) reported that outdoor and place-based education contributed to improved student retention (8 comments, 3.2%). Two mentor comments supported this observation. Additionally, some teachers (n=4, 33%) reported improved academic performance and/or standardized test scores as a result of place-based and outdoor lessons (16 comments, 6.4%). This observation correlates with one comment by a mentor.

Related to the theme of student achievement were the themes of special education and Native American student experience. Two teachers (17%), both of whom work primarily with special education students, reported observing improved academic and behavioral performance specifically for these students as a result of their participation in the program (7 comments, 2.8%). Participant 15 commented,

I always get a majority Special Ed and I always get a majority of boys and trying to keep them tasked in paper-pencil stuff in the classroom, is at times very difficult. But now with the BOEP and being able to go on outside and my behavior has gone, hasn't gone down but we can manage it now.

One of the mentors supported this with two comments, for example, “I think it’s just reaching more students in general” (Mentor C).

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Limited reports (2 comments, .7%) suggest that BOEP may have specific benefits for Native American students. The following quote provides an example:

” They talked about all the stories of their families going and collecting them [plants]. It was so cute, and they had so much fun sharing that. So I think it was really empowering for them.” (Participant12)

However, this was largely beyond the scope of the study. Additionally, because 42% of teachers taught in schools on Native American reservations, it was difficult to separate comments regarding Native American students from comments regarding students in general.

Most teachers (n=10, 90%) reported positive feelings of satisfaction with work (40 comments, 13.7%). On average, teachers made 4 comments related to satisfaction each (SD= 4.26875). Comments suggesting job satisfaction include, “It makes me like my job a lot more.” (Participant 12), “I think it's made it more enjoyable and it's not so textbook, the old fashioned textbook teaching, it's just not that at all.” (Participant 13)

All three mentors supported these reports with 17 comments (16%), the highest number of mentor comments in the results category, including “Just the happiness in the classroom increases I've found.” (Mentor B), “They have more confidence maybe from the whole year and they feel like they have more freedom.” (Mentor A)

Some teachers also reported feelings of dissatisfaction with work (n=5, 41.7%) in a total of 26 comments (8.9%). Limited time to prepare and adapt curriculum to place-based or outdoor methods was the most often reported source of dissatisfaction (14 comments, 4.8%), in comments such as “You feel like you just can't do it all” (Participant 11) or “I really didn't have that adequate planning time” (Participant 10).

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Concerns about time and curriculum integration were supported by mentors (10 comments), as stated by Mentor A, “They feel like they have not enough time, too many commitments”.

However, when mentors spoke about teacher lack of time, they often discussed it in reference to the difficulty teachers have completing the documentation required by the BOEP program, which includes teaching logs and records of the mentoring they do with other teachers in their school. For example, “The hardest part for them is recording the lessons they’ve done and the mentoring they’ve done and what they did during that time” (Mentor C). When teachers talked about lack of time, they often reference curriculum planning and having time to mentor peer teachers.

Perceived lack of support or interest from school administrators and peers as teachers implement outdoor and place-based lessons is a source of dissatisfaction for a few teachers (n=3, 25%) in 7 comments (2%). Teachers said, for example, “Our principal is kind of for it but she’s not really for it” (Participant 15) or just “little administrative support.” (Participant 4). Two mentors made two comments supporting this, for example “To make sure that the administrator understands that the program is actually helping the teacher as well as the students and to get their backing, that is a problem sometimes.” (Mentor B).

In the category of experience in the BOEP program, the dominant theme was ‘teaching outdoors’. Eight teachers (66.7%) made 58 comments (20%) related to this category, a mean of 7.25 comments per teacher (SD=5.39179). When describing their experience teaching outdoors, most teachers (n=8, 66.7%) expressed feelings of enthusiasm and satisfaction (17 comments, 6.8%), making it difficult to separate

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‘teaching outdoors’ from the category of job satisfaction. Examples of such comments include “I have a better time teaching outside versus being cooped up all day in a classroom” (Participant 12) or “. . . I’m no different than the kids, I’d rather be outside” (Participant 13). Interestingly, mentors did not comment regarding a connection between teaching outdoors and teacher satisfaction. They did however express their own feelings of satisfaction regarding opportunities to be outdoors for their job (2 comments made by 2 mentors), stating for example, “What other job do you get paid to go on a river trip?” (Mentor B).

To address this connection, a sub-category was developed which combined comments that primarily fell under the theme of satisfaction but also referenced teaching outside with comments that fell under the theme of teaching outdoors but included references to job satisfaction. This hybrid category allowed comments to overlap between themes, and included 20 comments (6.8% of the total comments) by 7 teachers (58.3%) such as “I’d rather be moving and stretching and having those really awe-inspiring outside lessons” (Participant 13) or “More excitement to be outdoors” (Participant 5).

An observed beneficial effect of being outdoors on student physical and emotional well being also appears to be important to some teachers (n=3, 25%) who made eleven comments on the subject (4.4%), including for example “Kids bodies were made to move. They need to wiggle. So get them up, get them active get them doing, get them outside” (Participant 13). Two mentors supported this with 3 comments, as stated by Mentor A, “They know they’re not going to be sitting at their desks, they’re going to be up and moving. There’s just enthusiasm about it.”

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A few teachers (n=2, 16.7%) report using outdoor and place-based lessons to teach a variety of subjects, including core curriculum (5 comments, 2%), for example “We’re going out and we started doing sight words and so I started taking them outside” (Participant 15). It is of note that both the teachers referencing cross curriculum integration are special education teachers who report an increase in standardized test scores for their students. Mentors stated that BOEP methods are often used across the curriculum (9 comments), for example Mentor B states “(I) worked with an art teacher but she took them outside to draw their surroundings.”

A few teachers (n=2, 16.7%) reported that behavior management and inclement weather present challenges to outdoor lessons (7 comments, 2.8%), for example “When you’re outside, the management of students can be an issue” (Participant 13) or “The weather here is not conducive to outside most of the year” (Participant 14).

It is worth noting that both of these teachers work in the same school (therefore subject to the same weather) and work with the same mentor. That mentor supported the existence of these the behavior challenge while referencing the importance of being “an extra person there to help in outdoor classroom management” (Mentor C).

