CHARACTERISTICS OF SUCCESSFULLY USED OUTDOOR CLASSROOMS IN INDIANA COMMUNITIES

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Executive Summary

This study identifies a broad range of outdoor classroom (OC) characteristics that contribute to their successful implementation in school curriculum. The study identifies shared characteristics of successfully used outdoor classrooms throughout Indiana. Teachers and other OC users were interviewed and surveyed to determine what the greatest influences are for their decision to use an outdoor classroom. Likewise, deterrents to the use of outdoor classrooms were determined. The study used site visits to derive a list of outdoor classrooms’ physical characteristics. The interviews, surveys, and site visits were used to gain insight into the historical development, current management, and diverse uses of OCs in Indiana communities. Based on the data collected in this study, a concise list of recommendations for teachers and those seeking to develop or improve an outdoor classroom are provided.

Background Information

Opportunities for young people to interact with natural habitats are limited in Indiana communities. Schools have increased their focus on state standards to guide curriculum decisions, overlooking alternative approaches to education such as experiential learning. Experiential learning as defined by the Association of Experiential Education is, “a philosophy and methodology in which educators purposefully engage with learners in direct experience and focused reflection in order to increase knowledge, develop skills and clarify values” (2008). One way teachers can use experiential education is through the use of outdoor classrooms. An outdoor classroom is defined as, “an organized and defined teaching and learning setting outside of the school building” or
can also refer to the “…whole of the school grounds as a learning environment” (Greening Schools Research Network, 2005). According to the Association for Experiential Education (1991), experiential education (EE) is defined as “…a process through which a learner constructs knowledge, skill, and value from direct experience” (Association for Experiential Education, 1991, p.1 as cited in Ives, B., & Obenchain, K., 2006). Steve Van Matre (1990), author of several books about experiential and environmental education notes the “dementia” among educators stemming from ill defined concepts in education (p. 10). For example, he notes one definition of environmental education that is “education that is in, about, or for the environment” (p. 10). This vague description is an example of how unclear objectives can lead to confusion and inconsistency by practitioners. Likewise, in discussing the use of outdoor classrooms to educate and inform, many instructional strategies fall within the context of experiential education. This study used terms such as environmental education, outdoor education, environmentally integrated context, and environment-based learning within the context of experiential education. This study did not distinguish between each term listed above and instead considered all of these uses within the context of outdoor classroom implementation. This study identified specific characteristics of outdoor facilities’ implementation and practice including the physical elements, programmatic characteristics, and infrastructural organization.
Review of Literature

The Changing Relationship between Children and Nature

Rachel Carson (as cited in Kahn and Kellert, 2002, p. 127), an environmentalist of the 1960s, observed that nature elicits an emotionally based sense of joy and wonder. She found her personal experiences in nature provided skills essential to learning and personality formation. She claimed that these experiences were antecedents to personal, intellectual growth. Carson responded to the environmental degradation of the 1960s by writing *Silent Spring* a bestselling book about the dangers of the insecticide Dichlorodiphenyl Trichloroethane (DDT). Her book was a call to action for a complacent public. Similarly, Richard Louv (2005), author of *Last Child in the Woods*, views today’s environmental degradation as an indicator of the declining connection between people and nature. He appeals to today’s complacent public calling attention to the need to reconnect children with the natural world. One of the reasons for this declining contact with nature has been attributed to the proliferation of increasingly developed landscapes that eliminate opportunities for kids to connect with nature. The Chesapeake Bay area exemplifies the overdevelopment trend. The Chesapeake Bay area develops about 53,000 acres of land each year or about 1 acre every 10 minutes. North Carolina lost 383 acres of farmland and forests per day between 1982 and 2002. The land in North Carolina is being developed at rates twice that of its population increase (as cited in Louv, 2005, p. 30). Moreover, Louv suggests that the cumulative impact of overdevelopment, multiplying park rules, well-meaning environmental regulations, building regulations, community covenants, and fear of litigation is telling our children that they are unwelcome in a variety of outdoor settings (2005, p. 31). Robin Moore
(1986), a landscape and play expert, compared his personal findings to an international research effort to conclude that increasing residential and arterial traffic were universal factors restricting play and exploration activity for children, including access to natural settings (as cited in Louv, 2005, p.33). Despite evidence supporting developmental advantages to human contact with nature, parents find numerous reasons to keep children in controlled, constructed play and learning environments. One documented concern expressed by parents is fear. Louv explains the growing fear associated with unconstrained, nature play in his book. He attributes this fear to a misinformed public with an overestimation of the likelihood of child abductors, natural predators, and lack of physical safety from injury (Louv, 2005, p. 128). Moreover, a comprehensive study of 150 outdoor learning settings in California supported this claim finding that primary concerns for young people included natural hazards, threats from other people, inconveniences for their physical comfort, and worries about becoming lost or encountering unfamiliar wildlife (Dillon et al., 2006, p. 107). As the previously mentioned studies have shown, the underlying causes of the child/nature disconnect are diverse. And while they make a case for keeping children alienated from nature, many support efforts to reconnect children with nature with developmental, psychosocial, and intellectual arguments.

