

Literatursammlung Fachbereiche Gestalten, Künste, Natur

Mathematics and outdoor photography experience – exploration of an approach to mathematical education, based on the theory of Dewey’s aesthetics

Meier, A., Hannula, M. S., & Toivanen, M. (2018). Mathematics and outdoor photography experience – exploration of an approach to mathematical education, based on the theory of Dewey’s aesthetics. LUMAT: International Journal on Math, Science and Technology Education, 6(2), 146–166.

Abstract

Based on Dewey’s theory of art, aesthetics, and experiences and photographer Barnbaums’ writing about expanded perception through photography, we conducted a one-day experimental mathematics education unit. Using photography in outdoor conditions had a positive impact on teacher students’ perception of the use of photography for teaching mathematics. To study the changes in students’ visual attention deeper, we used gaze-tracking to analyse one student’s visual attention when walking outdoors after the activity. The gaze data indicated that more visual attention was given to objects he had photographed or discussed during the group activity in comparison to other objects.

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«Colors and Kindness»: Nature Photography as a Means to Support Academic Skill Development of Elementary Students at Risk

Chambers, W. L. (2018). «Colors and Kindness»: Nature Photography as a Means to Support Academic Skill Development of Elementary Students at Risk. National Youth-At-Risk Journal, 3(1).

Abstract

This article describes a service project involving a 3-year partnership between a university professor (the author) and P–12 faculty at a local rural Title I elementary school. Major aims of the project were to provide an opportunity for students to explore and learn about their natural surroundings through the use of nature photography activities and to connect these experiences to classroom activities with the goal of supporting academic skill development. The author visited the school twice per week to take children around the school grounds to photograph nature for about 20 minutes per session. Outcomes included the following: (a) students demonstrated increased interest in and curiosity about the subjects of their photographs over time; and (b) the nature photography project provided a beneficial context for supporting students’ learning in art and technology and for practicing their writing skills. Sample student photographs and writing excerpts are presented here.

[Zum Artikel](#)

Using an Outdoor Learning Space to Teach Sustainability and Material Processes in HE Product Design

Firth, R., Stoltenberg, E. and Jennings, T. (2016). Using an Outdoor Learning Space to Teach Sustainability and Material Processes in HE Product Design. *Int J Art Des Educ*, 35: 327-336.

Abstract

This 'case study' of two jewellery workshops, used outdoor learning spaces to explore both its impact on learning outcomes and to introduce some key principles of sustainable working methodologies and practices. Using the beach as the classroom, academics and students from a Norwegian and Scottish (HE) product design exchange programme collaborated on this international research project. Participants made models from disposable packaging materials, which were cast in pewter, directly into the sand, using found timber to create a heat source for melting the metal. Practical 'learning by making skills' created a hands on learning experience that also aimed to contribute to the debate around the concern of the loss of workshop facilities in HE education, and as a consequence a demise in teaching traditional object-making skills and material experimentation.

[Zum Artikel](#)

Bringing Methods to the Madness

McLarnon, M. (2015). Bringing Methods to the Madness.

Abstract

The article presents the author's insights on arts-based educational research (ABER) methods in outdoor environmental education (OEE). According to teacher Elliot Eisner, there are three curricula in school which includes explicit curriculum, implicit curriculum, and null curriculum. Also included are potential benefits of ABER methods, artistic research, and OEE practice and theories.

[Zum Artikel](#)

The Effect of a School-Based Outdoor Education Program on Visual Arts Teachers' Success and Self-Efficacy Beliefs

Hursen, C., Islek, D. (2017). The Effect of a School-Based Outdoor Education Program on Visual Arts Teachers' Success and Self-Efficacy Beliefs. *South African Journal of Education*.

Abstract

The aim of this research is to determine the effect of an education programme developed based on the school-based outdoor education approach on the academic achievement of visual arts teachers, as well as their self-efficacy beliefs for using museums and the natural environment. The aim is likewise to explore the views of the teachers on the implementation of the education programme. The study, which utilised a mixed method of qualitative and quantitative data collection, lasted for seven weeks. The results demonstrate that the developed programme is effective. At the end of the study, a significant difference was revealed in terms of the participant teachers' knowledge and skills regarding the approach as well as their self-efficacy belief levels in

relation to the use of museums and the outdoors as teaching environments. Face-to-face interviews conducted with the teachers who participated in the experimental practice revealed that they were satisfied with the experience.

[Zum Artikel](#)

Wilderness Travel as an Art and as a Paradigm for Outdoor Education

Drengson, A. R. (1980). Wilderness Travel as an Art and as a Paradigm for Outdoor Education, *Quest*, 32:1, 110-120.

Abstract

One problem of contemporary education is that it tends to be overly specialized. Ideally, education, as opposed to mere training, should develop broad personal competence. Some educational programs promote this whole person competence more than others. Amongst physical activities the art of wilderness travel unites a wide variety of skills and knowledge. It can be seen as a paradigm of an art which unifies the many goals of outdoor education. In this paper wilderness travel is described as an art, its features are examined, and its general lessons described. "Wilderness Travel" symbolizes not only the actual art of travel through the wilderness, but also the way in which such journeys can teach us important lessons about daily life.

[Zum Artikel](#)

Pedagogies of outdoor spaces: an early childhood educator professional learning journey, Early Child Development and Care

Wishart, L., Rouse, E. (2019). Pedagogies of outdoor spaces: an early childhood educator professional learning journey, *Early Child Development and Care*, 189:14, 2284-2298.