The mentoring relationship was the subject of 49 total comments (16.8%) made by 6 teachers (100%). Note that in this category, N=6 as survey questions did not address mentoring. Teachers made an average of 8.16 comments each (SD=5.2941). For mentors, this was the most highly commented theme in the ‘experience’ category (30 comments, 28%). Most teachers (n=5, 83%) expressed a personal connection to their mentor and described them in positive terms (22 comments, 8.8%), saying things like,

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“(Mentor C) and I became quite good friends” (Participant 13) , “Every time she came in she had a smile on her face.” (Participant 15) and “She wasn’t judgmental and she was very helpful.” (Participant 12). All mentors supported this by expressing their experience of personal and positive relationships with teachers (12 comments), such as “We emphasize that we’re there for them” (Mentor C) or “The camaraderie you gain with the teachers, the joy that comes into their eyes when they see you come in .” (Mentor B).

All teachers (n=6) also reported that the mentoring relationship provided support for implementation of the BOEP program (20 comments, 8%), through statements such as, “They keep you engaged in the program” (Participant 11) or “The fact that she had regular visits really helped me to get motivated to do it” (Participant 12). This was supported by 12 mentor comments, such as Mentor A’s statement, “During those visits, sometimes we meet with them, sometimes we teach, sometimes we co-teach. It can take any form depending on the needs of the individual teacher.”

Most teachers (n=5, 83%) also reported that mentors were in frequent contact with them (7 comments, 2.8%), which corresponded with mentor comments (6 comments). Typical teacher comments were similar to this one,“(We meet) at least once or twice a month and then frequent email” (Participant 15), while Mentor B stated “We meet twice a month, but I send them emails maybe twice a week.” No comments reported negative relationships with mentors, a lack of mentor availability, or mentor interference with program implementation.

Seven respondents (63%) commented regarding general experience (47 comments, 16.2%) at an average of 5.4 comments per teacher (SD=2.82). The primary sub-theme here suggested that the structure of the BOEP program exposes teachers to new ideas that

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promote a change in pedagogy (26 comments, 8.9%), especially referencing the use of concrete curriculum examples in training (n=6, 50%). Comments describing the experience of change included “It made me step out of my little box and stretch a little bit and changed my paradigm of thinking somewhat, to thinking bigger and thinking outdoors.” (Participant 13) and “I didn’t think at first that I was going to be able to use a lot of it but I’ve found a lot of ways to use it.” (Participant 14)

Nine mentor comments corresponded with these reports. Mentor B said “At first they just kind of struggle with it and don’t know how to implement the lessons and then they find these amazing ways to work it into the curriculum and start being really creative about it.” Mentor C echoed this, saying,

“It can start off fairly rocky, with teachers being kind of negative about ‘I’m never going to be able to do this, how am I going to be able to do this’ and then by the end of the year it’s such a complete turnaround.”

A few teachers (n=3, 25%) report a desire for other teachers to learn and use BOEP methods (7 comments, 2.4%), which may correlate with the aspect of peer dissatisfaction described earlier. Statements included “I wish more teachers would listen.” (Participant 15) and “Some took an interest.. I was happy when they did it even just once.” (Participant 10). Mentors did not comment on this sub-theme.

Two teachers (16.7%) expressed satisfaction with the incentives provided by the program, namely stipends. Participant 14 stated, for example, “It’s been a good program and it pays which makes it even better.” Mentors (3 comments) stated that teachers often express positive feelings about stipends and money for in-school resource kits. Mentor C

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said, “Those supplies really help them help their students and get the rest of the school excited to, because schools really don’t have a lot of funding going around right now.”

Finally, several teachers (n=6, 54%) report using outdoor and place-based lessons on a weekly to daily basis at the conclusion of the program (8 comments, 2.7%), which mirrors results on the Likert scale items on the survey. Mentors caveat that this is variable from teacher to teacher and that outdoor education use tends to increase at the end of the year due to multiple factors, mainly the completion of state testing, warmer weather, and the importance of completing their BOEP obligations (3 comments).

Conclusion

Teachers who completed the BOEP mentoring program reported using more outdoor education in their classrooms than the comparable group of teachers who had not. The Job Descriptive Index offered inconclusive results and may have measured how teachers feel about their jobs at different times of year rather than the impact of the mentor program. Another confounding variable may be the differences in grade level of the students the groups taught; 75% of the pre-BOEP group taught elementary students while 60% of the post-BOEP group taught middle school students. Nonetheless, teachers in the post-BOEP group had higher job satisfaction in the area of work, an area in which a change was predicted. Qualitative reports, however, suggest a change in job satisfaction, especially the self-efficacy component, as a result of the outdoor education mentoring program. The change in job satisfaction appears to be related to increased student achievement (especially engagement), the experience of teaching outdoors, and the connection to and support of the mentor.

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Chapter 5

Discussion

Introduction

In this study, outdoor education mentoring appears to have resulted in a change in teacher pedagogy, an increased use of outdoor education, and enhanced student achievement, especially in regards to student engagement. The mentoring program did appear to increase some aspects of job satisfaction for this group of teachers. However, the extent and duration of this effect is unknown. Job Descriptive Index results show that post-BOEP teachers had a higher level of job satisfaction with their work, but were inconclusive because of potential confounding variables and the fact that the instrument was not administered to any one group of teachers both before *and* after the program. When job satisfaction was reported in teacher interviews, the mentor focus group, and on open-ended survey questions, it appeared to be related to increased student engagement, the experience of teaching outdoors and the support provided by mentors.

Mentoring may be an effective way to integrate outdoor education in schools; however its success may depend on the presence of clear guidelines within a formal mentoring relationship and skilled mentors. In order to enhance the effectiveness of this and similar programs, school administration and peer teachers should be educated on the effectiveness of outdoor education in bolstering academic achievement, retention and engagement. Seeking to integrate outdoor education throughout both the curriculum and the school may alleviate tension in relationships with peers and administrators while decreasing the stress associated with time constraints.

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The results of this exploratory case study suggest that further research on the effects of outdoor education on teacher job satisfaction may be worthwhile. Longitudinal studies are recommended to determine the duration of job satisfaction effects following mentoring. Experimental studies using a control group would be particularly useful for investigating a cause-and-effect relationship between outdoor education mentoring and job satisfaction. In order to strengthen future research, confounding variables such as time of year and age of students taught should be filtered. Significant results may also be found by investigating self-efficacy in relation to outdoor education mentoring. Many teacher comments suggest that this may be the component of job satisfaction most impacted by the BOEP program, and this variable relies less on conditions beyond the scope of outdoor education mentoring, such as pay rate and relationships with school administrators. In such studies, self-efficacy should be investigated both prior and after outdoor education mentoring, in order to determine if outdoor education mentoring enhances self efficacy or if efficacious teachers are more likely to enroll in such a program.