**Developmental and Psychosocial Benefits of Nature Contact: Infancy through Adolescence**

Dr. Stephen Kellert, professor of social ecology at Yale notes that direct encounters with nature provide children with unique and critical developmental
opportunities for discovery, creativity, and personal autonomy (as cited in Kahn and Kellert, 2002, p. 122). Despite the aforementioned trends that isolate children from the natural world, a growing body of literature states that nature play and exploration provide substantial benefits to children of all ages. Kellert’s extensive research into children’s relationship with nature and the benefits provided presents a case for the preservation of the natural environment for the benefit of children. Louv (2005) indicated in his book *Last Child in the Woods*, reconnecting children with the natural environment throughout one’s life, can foster the development of environmental values and a sense of stewardship. Kellert’s (2002) research on children between three and six years of age illustrated this point. He stated that formation of utilitarian, dominionistic, and negativistic perspectives of the natural world develop during this age range. Primary emphasis is on satisfying the child’s material and physical needs, avoiding threat and danger, and achieving feelings of control, comfort, and security (as cited in Kahn and Kellert, 2002 p.132). He goes on to describe a second developmental period where valuing nature occurs during middle childhood from roughly six to twelve years of age. Middle childhood is a time when the humanistic, symbolic, aesthetic and knowledge of scientific value develop most rapidly, while utilitarian, negativistic, and dominionistic perspectives diminish in importance (as cited in Kahn and Kellert, 2002, p. 132). Children at this age become more comfortable, familiar, and appreciative of other creatures and natural settings, although often in relative proximity to the home rather than in pristine or wild areas. They are likely to venture into unfamiliar natural settings, expanding their knowledge, sense of competence, and capacity to cope in these areas independent of adult supervision. Kellert continues to describe how this period shows
evidence of a pronounced maturation of more abstract, conceptual, and ethical reasoning about the natural world in terms of values. Children begin to develop a more complex understanding of ethical responsibilities toward nature (as cited in Kahn and Kellert, 2002, p.135). Adolescence is also a time when children become appreciative of larger spatial and temporal scales, such as ecosystem, landscapes, and evolutionary processes. Rachel and Stephen Kaplan (2002) describe how the adolescent mind is structured to seek both autonomy and peer-support in their actions (as cited in Kahn and Kellert, 2002, p. 247). They make a case for adolescents having experiences in nature that include peers and are self-directed (ibid. p.247). Consideration of developmental stages clearly illustrates the importance of connecting children with nature to increase environmental awareness as well as to fully engage students’ intellects during their school years.

The positive effects of nature contact and play are not limited to psychosocial benefits. Educational benefits at all ages have been noted. Limited empirical evidence (Kellert, 1996; Shepard, 1978) suggested that identifying, naming, classifying, and learning about the natural world facilitate the capacity for sorting and retaining information and ideas. Miller (1984) found that children aged seven to eleven preferred playing in the wooded area outside of their school over the constructed playground (as cited in Kahn and Kellert, 2002, p. 45). In addition to play preferences, these refuge-type settings change the type of play chosen by children as well. Kirkby (1989) noted that higher level thinking in the form of dramatic play increased from 42 percent in the built play space to 68 percent in the natural refuge space (p.11). He also stated that the attention span and ability to focus on one topic or object increased for children in natural
settings when compared to constructed play areas (ibid p. 11). Perhaps one of the most important stages in childhood development and nature relationships occurs in children aged seven to eleven. In this age group, children begin to develop feelings of responsibility for care and considerate treatment of nature (Kahn and Kellert, 2002, p. 133). They have a greatly expanded interest, curiosity, and capacity for assimilating knowledge and understanding of the natural world. Intellectual growth, critical thinking, and problem-solving skills are achieved through interacting and coping with the nonhuman environment (ibid).

Values regarding nature develop between 13 and 17 years of age (Kellert and Kahn, 2002, p. 135). This age group exhibits highly variable responses to natural settings. For example, a survey given to adolescents age 13-17 revealed that adolescents prefer developed areas over natural settings (Baling and Falk, 1982, p. 11). “Limited evidence (Altman & Wohlwill, 1978; Kahn, 1999; Ratanapojnard, 2001) suggests that experiential contact with nature, particularly during early adolescence, can have a significant impact on cognitive development (as cited in Kahn and Kellert, 2002, p. 122)”.

Kaplan and Kaplan (2002) suggest tailoring activities to the needs of the students. The strong social orientation and emphasis on peer perceptions should be considered while designing activities for this age group (ibid p. 243). Kaplan and Kaplan also suggest avoiding adult-generated projects and to instead focus on meeting the students where they are. In other words, activities should be designed to accommodate the students’ needs for autonomy, and responsive project development. To further illustrate the unique developmental needs of adolescents provided by nature contact, outcomes of
Outward Bound and the Student Conservation Association will be discussed. A major study of over 700 adolescent participants in these programs revealed that most of the participants described their outdoor experiences as one of the most important in their lives (Kahn and Kellert, 2002, p. 136). Two-thirds to three-quarters of these students reported improved self-esteem, autonomy, decision-making, interpersonal skills and problem-solving abilities that could be carried into their modern and urban settings (ibid p. 136). Even though changing geographic patterns have limited children’s exposure to nature (Louv, 2005), the underlying benefits of this contact remain, as noted previously. Recognition of these benefits is beginning to surface in classrooms, corporations, and very recently in education legislation (United States Department of Education, 2007).

