

UMT Education Review (UER)

Volume 7 Issue 1, Spring 2024

ISSN(P): 2616-9738, ISSN(E): 2616-9746

Homepage: <https://journals.umt.edu.pk/index.php/uer>



Article QR



Title: Effectiveness of Outdoor Learning Activities: Perspectives of Primary School Teachers

Author (s): Sehar Rashid, Ayesha Kiran, and Erum Javed


Affiliation (s): Virtual University of Pakistan, Pakistan

DOI: <https://doi.org/10.32350/uer.71.04>

History: Received: November 15, 2023, Revised: April 18, 2024, Accepted: June 12, 2024, Published: June 28, 2024

Citation: Rashid, S., Kiran, A., & Javed, E. (2024). Effectiveness of outdoor learning activities: Perspectives of primary school teachers. *UMT Education Review*, 7(1), 62–77. <https://doi.org/10.32350/uer.71.04>

Copyright: © The Authors

Licensing:  This article is open access and is distributed under the terms of [Creative Commons Attribution 4.0 International License](https://creativecommons.org/licenses/by/4.0/)

Conflict of Interest: Author(s) declared no conflict of interest



A publication of

Department of Education, School of Social Sciences and Humanities
University of Management and Technology, Lahore, Pakistan

Effectiveness of Outdoor Learning Activities: Perspectives of Primary School Teachers

Sehar Rashid*, Ayesha Kiran, and Erum Javed

Department of Education, Virtual University of Pakistan, Pakistan

Abstract

Students who participate in a variety of outdoor activities improve their problem-solving skills, acquire useful knowledge, strengthen their resilience in the face of adversity, and form a closer bond with nature. Engaging students in outdoor learning activities offers a means of fostering nature interactions within the school setting. The study aimed to explore teachers' perspectives on the effectiveness of outdoor learning activities. This study was descriptive in nature and adopted survey method to collect data from the participants. The sample comprised of 270 primary school teachers in the Sialkot district. A questionnaire was developed to assess the effectiveness of outdoor learning at primary level, comprising 21 statements related to cognitive, affective and psychomotor learning of primary school students. Findings of the study revealed that primary school teachers perceive outdoor learning activities effective for the development of cognitive, affective and psychomotor abilities of primary school students. However, there are significant differences in perspectives between male and female teachers regarding the effectiveness of outdoor learning at primary school level. It is recommended that professional training should be conducted to train teachers to incorporate outdoor learning activities effectively into primary education.

Keywords: affective abilities, cognitive abilities, outdoor learning, primary schoolteachers, psychomotor abilities

Introduction

In the present era, a global “renaissance of interest” has emerged in learning outside of the classroom, as deficiencies in test-centric approaches to learning have become evident (Gilchrist et.al., [2016](#)). Sahlberg ([2016](#)) argues that narrow focus on test-driven models of learning decreases the scope of learning activities for the students resulting in a diminished emphasis on holistic child development, “when educational performance is

* Corresponding Author: sehar_rashid12@yahoo.com

determined by students test scores in reading, mathematics and science it reduces focus on whole child development due to decreasing time for arts, music, drama and sports” (p. 1348). Parallel to that there is growing number of research that underscores the advantages of outdoor learning not only academically in terms of the curriculum but also in terms of societal, individual and physical development (Becker et al., [2017](#)). UNICEF reports on the factors influencing children’s health in prosperous countries enumerate psychological health as crucial to quality life, and records that outdoor learning enhances the happiness of students (Gromada et al., [2020](#)). It is commonly acknowledged in many developed countries that nature must play an important part in education of children (Gray, [2018](#)).

Outdoor learning has been shown to have a positive effect on children's ability to collaborate and enhances their interpersonal skills (Amos & Reiss, [2012](#)). Education not only enhances cognitive, affective and psychomotor skills of children but well-designed outdoor learning can specifically reinforce cognitive and affective domains of children, with each domain affecting the other in order to provide the higher order learning (Rickinson et al., [2004](#)).