Outdoor education mentoring, in this case, appears to meet Wade's (1996) recommendations for teacher professional development- decentralized, local environmental education professional development involving a direct connection between learners and communities based on local values, sociopolitical structures and environmental issues of local concern. This model may provide one means of taking outdoor and environmental education beyond intermittent inclusion in the science classroom to the level of school reform.

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The Effects of Outdoor Education Mentoring on Teacher Attitudes

Ten teachers (83%) reported feelings of satisfaction with their job associated with their experience in the Bioregional Outdoor Education Project through interviews and surveys. Mentor observations correlated with these reports. The Job Descriptive Index, however, may have measured how teachers feel about their jobs at different times of year, with more positive feelings during the summer or very beginning of the school year (Group 2, pre-BOEP) and more negative feelings at the tail end of the year (Group 1, post-BOEP). The significant difference ($p=.032$) between the groups on the Job in General index and on the total JDI score ($p=.082$) might also be attributed in part to the fact that Group 1 (post-BOEP) taught mostly middle school students, whereas Group 2 (pre-BOEP) taught mostly elementary-aged students. Nonetheless, the fact that post-BOEP teachers had a higher level of satisfaction with work than the pre-BOEP group implies that filtering potential confounding variables may show a more significant difference between the two groups. A pre- and post-test on a single group would strengthen these results considerably. Nonetheless, it is reasonable to state that the outdoor education mentoring program did have an impact on how this group of teachers feel about their jobs, and that this impact was more positive than negative.

Self-efficacy is strongly correlated with job satisfaction (Judge & Bono, 2001) and may be the satisfaction component most influenced by professional development. Caprara, Barbaranelli, Steca & Malone (2006) corroborated teacher's self-efficacy with job satisfaction and student achievement and proposed a model wherein increased self-efficacy was linked to enhanced student achievement, which then fed back to enhanced self-efficacy and job satisfaction in a positive feedback loop. It may be possible that a similar feedback loop is occurring in the BOEP, where increased self-efficacy is

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supported by mentoring, the experience of teaching outdoors, and student achievement.

Many teacher comments reflect an increase in self efficacy, for example,

“Less fear about taking large groups of children outside” (Participant 6)

“I feel like I have more to offer.. .(my supervisor) sees that it’s impacted the way I teach and it’s improved the program.” (Participant 11)

“I overcame obstacles of incorporating BOEP and place-based education into our science blocks!” (Participant 9)

“I didn’t think at first that I was going to be able to use a lot of it but I’ve found a lot of ways to use it.” (Participant 14)

Participant 5 makes a direct connection between her positive experience and that of her students, stating,

“The kids feel my excitement and as a result they get excited any time I teach a lesson.”

Mentors also observed a connection between student engagement and teacher experience, like this comment by Mentor B,

“They’re much more into it and they enjoy coming to school more because they know that the kids are going to have a good time and they’re going to have a good time because they’re doing things that the kids are excited about doing.”

This apparent increase in teachers’ feelings of efficacy may be linked to both the findings in student achievement and in job satisfaction.

In order to achieve the benefits of increased self-efficacy and job satisfaction, teachers must endure change in order to learn and incorporate outdoor education methods which are not typically included in pre-service training (Powers, 2004). Said one teacher

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about this process, “It made me step out of my little box and stretch a little bit and changed my paradigm of thinking somewhat to thinking bigger and thinking outdoors.” (Participant 13). Another teacher said, “It changed my view completely.” (Participant 10). This change may present a source of job dissatisfaction, when coupled with BOEP program requirements such as lesson documentation, because it requires time to modify old ways of teaching and generate new ones. Most comments related to dissatisfaction (14 comments of 26 total) were related to time constraints, and several of those comments were directly linked to planning time for lessons. Other sources of dissatisfaction associated with time include the program requirement for mentoring other teachers in the school in BOEP methods, large class sizes, and the challenges experienced by teachers who were new to their position. Many of these sources of dissatisfaction are threats to self-efficacy. If a teacher lacks adequate time to prepare, belief about the ability to carry out a task successfully may decline. Said Participant 11, “You feel like you just can’t do it all.”

Mentoring in education has been shown to improve teacher job satisfaction and self-efficacy (Smith & Ingersoll, 2004). The effect of mentoring in this program may be partially to off-set these potential threats to self-efficacy, including time limitations, during the process of change experienced by teachers in the BOEP, ultimately leaving teachers with more feelings of satisfaction than dissatisfaction related to the program. Mentor comments reflect this potential buffering effect,

“[T]hey’re coming to us for these different types of lessons and suggestions.

Then implementing what we’ve helped them with and coming back to us with

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feedback and results, telling us how super excited and how much more [the students] were involved.” (Mentor C)

Another mentor comment demonstrates both buffering and the psychosocial function (Nolan, 2007) of mentors,

“.. I’ve had teachers go through divorces and moving and having kids and doing all these different things and they have so much on their plate.. ..you’re visiting them all the time and assisting them and helping them do lessons. That just translates into you’re going to be an ear for them for multiple different things.

You have to be okay with that.” (Mentor C)

Mentoring may also enhance self-efficacy of BOEP teachers because skilled mentors (as those in this program appear to be) tailor their support to the needs of the individual, as in this comment, “Flexibility goes a long way because each relationship you have with each teacher can be so different.” (Mentor A)

Mentoring may also make teaching outdoors, another apparent source of satisfaction for these teachers, more feasible for teachers because, in the words of Mentor C,

“We all do things like go on field trips with the teachers to assist in outdoor stuff, which is good because we can help them implement the lesson and also be an extra person there to help in outdoor classroom management.”

An interesting comparison for future research might analyze the increased use of outdoor education for teachers in professional development programs utilizing mentors and those using other less intensive training methods.

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However, the experience of teaching outdoors and the reports of satisfaction that were associated with it were not often linked directly to the mentor support, though outdoor lessons are a requirement of the BOEP program overseen by mentors.

Satisfaction associated with teaching outdoors stemmed from two apparent sources- the interest and engagement of students and the personal experience of being outdoors.