The Role of No Child Left Behind Legislation in Promoting Outdoor Classroom Use

Although the benefits of nature contact are presented by numerous studies (e.g. Kellert, 2002; Kaplan and Kaplan, 2002; Louv, 2006), quality and frequency of nature focused programs are highly variable. In contrast to claims made by Richard Louv that children are becoming disconnected, more children today than ever appear to participate in formally organized indirect activities involving animals and nature offered by schools, nature centers, outdoor programs, and visits to zoos, natural history and science museums, and botanical gardens (as cited in Kellert, 2002, p.143). Pyle (1993) points out that vicarious experience does not serve as a replacement for direct, personal contact with the natural environment and living things (p. 146). The lack of agreement on what type of contact with nature is most valuable may continue indefinitely, however the basic importance of nature contact has been duly noted by educators. Apparently, decision
makers and educators are beginning to see the importance of this experience through the passing of new legislation in several states that requires schools to provide children with an environmental education.

Before reviewing this new legislation, it is important to summarize the current trends in education that led to its development. In 2001, President George W. Bush mandated a national education initiative called No Child Left Behind (NCLB). The overall goal of the act was to improve public education through hiring highly qualified teachers, making schools accountable for the success or lack thereof using test score reporting, and increasing local control over school choice (i.e. charter school development). One of the four pillars of this legislation placed an emphasis on math and English proficiencies. The program mandated that all students know how to read by third grade. Additionally, a host of new student performance tests were required under NCLB. According to the U.S. Department of Education, “NCLB has taken a positive step forward by giving states and schools greater authority and flexibility in exchange for more accountability regarding student performance” (United States Department of Education, 2007). As noted, student performance is of utmost importance under NCLB. According to environmental education organizations, one unintended consequence of the law’s testing requirements has been that many schools have abandoned environmental education programs to invest more time and resources in math and reading instruction. In the classroom, NCLB causes science teachers to bypass environmental science when it does not appear to relate directly to state tests, whose scores determine school funding (Ives and Obenchain, 2006). Ives and Obenchain (2006) found that teachers prioritize
the recall of a breadth of knowledge, adjusting their teaching of content necessary to produce an adequate score on specific standardized tests. They conclude that teachers and administrators strive to help students meet state test score expectations, leading to overemphasis on the test content itself. In addition, narrowed curriculum can lead to limited instructional strategies where teachers choose time-efficient delivery models of instruction (e.g. lecture) over instructional models that promote critical thinking, problem solving, and inquiry (i.e. experiential education models) (Ives and Obenchain, 2006). Additionally, a Chesapeake Bay Foundation (2007) study found that teachers have to forego valuable, hands-on field investigations rather than take time away from test-related instruction” (Chesapeake Bay Foundation, 2007). The Chesapeake Bay Foundation is one of the 100 organizations representing 15 million people that supported a bill (H.R. 3036) called No Child Left Inside (NCLI). Additionally, seven U.S Senators and 34 Representatives were co-sponsors of the bill (ibid). The bill placed an emphasis on environmental education as an amendment to NCLB legislation that was up for renewal in 2008. A few stated objectives of the bill included: Provision of funds for development of environmental education infrastructure financing, teacher training, and environmental literacy programs (H.R. 3036, 2007). With growing interest in environmental education, the requests for facilities in which to conduct this type of education may increase. For this reason, outdoor classrooms will be examined as a means to educate youth about not only the environment, but to reconnect children with the natural environment, achieving psychosocial and educational goals.
While the introduction of No Child Left Behind has changed material and methods American teachers use, the new NCLI legislation introduced seeks to fund the implementation of environmental literacy objectives. One tool teachers can use in achieving this objective is the use of outdoor teaching classrooms. Even though NCLI focuses on environmental education, teaching and learning within an outdoor classroom can cover a variety of subject areas and topics using genuine engagement and reflection. Experiential education has been shown to achieve some of the same goals set by No Child Left Behind with regards to standards achievement. In fact, ten place-based education studies from across the U.S. showed overwhelmingy positive results (Duffin, 2005, p. 6). Duffin’s (2005) study produced results showing increased engagement and enthusiasm coupled with achievement gains in most schools of the study (p. 6). Ives and Obenchain (2006) claim that essential elements of experiential education include an opportunity for student-direction, real-world curriculum connections, and critical reflection. These three elements can be used as a framework for the evaluation of successful outdoor classroom use.