Psychomotor development is a sensory-perceptual-motor foundation and is important for education. It directly involves the management of sensations, perceptions and cognition, focusing on already planned accommodative responses. In nutshell, outdoor learning vividly enhances the oculomotor skills of students as well (Prado et al., [2016](#)).

Literature Review

For pupils to learn effectively and to be well groomed, a conducive learning environment is required both at home and at school to provide them the learning experience they need (Putnam, et al., [2009](#)). Since kids must spend the majority of their study time at school, it is essential that the curriculum, instructional methods, and relationships within the educational setting foster curiosity among students. Both students and teachers engage in learning in the classroom in order to meet academic requirements and accomplish learning objectives. Ipinge ([2013](#)) carried out a comparison study to determine the impact of the indoor environment on how well occupants perceived their performance. The study found out that the classroom's subpar interior environment has a negative impact on pupils' performance.

Engaging students passively and actively with nature through outdoor education offers definite cognitive and educational advantages that support indoor learning. Spending time outside improves attention, motivation, concentration, working memory, and voluntary focus (Anderman, [2009](#)).

The "School in Nature" program is a well-known example of outdoor education, where children participate in a range of educational activities while spending time in natural environments. This type of outdoor education aims to familiarize students with the objects, events, workings, and accomplishments that may be found in nature. Since "School in Nature" skillfully links the educational process with natural laws and occurrences, it has substantial educational and developmental value. The "School in Nature" approach allows for the seamless integration of education with contemporary social contexts, promoting holistic growth and developing students' personalities. It offers chances for a more thorough comprehension and useful application of the learned material.

Any teaching strategy, including outdoor education, must take into account the opinions of both educators and learners in order to be successful. From the perspective of the instructor, this entails organizing and preparing field trips, modifying instructional strategies and resources, and supervising the student body. Instructors are essential to the success of outdoor education because they are in charge of ensuring student well-being, fostering learning experiences, and making the most of the outdoor environment.

In addition to being subject matter specialists, teachers on field excursions must be able to adapt to the requirements of students and changing circumstances. On the other hand, to fully appreciate how outdoor education affects students' growth, motivation, and engagement, it is imperative to comprehend their point of view. Students have hands-on experiences through the "School in Nature," which enhances their creativity, curiosity, and self-assurance. Through collaborating with peers and teachers, students can apply their knowledge. Additionally, by cultivating an awareness of nature and the environment, which emphasizes the importance of preserving natural resources, students can develop their interpersonal and teamwork skills.

Teachers need a dynamic and multifaceted set of competencies for outdoor activities that are intimately related to their educational,

psychological, organizational, moralistic, and subject-specific skills. Students' creativity, critical thinking, effective communication, invention, explore, problem-solving, and eco-friendly awareness are all encouraged by these activities.

When teaching outside, educators should provide each student with individualized support, empower them to take responsibility for their education, accomodating different learning preferences, offering constructive feedback, and ensuring a secure learning environment. The amount of work instructors invest into creating and executing lesson plans often determines the success of outdoor education for their pupils. By adopting practical learning in casual settings to pique students' attention, inspiration, and curiosity for inquiry and information attainment, outdoor education can be connected to classroom ideas. This strategy can improve education within structured settings.

Students are more likely to comprehend material, participate actively in the learning process, and take ownership of their education when outdoor education techniques are integrated into classroom curriculum. Examples of these methods include lessons in the schoolyard, field trips, "School in Nature" programs, and visits to natural, cultural, sporting, and economic sites. Developing and implementing pedagogical, instructional, and learning strategies that are periodically carried out in natural settings by teachers and students is the cornerstone of fusing classroom and outdoor education into a seamless, superior educational process (Jurčić, [2015](#)).