Teachers linked positive outdoor student experiences to their own in a few comments, such as, “The feelings I get from the kids is they’re excited and then I get excited.” (Participant 15) and “I would say, by and large, that students have enjoyed and I have enjoyed being outside and doing those things.” (Participant 13)

Mentors drew connections between student and teacher experience in the outdoors as well. Said one, “Their kids are more excited about learning and that makes everybody happy.” (Mentor C)

Teachers made more comments, however, regarding personal enjoyment of teaching outdoors (13 out of 20 in this category). For example, “I have a better time teaching outside versus being cooped up all day in a classroom.” (Participant 12), or “but I’m no different than the kids. I’d rather be outside.” (Participant 13), and “I’d rather be moving and stretching and having those really awe-inspiring outside lessons.” (Participant 11).

This may be partially the result of bias when teachers are selected for the program. In the survey administered to the pre-BOEP teachers, 87% said that interest in outdoor and environmental education was a reason for joining the program, while 67% cited an interest in the outdoors. Nonetheless, prior interest in the outdoors may also contribute to increased satisfaction and an increased commitment to outdoor education.

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Mentor encouragement for those not interested in the outdoors might be more crucial if teachers lack this source of satisfaction.

Several teachers (n=5, 42%) referenced feelings of liberation, freedom or openness in regards to their experience, which may be partially attributed to enjoyment of the outdoors but may also reflect a change from didactic to experiential education.

Comments include,

“It’s kind of opened things up a little more” (Participant 14)

“BOEP has really- it’s just opened that door.” (Participant 15)

“It made me step out of my box and stretch a little bit.. .”(Participant 13)

“[E]nthusiastic, happy, involved, free to do what I love!” (Participant 8)

“..there is some wiggle room now to do what is right.” (Participant 10)

Mentors also made similar comments,

“I find that their eyes just open up.” (Mentor B)

“It gives them some justification for teaching outside the box.”(Mentor A)

This change appears to be deeper for these teachers than simply learning new methods, and may represent a change in perception of what education itself is or might be. The possible change expressed here indicates potential for the systemic reform that Wade (1996) suggested environmental education was capable of. This is reflected in a statement by Mentor A,

“I think too, helping teachers see a new way of teaching [is satisfying]. We could be a big part of school reform at least for teachers in their mind if not for an entire school and that’s really exciting to me.”

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Characteristics of an effective outdoor education mentoring program

With 83% of post-BOEP teachers using outdoor education on a weekly or daily basis, the outdoor education mentoring program appears to be successful at infusing this method into school classrooms on the Colorado Plateau. In teacher interviews and the mentor focus group, respondents highlighted a few key elements of the BOEP program that make it effective. In discussing sources of dissatisfaction, information from interviewees lends itself to make recommendations that might further increase the effectiveness of this and similar programs.

If the mentoring relationship provides support for the implementation of the program, according to teacher reports, what characteristics of mentoring accomplish this? Based on prior research, teacher, and mentor comments, it appears that formal mentoring structure with consistent contact between mentors and proteges and skilled mentors capable of both career and psychosocial support enhances program success.

The BOEP program provides a clear format for mentoring. Teachers experience an initial training led by the mentors, then meet with them bi-monthly while accomplishing a series of established program requirements (for example, presenting at the winter conference, writing articles for the newsletter, and routine lesson observation).

In the words of Mentor C,

“[T]he first thing we do actually is we train them. They’ll come to the summer and fall institute. Then following that, we visit them twice monthly and help them in implementing the program into their classroom and their curriculum.”

Teachers also spoke of this regular format, with 83% reporting frequent contact, for example, “It’s at least once or twice a month and then frequent email.” (Participant 15).

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Teachers complete a professional development plan (PDP) and, while they receive a partial stipend for completing the introductory training, they do not receive the balance until PDP requirements are complete. Says Mentor C,

“We also bring the PDP with us and show what they have due, what they’ve accomplished and answer their questions about what the requirements are, a lot of reminding them that you know, here’s this conference coming up and they need to get their proposal in.”

These established expectations provide the mentoring relationship with structure, and may embed the professional growth aspect of mentoring partially into the formal process, thereby increasing the likelihood of program success.

The psychosocial function of mentoring is more difficult to embed however, and here it appears that selecting mentors both experienced in the field of outdoor education and sensitive to the dynamics of the mentor/protege relationship is important. Mentors in the BOEP program are certified teachers with classroom experience who are skilled in outdoor education. However, teacher reports suggest that they may also display the characteristics of excellent mentors put forth by Johnson (2004); they exude warmth, listen actively, show unconditional regard, tolerate idealization, embrace humor, do not expect perfection, attend to interpersonal cues, are trustworthy, respect individual values, and do not stoop to jealousy. They appear capable of practicing the “art” of mentoring.

Teacher comments demonstrating this include,

“She is quiet and she is reserved but she’s extremely knowledgeable, incredibly kind and helpful.” (Participant 13)

“She is so positive and helpful.” (Participant 12)

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“She wasn’t judgemental.” (Participant 12)

“She was a good person.” (Participant 15)

“Everytime she came in she had a smile on her face.” (Participant 15)

These comments come from teachers that work with each of the three mentors. Mentor comments also reflect the importance of psychosocial support. When talking about her own enjoyment of her work, Mentor B spoke of “.the camaraderie you gain with the teachers, the joy that comes into their eyes when they see you come i n .”. Mentor C stated, “You’re going to have to be really empathetic with these teachers; it’s a really crucial quality.”

It is worth noting that the BOEP program does not provide specific training in these psychosocial skills. The importance of such skills in mentoring may present a challenge to other potential mentoring programs when selecting and training mentors.

Several teachers also cited the interactive and hands-on nature of the initial BOEP training as an important element of the program, for example,

“They gave amazing tools in the training.” (Participant 11)

“It involves doing actual lessons.it’s hands-on. That’s a better way to learn and inspire versus just reading it.” (Participant 12)

The initial BOEP training is a multi-day field experience where teachers learn and participate in outdoor lessons. It is possible that these teacher comments are similar to those of students responding to outdoor education with increased engagement.