Benefits Provided by Experiential Education in Outdoor Classrooms

The Field Studies Council (FSC) and National Foundation for Educational Research (NFER) undertook a review of outdoor learning in the UK from August 2003 to January 2004 due to growing concern that outdoor learning by students in England had substantially decreased in recent years (Rickenson et al., 2004, p. 1). In the U.S. growing concern about environmental degradation has prompted some organizations and schools to pay more attention to similar opportunities (U.S. Department of Education,
Rickenson et al. found that adequately planned field work adds value to everyday class work for students (2004). That same study goes on to state that fieldwork has positive impact on long-term memory, social skill improvements, and higher order thinking skills development (Rickenson et al., 2004). The study also identified three key components that influenced outcomes. These included program characteristics such as structure, duration, and frequency of use as well as place factors related to the nature and novelty of the outdoor learning site. The review (Rickenson et al.) suggests providing longer, more sustained outdoor experiences, incorporating appropriate preparatory and follow-up work, and developing links between program aims and program practices (2004). A Michigan study (University of Michigan, 1998) identified four credentials of successful schoolyard projects such as outdoor classrooms (p. 2). They included an opportunity for hands-on experience, a sense of ownership in the project, and opportunity to learn using many senses, and an opportunity for and a wider range of subjects to be addressed by outdoor activities. Australian and New Zealand EE programs have begun to evaluate the process of outdoor education and its impact on participants instead of trying to describe individual programs (Neill, 1997, p. 2). Neill (1997) argues that successful outdoor education programs should make program evaluation a priority (p. 2).

Some of the weaknesses of environmental education programs listed by Neill (1997) in the U.K included giving little attention to young people’s accounts and perspectives on the program, that much research on outdoor learning is focused on specific programs rather than their overall use and implementation, and that many studies
lack a suitable control or comparison group (Neill, 1990, p.3). While Steve Van Matre (1990) did not focus as heavily on the evaluation process of individual programs, he shares the sentiments of Rickenson et al. (2004) and Neill (1997) that a strong EE program must be sustained throughout instructional time. Steve Van Matre’s book *Earth Education* critically addresses the modes of dissemination currently used with environmental education (Van Matre, 1990, p. 5). He characterizes unsuccessful environmental education programs as those that have an *ad hoc* approach with little continuity between subject areas and by those that occur infrequently or sporadically instead of systematically throughout instructional time (Van Matre, 1990, p.9).

Lieberman and Hoody (1998) showed in their study of 40 U.S. schools that environmentally integrated curriculum (EIC) increased achievement on standardized tests, reduced discipline problems, and greater engagement and enthusiasm from students (as cited in Duffin, 2005, p. 6). Comparatively, Bartosh (2004) found higher, statistically significant, standardized test scores for math, reading, and writing in schools with environmental education programs (as cited by Duffin, 2005, p. 10). Some of Van Matre’s evaluating questions asked include: Are the leaders encouraged to build complete programs or sprinkle around whatever catches their fancy? Do the learning experiences address underlying concepts or are they superficial, requiring little background knowledge? Are there specific models and schedules for the leaders to consider in how they use their materials? Do the learners understand where they are going and why? Are the activities classroom-based exercises that require little or no contact with natural places and processes (Van Matre, 1990, p. 8)? As seen by these studies, programmatic elements of experiential education cannot be overemphasized.
Even though programmatic aspects of outdoor classrooms and experiential learning settings are important, the physical environment may also influence the quality of outdoor learning experiences for students. In Scotland’s evaluation of school grounds, a highly desired feature for schools was a shelter and sheltered seating areas (McKendrick, 2005, p. 6). The study also found that the “perceived value of the grounds influenced the property’s use”. For example, the more diverse the features of the grounds, the more useful it was to curriculum learning (McKendrick, 2005, p. 10).

Furthermore, schools with increased ecological features on the grounds were more likely to make environmentally focused experiential education a priority. (McKendrick, 2005, p. 10). Variability exists between upper and lower level school ground values. For example, while K-5 schools prized play space, secondary schools valued sports space most (McKendrick, 2005, p.10). School grounds improvement plans at the K-5 level are more nature focused (growing food, gardening, wildlife area development). Twenty-five percent of K-5 schools stated that nature focused areas were a priority compared with only 1% of secondary schools. Again, secondary schools valued sports oriented spaces (McKendrick, 2005, p. 15).

Goals and Objectives

The goal of this study was to determine the elements that characterize successfully used outdoor classrooms in Indiana. The data collected in this study will provide teachers, administrators and funders with an idea of how to develop a successful outdoor classroom. The research will provide those seeking to develop their own outdoor classrooms with a set of prioritized characteristics and/or issues that need to be addressed.
Additionally, the reasoning behind teachers’ desire to use outdoor spaces was examined. While many studies discuss the benefits of using outdoor classrooms or provide ideas for their development, data supporting the use of specific elements are not known. This study sought to clarify the elements of successfully used outdoor classrooms with regards to their development, programmatic characteristics, and organizational characteristics.

**Significance of Problem or Impact of Goal Addressed**

In an increasingly standards based educational system in the U.S., opportunities for experiential education and outdoor classroom facility use are decreased. The results of this study may support the use and development of outdoor classroom facilities in the state of Indiana and make decision making easier for those seeking to develop an OC.