Abstract

This manuscript presents the findings of a study that explored how teachers' perceptions of natural play learning environments were transformed through targeted professional learning (PL). Australia's early childhood education and care (ECEC) policy outlines a responsibility for educators to ensure that outdoor learning spaces provide experiences in both built and natural environments. In response, many ECEC settings are redesigning outdoor spaces to provide for natural and open-ended affordances. Drawing from interview data collected over an 18-month period, this manuscript shares the story of three educators as they participate in targeted PL while engaging with the outdoor space. Findings show that prior to the PL, the educators focused on what they saw as limitations to the space. Engaging in the PL led to changed perceptions for the educators who felt more confident in their understandings of the value and benefits of nature-rich outdoor environments to support young children's active play.

[Zum Artikel](#)

At the Crossroads: Situating Place-Based Art Education

Inwood, H.J. (2008). At the Crossroads: Situating Place-Based Art Education. Canadian Journal of Environmental Education.

Abstract

This article explores the intersection of art education and place-based education as a means of developing ecological literacy. The author advocates the development of a model of place-based art education, one that integrates the real-world, community-centred learning of place-based education with the affective, subjective orientation of art education. Drawing inspiration from the work of environmentalists and eco-artists alike, this model is seen as a way for art and environmental educators to create powerful and memorable experiences for students by bringing self and community into dialogue with place. Examples of place-based art education are cited, and an ongoing research study involving this model is introduced. (Contains 8 notes.)

[Zum Artikel](#)

Calm active and focused: Children's responses to an organic outdoor learning environment

Nedovic, S., Morrissey, A. (2013). Calm active and focused: Children's responses to an organic outdoor learning environment. Learning Environ Res 16, 281–295.

Abstract

This study reports on children's observed responses to natural features introduced in the redevelopment of a childcare centre garden. Using an action research approach, the redevelopment was based on the preferences of the director, staff and 18 three- to four-year-olds, as expressed through interviews, conversations, photographs and drawings. Adults and children overwhelmingly preferred natural elements. The kindergarten teacher and assistant observed children's responses to the implementation of features including a teepee, mulch, greenery, flowers, and loose organic materials. In follow-up interviews, they reported positive child responses including: richer imaginative play; increased physical activity; calmer, more focused play; and positive social interactions. These findings provide further evidence of the importance of providing children with naturalized outdoor play spaces.

[Zum Artikel](#)

Developing noncognitive factors through outdoor adventure education: Experiences that complement classroom learning

Richmond, D.J. (2016). Developing noncognitive factors through outdoor adventure education: Experiences that complement classroom learning.

Abstract

College readiness requires a broad set of competences that include learning strategies, academic content knowledge, skills, and information needed to navigate the pathway to and through college, and noncognitive factors related to self-regulation. There is increased interest among researchers, educators, and policymakers in the role noncognitive factors play in college readiness. Noncognitive factors include the skills, beliefs,

attitudes, and behaviors that contribute to student achievement but cannot be measured by traditional academic assessments. Many noncognitive factors are developed during out-of-school-time (OST) activities that may include sports, clubs, the arts, or volunteering. Outdoor adventure education (OAE) is one type of OST experience that is linked to the positive development of key noncognitive factors necessary for college readiness like self-efficacy, self-confidence, social belonging, perseverance, and the ability to perform under difficult circumstances. The following research examined two distinct college preparatory environments that use OAE to complement their curriculum and programming. The first study involved an independent all-girls school in Los Angeles that sends all its students on weeklong expeditions in 7th-, 9th-, and 11th-grade. This qualitative study found outcomes in three areas: social connectedness, self-efficacy in leadership, and a recalibrated sense of self. Interviews with students and faculty showed how a shared application environment---the school---aided the retention of outcomes, allowing relationships to continue beyond the course and providing a supportive context where students could continue practice leadership competencies. The second and third studies examined the use of OAE experiences within a larger college access program that works with students from low socioeconomic backgrounds. Using a mixed methods approach, these two related studies found increases in self-efficacy for dealing with challenge and using help-seeking behavior following the OAE experience but a regression to precourse levels months later. The study revealed the importance of context and continuity and the need to study the development of noncognitive factors over a longer time frame. Findings in this dissertation contribute to conversations about the importance of OST experiences like OAE and their potential contribution to college readiness. Implications are presented for programmers, educators, and policy-makers.

[Zum Artikel](#)

The Outdoors An Environmental Condition to Nurture Creative Thinking

Jurik, Richard A. (1972). *The Outdoors An Environmental Condition to Nurture Creative Thinking*. [Washington, D.C.]: Distributed by ERIC Clearinghouse.

Abstract

The study determined whether using outdoor experiences as a teaching medium increased the level of creative thought for sixth grade children. Four factors of creativity were measured: figural fluency, figural flexibility, figural originality, and figural elaboration. Two groups of sixth grade pupils, one experimental (with 30 children) and the other control (with 25 children), were used. Both groups were tested at the beginning of the experiment, using the Torrance Tests of Creative Thinking. The experimental group experienced 13 outdoor education activities incorporated into units within the curriculum areas of social studies, science, art, and music; the control group had no outdoor education activities. After 45 school days both groups were given the Torrance Tests of Creative Thinking. The tests measured nonverbal creativity. Findings included: outdoor education activities did not improve the level of measured creative thinking factors of the experimental group; pupils in the control class significantly increased in figural originality and elaboration; outdoor education activities had an effect in nonverbal creativity of girls in the experimental class but not of boys; and boys in the control class had no significant gains in the four measured creativity factors while the girls had a significant gain in figural originality and elaboration.

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