Sources of dissatisfaction for teachers were primarily time constraints and tension with administrators or peers who did not fully support BOEP methods. Both of these concerns might be partially addressed by more fully involving the entire school in the

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outdoor education mentoring program. According to Garet et al.(2001), professional development was more effective when it focused on groups of teachers in the same school, therefore allowing teachers to share resources and contribute to an enhanced professional culture. While the BOEP attempts to do this by requiring that teachers mentor peers in their school, this may not be an adequate way to address a school culture that might misperceive outdoor education as unstructured time. In referencing this misperception, one teacher said,

“Every time somebody questions me, ‘Why are you outside?’ it’s like ‘I’m doing a lesson. I’m in core but it’s BOEP.’.. .That’s the only frustration I have is just trying to get teachers to understand that this does work.” (Participant 15)

A few teachers also reported a lack of administrative support (n=2, 17%).

Some teachers simply reported a desire for others to experience BOEP methods, for example:

“I was trained to get everybody on board.. .and I did make hardcopies to give to every teacher in the building.” (Participant 10)

“I think everyone should get on that train [teaching outdoors]. It’s a good train.” (Participant 11)

“It would be cool if they did this nationally.” (Participant 12)

One teacher reported an enhanced relationship with another BOEP teacher in her school.

In this case, the program helped to bridge cultural gaps:

“I was able to work with one of my co-workers who I wouldn’t have got the chance to really talk with, so I learned a lot of the culture that way and her personal

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experiences.. .It was really nice to be able to connect with her during the workshops.”

(Participant 12)

An appropriate response to each of these reports by teachers would be to further involve the school as a whole, especially providing research-based information on the benefits of outdoor education to student academic achievement and physical well-being. This presents challenges due to school-wide time constraints, but may ultimately provide time-saving benefits due to enhanced student engagement and teacher collaboration in incorporating outdoor and place-based methods.

Ultimately the purpose of outdoor education in the schools is to enhance student learning, integrate core subjects, and provide a connection with the outdoors. Student learning may well provide a viable means of assessing an outdoor education mentoring program. It can be assumed that the program is achieving its goals if teachers are using OE methods frequently enough to impact student engagement, retention or standardized measures of achievement. That student achievement is the most often cited result of the BOEP program (21% of total comments) indicates that this program may very well be a success. Said one teacher,

“We have shown so much gain. This is the highest I’ve ever heard—I’ve taught kindergarten 16 years.our average for the whole class is 98% in reading and 97% in math. So our average score is really high. I can see it in the kids.” (Participant 15)

Teachers also reported physical and emotional benefits to students. A special education teacher who had several students diagnosed with depression reported that many students were no longer taking medication by the end of the year:

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“I don’t know how this year would’ve gone, especially with the amount of kids that I had that were depressed.. .I don’t know how it would’ve gone without BOEP.” (Participant 10)

In regards to well-being, teachers said,

“I would say it probably helps them, like, emotionally, because they’re doing physical activity and working on social skills and team-building.” (Participant 12)

“The students love to get outside. I think the oxygen and energy outdoors in the environment clears their thinking.” (Participant 11)

Mentor C provided support for this position, saying,

“I do love seeing what happens with the students when they get to go outside and do these lessons, how creative they are and how excited they are to be outside.”

Two teachers who work primarily with special education students also reported specific benefits in their classrooms:

“My ADHD kids are all over the place. But when we're going outside, they're active. They can explain. They could tell me what's going on, what are we learning.” (Participant 15)

“If you take a look at those scores, they improved some that first semester but the second semester I have [special ed] kids that have been benchmarking and they're doing great and we put them on monitor status for first grade these past two weeks.” (Participant 10)

Said Mentor C,

“I think it’s just reaching more students in general.”

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Interestingly, these reports correlate with reported potential benefits to special education students in other place-based education programs described by Powers (2004b).

If the resources, time and funding investments required by outdoor education mentoring programs are to be justified to school administration, teachers, parents, and funders, such results must be duplicated and publicized.

Recommendations for Future Research

Sufficient information was gathered during this study to recommend further study on the connection between outdoor education mentoring and teacher job satisfaction.

While job satisfaction has financial implications for schools in regards to teacher retention, self-efficacy is a significant component of job satisfaction and is also linked to student achievement. Because self-efficacy can be strongly linked to professional development and mentoring, self-efficacy may also be a variable worthy of investigation.

In further explorations of job satisfaction and outdoor education, researchers must strive to neutralize the confounding variables that proved a difficulty in this study, especially time of year and age of students taught. To continue this research by administering post-surveys and the JDI instrument to teachers following the completion of the BOEP program is recommended, as it would increase the validity and reliability of this study.

Conclusion

Mentoring may present an opportunity to integrate outdoor education more deeply into teacher pedagogy and school structure than more traditional means of professional development. As such, it may also represent a possible avenue for outdoor education to reach beyond the science classroom and into the realm of school reform by providing

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enhanced engagement and achievement for students across disciplines while enhancing teacher job satisfaction, at least temporarily. Such inclusion would present opportunities to both young people and adults to connect more deeply and regularly with the natural world, resulting in understanding expressed so well by Participant 10:

“I don't know how it would've gone without BOEP because that really did open my eyes to the fact that a rock isn't just a rock. A tree isn't just a tree. Sand isn't just something you sweep out of your kitchen floors. Everything has more meaning to it.”

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Appendix A: Research Proposal for the Four Corners School of Outdoor Education

Bioregional Outdoor Education Project

The following proposal was submitted to Four Corners School of Outdoor Education

Executive Director Janet Ross on May 5th, 2011

OUTDOOR EDUCATION MENTORING IMPACTS ON TEACHERS

Research Proposal for the Four Corners School of Outdoor Education Bioregional Outdoor Education Project

Researcher Contact Information:

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Thesis Title: The Effects of Outdoor Education Mentoring on Teacher Job Satisfaction

Research Questions:

- Do teachers enrolled in a mentoring-based outdoor education professional development program show a change in their job satisfaction?
- What are the characteristics of an effective outdoor education mentoring program for teachers?

Research Procedures: In order to address the research questions, the researcher will.