**Means of Dissemination**

This research will be submitted to the Ball State Graduate School for fulfillment of the Master of Arts degree requirements in Natural Resource and Environmental Management. Additionally, the results of the study will be shared with teachers who participated in the study. Recommendations for teachers seeking to develop outdoor classrooms will be clearly listed and distributed in a brochure/pamphlet form to schools in the study with developing outdoor classroom sites and to those who did not participate due to the fact that they did not yet have an outdoor classroom. Staff development workshops at Bloomington High School South may also present an opportunity to share the research with coworkers and teachers within the Monroe County Community School Corporation.
Research Methods

Research began Spring semester 2008 and concluded in December 2009. Comparative case studies were conducted through observational site visits made throughout this time. Outdoor classrooms were defined as on-site outdoor educational environments used in conjunction with the normal school day. Outside facilities used for outdoor or nature education (i.e. zoos, state parks etc.) were not included in the evaluated outdoor classroom set. Sites with outdoor classrooms were selected from a list of award-winning outdoor classrooms in Indiana available through the Indiana Natural Resources Education Center. A Scottish study suggested using a case-study approach to further investigate the use of school grounds in play, sport, and curriculum (McKendrick, 2005, p. 18). For this reason, case studies were used to evaluate the use of outdoor classroom in Indiana to some extent.

Outdoor classroom sites were evaluated using triangulation (Bogdan, R., & Biklen, S., 2003). First, a representative from each site or school was interviewed over the phone using exhaustive questioning. For example, the subject was asked, “What characteristics exemplify a successful outdoor classroom?” Upon the response, the questioning continued by asking, What else?” repeatedly until the subject had exhausted his/her answers. The salience of various interview answers was calculated, leading to the conclusion that the most mentioned characteristics are of greater importance to the success of the property than others (Chandler, 2006, p. 32). A second line of questioning was then used. These questions were more specific. The interviewee was asked specifically about the site characteristics including its development, maintenance, current
use, and future plans. Interview questions included the following: Who initiated the development of this resource? What funding sources were secured in that process? How long has the facility been available for use? Is there a primary contact that is responsible for its upkeep? Is the school currently working with the community or other outside organizations? Third, a site audit was conducted at accessible outdoor classrooms. A list of physical characteristics of existing outdoor classroom facilities such as vegetative characteristics, etc. was collected at each site. Actual characteristics were compared to those determined to be most salient from the interviews at each school site. Site characteristics included, but were not limited to size, diversity of habitats, shelter availability, safety considerations, accessibility etc. The research attempted to obtain use records (frequency, grade level, subject areas taught) as well as operational information using the methods listed above. This information was examined for references to any of the salient characteristics given in the initial stages of research.

The researcher was seeking to recognize patterns within the research. Correlations were used to determine if frequently used outdoor classrooms have a set of shared characteristics. Kruskal Wallis Tests were run to determine if different groups within the study ranked items differently. The most frequently used outdoor classrooms’ characteristics were highlighted in this study in the recommendations I provide. This study expected to find a set of identifiable characteristics that most frequently used classrooms shared. Based on the literature, frequency of use, cross-curricular implementation, student-directed programs, and sufficient administrative support were expected to be included in this set of characteristics. A previously mentioned Scottish
study showed that if teachers perceive their school grounds to be too small, they are not likely to use them for curricular purposes (McKendrick, 2005, p. 18). For this reason, I expected to find that the size of the facility itself was influential.

Results

Sixty-seven schools with outdoor classrooms were solicited to participate in this study. Solicitations were by written letter, phone, and email. Of those 67 solicitations, 20 schools agreed to the terms of the project (30% response rate). Of the 20 schools that agreed to participate, only 14 schools responded with survey results (70% response rate). The average individual response rate per school was 35% with a total of 245 individual surveys returned. The highest individual school response rate was Concord South (73%) and the lowest was Westfield Intermediate (21%). Site visits were conducted on all of the schools that responded with survey results.

The majority of survey responses came from schools that fell into the “K-5” grade level category (78%). Likewise, most of the responders reported their subject area as “other” or “multi-level.” Since not all questions were answered on every survey, percentages are calculated based on the number of responses received for each question. The “number of years taught” was concentrated on the low end of the scale with 59% of the respondents teaching less than 15 years. The class period length reported by respondents most frequently fell in the “31-40 minutes” (29%) and “41-50 minutes” (41%) categories. Majority of respondents reported that they use their outdoor classrooms “several times/year” (43%) or “never” (35%). Sixty-five percent of respondents came from “suburban” schools, 18% from “urban” and 15% from “rural”
schools. It should be noted that individual surveys from some schools had discrepancies in classification as “urban” and “suburban”. The data reported here are based on the community type classification that each individual respondent chose. Community type appeared to influence the frequency of use of outdoor classrooms. Rural schools used their outdoor classrooms less frequently (median response = “never”) than urban and suburban schools (median responses both = “several times per year”). The one private school in the study also had a median use of “several times per year.”

Twice as many people completed the “influences” part of the survey (N=212) than did the “deterrents” part of the survey (N=106). Among all responses the most important factor in determining the frequency of use of outdoor classrooms was whether the space was perceived by teachers to encourage kids to be engaged/involved (mean rank=4.96), followed by opportunities to teach standards (mean rank=4.33), flexible space with multiple components (mean rank=4.27), personal ideology with regards to using outdoor classroom (mean rank=4.09), staff training (mean rank=3.98), administrative support (mean rank=3.38), and committee in place to carry out implementation (mean rank=3.00). Seventy-nine percent of all respondents reported that they would like to use their outdoor classroom more. This same order of importance was reflected in the respondents who stated they wanted to use their outdoor classroom more.