- Collect qualitative data by interviewing 6 teachers currently participating in the Bioregional Outdoor Education Project (BOEP). Interviews will be approximately 1 hour long and will address the teacher's experience in the BOEP, if and how participation has changed the way they feel about teaching, any changes they've made or experienced based on participation in the program, and changes they've observed in their students as a result of the program. If possible, these interviews will be conducted in late May.
- Two teachers will be selected for interviews in each region (New Mexico, Arizona, Colorado/Utah) based on criteria provided by the researcher and the recommendations of BOEP mentors.
- A survey including the Job Descriptive Index (a measure of job satisfaction) and a short questionnaire will be mailed to all teachers currently enrolled in the program. While I will prepare the envelopes and provide postage, *these envelopes will need to be addressed and put in the mail by Four Corners staff*. This is to avoid passing participant personal information directly to me and will assist me with securing approval by the University of Minnesota Institutional Review Board.
- I will conduct a 30 to 45 minute focus group meeting with the BOEP mentors regarding their observations of BOEP teacher experience and job satisfaction
- Qualitative data will be synthesized and analyzed for patterns.
- Results of the Job Descriptive Index will be calculated and compared to the national JDI average for teachers. This instrument will provide a general point of reference for job satisfaction levels of teachers in the Bioregional Outdoor Education Project.

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- Results of the research project are expected to be available by December 2011 and presented in my completed thesis and seminar.
- Any publication of this research will be conducted in accordance with Four Corners School of Outdoor Education policies. All teacher and staff identities will be strictly confidential, known only to the researcher.

Appendix B: Bioregional Outdoor Education Project Research Survey for Post-BOEP Teachers

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Bioregional Outdoor Education Project Research Survey

Please complete every item on this questionnaire and return it in the envelope provided. This information is collected for the purposes of research only and will be kept strictly confidential.

Note: *Outdoor education* is education that happens in and utilizes the natural outdoor environment. *Place-based education* is education that is based on the Colorado Plateau or on your local community.

What is your gender? Female Male	How many years have you spent teaching?
What is your age?	What state is your school located in? AZ NM UT CO
Is your school located on tribal reservation land? YES NO If YES, which reservation is it located on?	
Grade level(s) taught or position:	How many years have you taught in this position?

- 1. Since January 1, 2011, how often do you teach outdoor or place-based education lessons (like the lessons you have learned in BOEP) ? (Circle one)**

Never Rarely Once or twice a month Weekly Daily

- 2. Before September 1, 2010, how often did you teach outdoor or place-based education lessons? (Circle one)**

Never Rarely Once or twice a month Weekly Daily

- 3. In the future, how often do you expect to use outdoor or place-based education lessons? (Circle One):**

Never Rarely Once or twice a month Weekly Daily

- 4. Have you observed a change in student achievement as a result of what you have learned in the BOEP? (Circle One)**

Yes No Not Sure

If yes, what changes have you observed? (Use the back of this page if you need more space.

- 5. Have you experienced a change in how you *feel* about teaching as a result of what you have learned in BOEP?**

Yes No Not Sure

OUTDOOR EDUCATION MENTORING IMPACTS ON TEACHERS

If yes, how have your feelings about your job changed? (Use the back of this page if you need more space.)

Appendix C: Guide for Interviews with BOEP Teachers

OUTDOOR EDUCATION MENTORING IMPACTS ON TEACHERS

Guide for Interviews with BOEP Teachers

Teacher: _____
Age: _____ Years spent teaching: _____
Grade taught or position: _____
Date: _____
Time at start _____ Time at end _____
Location _____

Introductory Script (To be read out loud after the participant has read and signed the consent form): I am researching the effects of outdoor education mentoring programs like the Bioregional Outdoor Education Project on how teachers feel about their jobs. I will be asking you five questions related to your participation in the Bioregional Outdoor Education Project. Please answer these questions as honestly and fully as you can. Feel free to use stories or examples to illustrate your answers. I will record your answers using a digital recording device. This interview should take from 1/2 hour to one hour. Do you have any questions or concerns about this interview before we begin?

1. Describe your experience in the BOEP so far. How often do you meet or communicate with your mentor? How often do you use outdoor or place-based education?
2. Has your experience in the BOEP changed the way you teach? If so how? What caused you to make these changes?
3. Has your experience in the BOEP affected the way you feel about your job (your job satisfaction) in any way? If so, how? Why do you believe these changes have occurred?
4. Have you seen any changes in your students as a result of your involvement in the BOEP? If so, what have those changes been? How do you believe they are related to what you've learned in the BOEP?
5. What else would you like to share regarding your experience in the BOEP?

Post Interview:

Record any initial impressions of this interview here immediately following the interview.

Appendix D: BOEP Introductory Letter and Confidentiality Notice

This letter and notice of confidentiality will be mailed along with the Job Descriptive Index to participating teachers.

OUTDOOR EDUCATION MENTORING IMPACTS ON TEACHERS

Dear Bioregional Outdoor Education Project Teacher,

You have an opportunity in your hands to help the Bioregional Outdoor Education Project (BOEP) learn more about their work and to potentially help create and support other programs similar to the BOEP.

I am conducting a research project on the effects of mentoring in outdoor education on the satisfaction teachers experience with their jobs. This research will potentially be used to aid the Bioregional Outdoor Education Project in furthering their work on the Colorado Plateau.

INSTRUCTIONS: Here's what you can do to help! The whole process should take you from 15 minutes to a half hour.

- 1. Completely fill out the green Bioregional Outdoor Education Project Research Survey. Be sure to answer each question and fill out the top of the form completely.**
- 2. Complete the entire white Job Descriptive Index. Note that there are 6 sections to complete. In each section, you are asked to mark each word or phrase with one of the following:**
 - **Y (if the word is true for your job)**
 - **N (if the word does NOT describe your job) or**
 - **? (if you are unsure whether this word describes your job)**
- 3. Fold the green Bioregional Outdoor Education Project Research Survey and the white Job Descriptive Index. Place them in the stamped envelope provided.**
- 4. Place the completed survey envelope in the mail before June 10th, 2011.**
- 5. Accept my sincere thanks and gratitude for participating in this survey!**

A confidentiality notice appears on the reverse side of this letter. *Please review it before completing the surveys.* Note that all of your responses will be kept completely confidential.

Feel free to contact me with questions or comments regarding this survey. I can be reached via email at eric2538@d.umn.edu or on my cell phone at 608-234-1510. Thank you so much for your help and please enjoy your summer on the beautiful Colorado Plateau!

Deanna M. Erickson
M.Ed. Graduate Student, University of Minnesota Duluth

CONFIDENTIALITY NOTICE

University of Minnesota Duluth
Center for Environmental Education
Outdoor Education Mentoring

Principal Investigator: Deanna M. Erickson, M.Ed. Candidate

Confidentiality

All information obtained in this study will remain strictly confidential. When results of the study are presented publicly, I will not be identified. I will be assigned a number, and that number will be used to identify my data. Research records will be stored securely and only researchers will have access to the records.