Among all responders, the highest ranked deterrent to using an outdoor classroom was “time” (mean rank=6.09) followed by “weather” (mean rank=5.25), “pressure to achieve standards” (mean rank=4.98), “maintenance issues” (mean rank=4.50), “teacher skill level” (mean rank=4.29), “cost/financial concerns” (mean rank=3.98),
“administrative support” (mean rank=3.53) and lastly “personal ideology with regards to using the outdoor classroom” (mean rank=3.43). From the respondents who stated they would not want to use the outdoor classroom more, maintenance ranked much lower and personal ideology ranked higher.

Kruskal Wallis Tests were run to determine if different groups within the study ranked items differently. For all the following tests p=<.10. Grades “9-12” (mean rank=72.95) ranked “personal ideology” (p=.084) much lower than “K-5” level teachers (mean rank=112.91). Among the range of “years teaching,” the longer teachers reported having taught, the lower they ranked “opportunities to teach standards” as an important influence on their decision to use the outdoor classroom (p=.085). It should be noted that there were only 5 teachers that responded to this question who had taught more than 35 years.

For the ranked influence and deterrents, there were significant differences found between community types. “Rural” and “suburban” schools ranked “pressure to achieve standards” nearly the same (rural mean rank=116.40, suburban mean rank=106.33) while “urban” schools ranked it much lower (mean rank=67.74). The mean rank of “flexible space with multiple components” increased as the use increased. For example, the respondents that use the outdoor classroom “several times per year” (mean rank=91.71) ranked the flexibility of the space far lower than those that use it “daily” (mean rank=154.33). Additionally, those that use the outdoor classrooms most (daily) ranked the influence “personal ideology” significantly lower than those that did not use the outdoor classrooms as frequently. Those who used the outdoor classroom weekly ranked
“personal ideology” as a greater influence on their decision to use the outdoor classroom than those who use the outdoor classroom monthly. Overall, the more the respondent uses the outdoor classroom, the higher they rank “personal ideology” as an influence on that decision. Likewise, those that did not want to use the outdoor classroom more ranked the deterrent “personal ideology” higher than those who wanted to use the outdoor classroom more. Those who did not want to use the outdoor classroom more also indicated that “pressure to achieve standards” was a deterrent that influenced that choice more than those who do want to use the outdoor classroom more. The respondents that wanted to use the outdoor classroom more (mean rank=107.58) ranked the influence “administrative support” significantly higher than those who did not want to use the outdoor classroom more (mean rank =83.83).

Lastly, only one private school was included in this study. The primary philosophy of that school incorporated the use of the outdoors to teach a wide variety of topics. This particular school ranked influence “opportunity to teach standards” significantly lower than all other schools combined. Likewise, the private school ranked the deterrent “pressure to achieve standards” lower than all the other schools combined.

Discussion

Having visited each of the 14 schools in this study, met with administrators of schools and users of outdoor classrooms, and surveyed each school’s general staff population, several recommendations can be made for schools seeking to develop an outdoor classroom in Indiana. The three highest ranked influences included “space encourages kids to be engaged/involved,” provides “opportunities to teach standards,”
and is a “flexible space with multiple components.” These top three influences combined offer a unique view of outdoor classroom potential, but do not specifically note physical or programmatic aspects of outdoor classrooms that could encourage teachers to use them.

Initially, this study sought to determine what elements of an outdoor classroom most influenced its frequency of use, expecting to find that specific programmatic elements or physical aspects of an outdoor classroom would be revealed. Not surprisingly, the most valued aspects revealed by the ranked responses can be summarized as an interesting and flexible space with opportunities to teach standards. Two schools’ outdoor classrooms seemingly fit this description. Both had a wide variety of possibilities including but not limited to trails, wooded land, a creek, gardens, free play space, historic structures, and opportunities to address a wide range of ages. Both of these schools also had one full-time staff member whose sole purpose was to develop engaging curriculum tied to school standards. Despite these sites having all the most influential components, they ranked #6 and #8 among all the 14 schools for frequency of use in the study. One interviewee and long-time veteran in the field of natural resource management and outdoor classroom development stated that use, “depends on staff knowledge of concepts that can be taught in the space.” That same sentiment was echoed by a veteran teacher who was responsible for the development of her outdoor classroom when she stated, “(use) depends on teacher comfort level and knowledge of content especially at the elementary level.” While the data suggests that flexibility and training would be all a teacher needs to be encouraged to use the outdoor classroom, the personal
sentiments above and further survey results challenge that perspective. The recommendation here is to not only ensure that the physical space lends itself to use, but that a program accompany the development of the space so that it is easily accessible to teachers interested in using it.

The fourth-ranked influence to use the outdoor classroom was “personal ideology.” Based on interviews with administrators and site users, personal ideology seemed to be an important influence and recurring theme. All interviewees were strongly supportive of the outdoor classrooms at their schools. They shared personal experiences that influenced them early in their careers as well as philosophical perspectives rooted in reverence for nature. For example, interviewees made strong statements with regards to nature and their personal connection with it. They stated that kids and nature are a “perfect match,” that they believe “kids crave nature.” Additionally, they looked at recent trends to “go green” as further encouragement to use the outdoor space at school. Descriptions of childhood experiences in nature were part of many of the interviews. Moreover, many site administrators mentioned their commitment to share these experiences with young people through the outdoor classrooms.