Voluntary Participation

My participation in this outdoor education mentoring research is completely voluntary. I may decline to participate without penalty. My participation in the study, or my withdrawal from the study, will not affect my current or future relations with the University of Minnesota, my school, or the Four Corners School of Outdoor Education. If I decide to participate, I am free to not answer any question without affecting that relationship.

I may contact the researcher and she will answer any questions I have.

Contacts and Questions

If I have any questions, **I am encouraged** to contact Deanna M. Erickson at eric2538@d.umn.edu or phone: 608-234-1510

I may also contact the research supervisor Dr. Kenneth Gilbertson at 123 SpHC, 1216 Ordean Court, Duluth MN 55812. Email: kgilbert@d.umn.edu Phone: 218-726-6258

If I have any questions or concerns regarding this study and would like to talk to someone other than the researcher(s), **I am encouraged** to contact the Research Subjects' Advocate Line, D528 Mayo, 420 Delaware St. Southeast, Minneapolis, Minnesota 55455; (612) 625-1650.

Please keep this consent information for your records.

OUTDOOR EDUCATION MENTORING IMPACTS ON TEACHERS

Appendix E: Focus Group Guiding Questions

OUTDOOR EDUCATION MENTORING IMPACTS ON TEACHERS

Bioregional Outdoor Education Project Focus Group Guiding Questions

Introductory Script (To be read out loud after the participants have read and signed the consent form): I am researching the effects of outdoor education mentoring programs like the Bioregional Outdoor Education Project on how teachers feel about their jobs. I will be asking you eight questions related to your participation in the Bioregional Outdoor Education Project. Please answer these questions as honestly and fully as you can. Open discussion is encouraged. Feel free to use stories or examples to illustrate your answers. I will record your answers using a digital recording device. This discussion should take around 1 hour to 1.5 hours.

GROUND RULES from Elliot & Associates. (2005) *Guidelines for conducting a focus group*. Retrieved from

http://assessment.aas.duke.edu/documents/How_to_Conduct_a_Focus_Group.pdf

1. WE WANT YOU TO DO THE TALKING.

We would like everyone to participate. I may call on you if I haven't heard from you in a while.

2. THERE ARE NO RIGHT OR WRONG ANSWERS

Every person's experiences and opinions are important. Speak up whether you agree or disagree.

3. WHAT IS SAID IN THIS ROOM STAYS HERE

We want folks to feel comfortable sharing when sensitive issues come up.

Do you have any questions or concerns about this discussion before we begin?

Engagement Questions

Tell me about what you do as Regional Coordinators in the BOEP.

What does "mentoring" mean to you?

Exploration Questions

Tell me about your mentoring relationships with the teachers.

Do teachers change in any way as they participate in the BOEP? If so, how?

When you observe or co-teach an outdoor lesson with a teacher, how do they typically respond to teaching outdoors?

What changes, if any, do teachers report in their students as a result of what they learn in the BOEP?

What do you believe is the most effective element of the BOEP program? What is the most difficult?

Do you observe any changes in how teachers feel about their jobs as a result of what they learn in the BOEP?

Exit Questions

Is there anything else you would like to say about the BOEP program and how it impacts teachers?

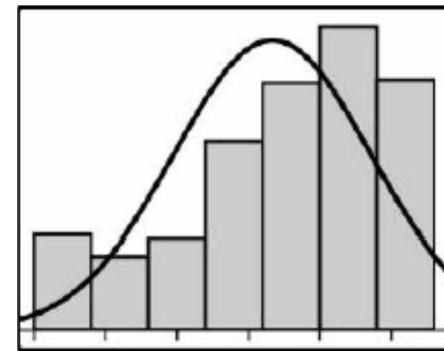
Appendix F: Job Descriptive Index

<p style="text-align: center;">People on Your Present Job</p> <p>Think of the majority of people with whom you work or meet in connection with your work. How well does each of the following words or phrases describe these people? In the blank beside each word or phrase below, write</p> <p>X for "Yes" if it describes the people with whom you work N for "No" if it does not describe them ? for T if you cannot decide</p>	<p style="text-align: center;">Job in General</p> <p>Think of your job in general. All in all, what is it like most of the time? In the blank beside each word or phrase below, write</p> <p>X for "Yes" if it describes you' job M "or 'No' if it does not describe it 2 for T if you cannot decide</p>
<ul style="list-style-type: none"> <input type="checkbox"/> Stimulating <input type="checkbox"/> Boring <input type="checkbox"/> Slow <input type="checkbox"/> Helpful <input type="checkbox"/> Stupid <input type="checkbox"/> Responsible <input type="checkbox"/> Likeable <input type="checkbox"/> Intelligent <input type="checkbox"/> Easy to make enemies <input type="checkbox"/> Rude <input type="checkbox"/> Smart <input type="checkbox"/> Lazy <input type="checkbox"/> Unpleasant <input type="checkbox"/> Supportive <input type="checkbox"/> Active <input type="checkbox"/> Narrow interests <input type="checkbox"/> Frustrating <input type="checkbox"/> Stubborn 	<ul style="list-style-type: none"> <input type="checkbox"/> Pleasant <input type="checkbox"/> Bad <input type="checkbox"/> Great <input type="checkbox"/> Waste of time <input type="checkbox"/> Good <input type="checkbox"/> Undesirable <input type="checkbox"/> Worthwhile <input type="checkbox"/> Worse than most <input type="checkbox"/> Acceptable <input type="checkbox"/> Superior <input type="checkbox"/> Better than most <input type="checkbox"/> Disagreeable <input type="checkbox"/> Makes me content <input type="checkbox"/> Inadequate <input type="checkbox"/> Excellent <input type="checkbox"/> Rotten <input type="checkbox"/> Enjoyable <input type="checkbox"/> Poor

The Job Descriptive Index
 • © Bowling Green State University
 1075-2009

The Job in General Scale
 © Bowling Green State University
 1982-2009

THE JOB DESCRIPTIVE INDEX



2009 Revision

including

The Job in General Scale

BGSU[®]

Bowling Green State University

Work on Present Job	Pay
<p>Think of the work you do at present. How well does each of the following words or phrases describe your work? In the blank beside each word or phrase below, write</p>	<p>Think of the pay you get now. How well does each of the following words or phrases describe your present pay? In the blank beside each word or phrase below, write</p>
<p><u>Y</u> for "Yes" if it describes your work <u>N</u> for "No" if it does not describe it <u>?</u> for "?" if you cannot decide</p>	<p><u>Y</u> for "Yes" if it describes your pay <u>N</u> for "No" if it does not describe it <u>?</u> for "?" if you cannot decide</p>
<p>.....</p>	
<ul style="list-style-type: none"> <input type="checkbox"/> Fascinating <input type="checkbox"/> Routine <input type="checkbox"/> Satisfying <input type="checkbox"/> Boring <input type="checkbox"/> Good <input type="checkbox"/> Gives sense of accomplishment <input type="checkbox"/> Respected <input type="checkbox"/> Exciting <input type="checkbox"/> Rewarding <input type="checkbox"/> Useful <input type="checkbox"/> Challenging <input type="checkbox"/> Simple <input type="checkbox"/> Repetitive <input type="checkbox"/> Creative <input type="checkbox"/> Dull <input type="checkbox"/> Uninteresting <input type="checkbox"/> Can see results <input type="checkbox"/> Uses my abilities 	<ul style="list-style-type: none"> <input type="checkbox"/> Income adequate for normal expenses <input type="checkbox"/> Fair <input type="checkbox"/> Barely live on income <input type="checkbox"/> Bad <input type="checkbox"/> Comfortable <input type="checkbox"/> Less than I deserve <input type="checkbox"/> Well paid <input type="checkbox"/> Enough to live on <input type="checkbox"/> Underpaid

(Go on to next page)

Opportunities for Promotion	Supervision
<p>Think of the opportunities for promotion that you have now. How well does each of the following words or phrases describe these? In the blank beside each word or phrase below, write</p>	<p>Think of the kind of supervision that you get on your job. How well does each of the following words or phrases describe this? In the blank beside each word or phrase below, write</p>
<p><u>Y</u> for "Yes" if it describes your opportunities for promotion <u>N</u> for "No" if it does not describe them <u>?</u> for "?" if you cannot decide</p>	<p><u>Y</u> for "Yes" if it describes the supervision you get on the job <u>N</u> for "No" if it does not describe it <u>?</u> for "?" if you cannot decide</p>
<p>.....</p>	
<ul style="list-style-type: none"> <input type="checkbox"/> Good opportunities for promotion <input type="checkbox"/> Opportunities somewhat limited <input type="checkbox"/> Promotion on ability <input type="checkbox"/> Dead-end job <input type="checkbox"/> Good chance for promotion <input type="checkbox"/> Very limited <input type="checkbox"/> Infrequent promotions <input type="checkbox"/> Regular promotions <input type="checkbox"/> Fairly good chance for promotion 	<ul style="list-style-type: none"> <input type="checkbox"/> Supportive <input type="checkbox"/> Hard to please <input type="checkbox"/> Impolite <input type="checkbox"/> Praises good work <input type="checkbox"/> Tactful <input type="checkbox"/> Influential <input type="checkbox"/> Up-to-date <input type="checkbox"/> Unkind <input type="checkbox"/> Has favorites <input type="checkbox"/> Tells me where I stand <input type="checkbox"/> Annoying <input type="checkbox"/> Stubborn <input type="checkbox"/> Knows job well <input type="checkbox"/> Bad <input type="checkbox"/> Intelligent <input type="checkbox"/> Poor planner <input type="checkbox"/> Around when needed <input type="checkbox"/> Lazy

(Go on to next page)

Appendix G: Consent Form for Teacher Interviews and Mentor Focus Group

OUTDOOR EDUCATION MENTORING IMPACTS ON TEACHERS

CONSENT FORM

University of Minnesota Duluth
Center for Environmental Education
Outdoor Education Mentoring

Principal Investigator: Deanna M. Erickson, M.Ed. Candidate

I have been invited to participate in a research study designed to investigate the impacts of an in-school outdoor education professional development program on teaching and teacher job satisfaction. This study is being conducted in fulfillment of the requirements for the Masters in Education: Environmental Education program at the University of Minnesota Duluth and is supervised by Dr. Kenneth Gilbertson.

I have been selected as a possible participant because I am a teacher or mentor in the Bioregional Outdoor Education Project. I have been asked to read this form and ask any questions I may have before agreeing to participate in the study.

Background Information

The purpose of this study is to examine how in-school outdoor education mentoring impacts teachers. Information obtained from this study may assist outdoor educators in planning similar programs or support existing programs.

Eligibility Requirements

Eligibility for this study is limited to formal educators enrolled in the Bioregional Outdoor Education Project or employees of the Bioregional Outdoor Education Project. Participants must be willing to be interviewed or participate in a focus group regarding their experience in the Bioregional Outdoor Education Project.

Procedures

In order to participate in this program, I must be willing to participate in a V hour interview (for teachers) or a one to 1.5 hour long focus group discussion. This study will take place from May 23th to May 27th, 2011.

Confidentiality

All information obtained in this study will remain strictly confidential. When results of the study are presented publicly, I will not be identified. I will be assigned a number, and that number will be used to identify my data. Research records will be stored securely and only researchers will have access to the records.

Voluntary Participation

My participation in the outdoor education mentoring program is completely voluntary. I may withdraw at any time without penalty. My participation in the study, or my withdrawal from the study, will not affect my current or future relations with the University of Minnesota or the School District of Bayfield, WI. If I decide to participate, I am free to not answer any question or withdraw at any time without affecting that relationship.

OUTDOOR EDUCATION MENTORING IMPACTS ON TEACHERS

At the conclusion of the program, the researcher will answer any questions I have.

Contacts and Questions

If I have any questions about this study, I should ask them now. If I have questions later, **I am encouraged** to contact Deanna M. Erickson at eric2538@d.umn.edu

I may also contact the research supervisor Dr. Kenneth Gilbertson at 123 SpHC, 1216 Ordean Court, Duluth MN 55812. Email: kgilbert@d.umn.edu Phone: 218-726-6258

If I have any questions or concerns regarding this study and would like to talk to someone other than the researcher(s), **I am encouraged** to contact the Research Subjects' Advocate Line, D528 Mayo, 420 Delaware St. Southeast, Minneapolis, Minnesota 55455; (612) 625-1650.

Please keep this form for your records.