When asked to list future “hopes” for their outdoor classrooms, these interviewees mentioned aspects of diversification and programmatic guides as things they hoped to introduce. Among the list of “hopes for the future,” they mentioned addition of shelters, amphitheatres, and fitness trails. This indicates that the creation of the space as something a wide range of teachers can use is important to those that run the outdoor classrooms. Additionally, they hoped to develop “canned programs,” lessons that are
ready for teachers to use, and more “buy-in” from teachers. Again, these “champions” of outdoor classrooms are showing their commitment to creating a space that can be used by a wide variety of users and are revealing that they believe that ease of use will increase the frequency of use. Interestingly, the more respondents used the outdoor classrooms, the higher they ranked “personal ideology” as an influence on that decision. Likewise, those that did not want to use the outdoor classroom more, ranked the deterrent “personal ideology” higher than those who did want to use the outdoor classroom more.

“Personal ideology” is a diverse description of a person’s decision making criteria. It can be influenced by many of the other factors present in this survey. In addition, individuals may not recognize their personal ideology as an influence in their decisions. Clearly, survey data indicates that the users of outdoor classrooms certainly felt strongly about their decision. Furthermore, the more they used the outdoor classrooms, the stronger they felt about it. As a recommendation to those developing outdoor classrooms, survey data and interview suggest that providing a diverse space is certainly important. Following the development of the physical space, programs could be developed to support its continued use. Since users of outdoor classrooms in this study felt strongly about their decision to use them, it is also suggested that those who are successfully using the spaces share those experiences with others.

Ranking in the bottom half of the survey results were “staff training,” “administrative support,” and “committee in place to carry out implementation.” While experts in the field and users of outdoor classrooms participating in this study found teacher comfort level to be of great importance, it appears that teachers surveyed thought
the space itself was more influential than the organizational components, which were largely ranked lower than the descriptions of the space and its potential (#1-3). When asked to offer advice for those seeking to develop outdoor classrooms, interviewees mentioned two things consistently. One was that there must be a committee to sustain efforts of the initiative. They also mentioned that teamwork among staff members, administrators, and community members would be important. With this advice coming from veterans who have blazed the path to outdoor classroom development, it is interesting that staff at schools with outdoor classrooms ranked committee work so low on the priority list. In making recommendations to future outdoor classroom developers, I would strongly suggest incorporating some type of team to collectively drum up support and to continually develop and use the space, despite the fact that survey results seemingly did not support this as an initiative. A committee could provide the diversity of vision to provide the top three mentioned influences; “space perceived by teachers to encourage kids to be engaged/involved” (mean rank=4.96), “provides opportunities to teach standards” (mean rank=4.33), and flexible space with multiple components” (mean rank=4.27). Without a committee to address the needs of others within the organization, the vision for the outdoor classroom could be short-sighted and too specific to the needs of only a few individuals.

While the influences for teachers deciding to use outdoor classrooms are important, this study was also interested in why teachers chose not to use the outdoor classrooms at their schools. Recommendations for those seeking to develop outdoor classrooms will also be made based on this information. The highest ranked deterrent to
using outdoor classrooms was “time” (mean rank=6.09). Time, however, can refer to many aspects of teaching. For example, “time” may refer to planning time, class time, or preparation time. A teacher’s day provides planning time; however, sometimes that is not enough to both plan and prepare for a lesson.

“Time” as a deterrent, coupled with the top three influences to using the outdoor classrooms is indicative of the pressures facing teachers in today’s educational arena. Recall that the top influences included “opportunities to be engaged/involved, opportunities to teach standards, and flexible space with multiple components.” To put this all together, teachers are expected to create engaging lessons that teach state and national standards on a daily basis. There is no doubt that many teachers feel more comfortable and confident teaching with methods that are tried and true. Perhaps the “time” necessary to create a new lesson using the outdoors is a deterrent due in part to the high expectations to which teachers are held to provide quality instruction each day of the year.

Despite “time” being ranked #1 among deterrents, interviewees repeatedly mentioned how outdoor classrooms can enhance instruction while teaching state standards. One administrator described how his 5th graders’ Indiana Statewide Testing for Educational Progress (ISTEP) scores increased significantly one year due to the ecology unit taught in a three day retreat at Bradford Woods, an outdoor education center in southern Indiana. The curriculum taught at Bradford Woods that year coincided with the questions asked on ISTEP. While this is only one specific example, it definitely illustrates the value of using outdoor spaces to teach. Perhaps the perception that there is
not enough “time” to plan and prepare these lessons should be revisited so that teachers can recognize that sometimes these lessons address a wide array of concepts across the curriculum.

“Time” could also refer to the class time needed to execute a lesson using the outdoor classroom. Again, increased pressure to teach standards can result in teachers streamlining lessons to address standards. The class periods most frequently reported in this study ranged from 31-50 minutes. Given that most outdoor classrooms required at least a short walk, execution of lessons in the outdoor classrooms could become constrained by time. Surprisingly, “travel time or distance to the outdoor classroom” did not rank in the top 8 responses when interviewees were asked what deterred them from using the outdoor classroom. However, this travel time may have been incorporated into the deterrent “time.”

Despite “time” being ranked as the number 1 deterrent, those who use the outdoor classrooms in this study seemed to agree that the time spent in the outdoor classrooms is valuable and worth additional preparation and planning time. Here are a couple quotes from users of outdoor classrooms in this study: “personal experience in the woods elicits questions about biodiversity and is an unending source of knowledge and information.” “Kids love being out here and being out of the classroom doing things they don’t get to see at home because they live in apartments.” As a recommendation to those seeking to develop an outdoor classroom, I would suggest making the planning and preparation time easier on teachers by providing them paid, professional development time several times a year that could be used exclusively to develop lessons in the outdoor classroom. These
Lessons could then be documented and shared over time to eventually develop a set of accessible lessons that would be easy to prepare and implement.

Following “time,” the next highest ranked deterrent was “weather.” All outdoor classrooms in this study were in Indiana. Since most schools are on the 9-month schedule, attending school from mid-August through mid-June, it is understandable that teachers might find winter weather unpleasant for using outdoor classrooms. Unfortunately, there is not a lot that can be done about local climate. One school in the study kept winter gear at school for students to use and was able to take kids outdoors for physical education in the snow. However, not all schools can provide this type of support to students so that the outdoors may be used more. The recommendation here would simply be to take advantage of the early and late parts of the school year, when pleasant outdoor temperatures lend themselves to using the outdoor classrooms. Additionally, lessons could be designed to incorporate seasonal changes.

Ranking third among deterrents was “pressure to teach standards.” This is paralleled by the third influence being that outdoor classrooms need to “provide opportunities to teach standards.” This is an unavoidable stumbling block for some teachers. Interestingly, it was not the same for teachers across the experience spectrum. In fact, the longer teachers reported having taught, the lower they ranked “opportunities to teach standards” as an important influence on their decision to use the outdoor classroom. This could reflect a paradigm shift in the teaching profession. Teachers in the profession who have taught 35+ years have not been inundated with No Child Left Behind and the increasingly standards based focus in education. These teachers taught
creatively and without the influence of high stakes testing for most of their career. One professional who has worked on the development of outdoor classrooms for the past 30 years stated that national culture plays a major role in the use of these spaces. He stated that he saw interest in outdoor classrooms drop significantly during the 1990’s. In addition, a veteran elementary school administrator stated that he has seen a sharp drop in use as teachers focus more on standards. Perhaps teachers who have been more recently trained are instructed that standards are the number one priority in education.

Additionally, most respondents in this study were from elementary level schools. Elementary schools are under great pressure to produce math and English results on statewide tests. Given the focus on statewide achievement tests, it is understandable that teachers feel that pressure is a deterrent to using outdoor spaces in their instruction. To combat this concern, it is recommended that teachers try to tailor lessons to address standards by using the outdoor classrooms. Again, use the teachers who are already using the outdoor classroom to teach those who are interested. This collaboration will not only provide free training to teachers, but will enhance lessons by providing unique experiences for students in a different environment.

Ranking last among deterrents was “personal ideology.” Among different groups, personal ideology was ranked differently. Grades “9-12” ranked “personal ideology” much lower than grades “K-5.” This could be due in part to the fact that elementary school teachers have significantly more freedom in how content is taught as long as math and English topics are presented. Teachers of grades “9-12” however, usually teach one specific subject. For example, it is easy to see how a high school business teacher could
see his/her decision to use the outdoor classroom less influenced by personal ideology than it is by the nature of the subject taught, while the more broad spanning curriculum of elementary schools leaves more room to be influenced by personal ideology.

**Summary of Recommendations**

- Ensure that the physical space lends itself to diverse and engaging uses, but that a program accompanies the development of the space so that it is easily accessible to teachers interested in using it.

- Those who are successfully using the spaces should share those experiences with others.

- Shared lessons should include “canned” lessons or units that are easy to implement.

- Incorporate a team to collectively support and continually develop and use the outdoor classroom.

- Make the planning and preparation time easier on teachers by providing them paid, professional development time several times a year that could be used exclusively to develop lessons in the outdoor classroom. Document the results of these sessions to be shared with other staff members.

- Take advantage of the early and late seasons within the school year, when pleasant outdoor conditions lend themselves to using the outdoor classrooms. Additionally, design lessons that incorporate seasonal changes when possible.
- Tailor existing standards-based lessons to incorporate outdoor classrooms instead of rewriting the entire curriculum to be designed around the outdoor space.

- Be creative and realize that incorporation of the outdoors does not have to be elaborate and overly involved. Simple lessons such as observation and reflection can involve students in an outdoor experience.

**Suggestions for Further Study**

If this study could be expanded, the following changes would be addressed:

Increase the number of schools to include the same number of middle and secondary schools as elementary schools. Additionally, a greater equity in community types would be helpful in gaining a wide perspective on outdoor classroom use in Indiana. Most of the schools in this study were suburban schools. To gain a more complete understanding of how outdoor classrooms are used, it would have been interesting to have studied the schools with the highest and lowest frequencies of use in greater detail. Specifically, what types of lessons are being taught using the outdoor classroom and details about its administration that may influence its success? A detailed case study of several schools might have offered valuable insight into how outdoor classrooms are being used.
Bibliography