Kuo et al. ([2018](#)), conducted research that emphasizes the concept of "refueling students in flight," which involves the process of assisting and motivating students during their learning and development. Their findings emphasize the value of ongoing assistance from natural resources in assisting students in reaching their academic and personal objectives. The study investigated the claim that outdoor education increases later classroom involvement in a positive way rather than a negative way. When compared to conventional courses, it was shown that classroom participation increased dramatically following outdoor lessons. These findings imply that, despite the fact that the material covered outside is not immediately accessible to them, outdoor courses can in fact encourage students to engage more in traditional classroom activities. This approach, called "Refueling Students in Flight," promotes the incorporation of

additional outdoor teachings in curricula related to formal education, including those on sustainable development (Kuo et al., [2018](#)).

Through the integration of multiple subjects and disciplines, outdoor education provides students with a valuable opportunities to connect diverse areas of learning and comprehend practical implications. Teachers are encouraged to blend outdoor and indoor activities to enrich learning, which helps to create a comprehensive educational atmosphere. According to Kocayiğit and Ekinci ([2020](#)), the integration of indoor and outdoor activities promotes a constant and sustainable process of learning and growth. Anđić and Mažar ([2023](#)), assert that meeting learning objectives in academic subjects and interdisciplinary areas like curriculum for sustainable development depends heavily on the role of teachers, including their methods of instruction, capacity for emotion control, disposition, and abilities (Anđić & Mažar, [2023](#)).

Playing outside is not only advantageous but also necessary for the healthy development of the brain. According to research, playtime activates the frontal brain, which manages emotions and facilitates problem-solving skills. Studies have demonstrated that children's progress in all aspects of their self-development is positively and effectively impacted by outdoor learning activities. Development in these categories includes the cognitive, affective, personal, social, and emotional, as well as the physical and behavioral (Andersson & Strander, [2004](#)).

Time spent in nature can help children fight chronic illnesses because of the positive effects it has on their physical and emotional health. In North America, approximately 30% of school-aged children have chronic diseases like diabetes and obesity. Children's health issues include asthma and attention deficit hyperactivity disorder have been more prevalent over the past few decades, as have issues related to unfavorable behavioral, social, economic, and environmental health determinants. The same factors, whose seeds are sown in infancy, underlie the cardiovascular, pulmonary, cancerous, and mental health disorders that are common in adulthood (Azzarito & Solomon, [2005](#)). Psychomotor exercises are thought to be beneficial for kids and outdoors provides a rich environment for such activities. Children's physical and emotional health has been improved when they are in contact with nature (Liu et al., [2023](#)).

Outdoor education programs are very appropriate for the current educational system because their primary goals are focused on the psychomotor, cognitive, and affective domains (Hattie et al., 1997). The mastery of particular abilities, including those required for mountain climbing, kayaking, and abseiling, are known as the psychomotor domain. The affective domain, on the other hand, focuses on fostering attitudes, values, and an appreciation of concerns, including attitudes toward the environment, whereas the cognitive domain concentrates on information, facts, and problem-solving abilities. The significance and advantages of outdoor education programs include enhancing and honing pupils' intellectual capacity as well as extending people's potential and knowledge. While outdoor education aims to enhance pupils' talents and potential, classroom instruction concentrates on theory and conceptual understanding. In order for all students to profit from participation. All students, regardless of current limits, should be given the chance to engage based on their desire and ability. The purpose of this study was to determine whether or not participants in outdoor learning activities were effective for primary school students.

Research Objectives

The objectives of these research are as follows:

1. To determine teachers' perspectives on the effectiveness of outdoor learning activities in enhancing the cognitive abilities of students at the primary level in district Sialkot.
2. To identify teachers' perspectives on the effectiveness of outdoor learning activities in developing the affective abilities of students at the primary level in district Sialkot.
3. To inquire into teachers' perspectives on the effectiveness of outdoor learning activities in improving the psychomotor skills of students at the primary level in district Sialkot.

Research Questions

The research questions for this study are:

1. What are teachers' perspectives on the effectiveness of outdoor learning activities in enhancing the cognitive abilities of students at primary level in district Sialkot?

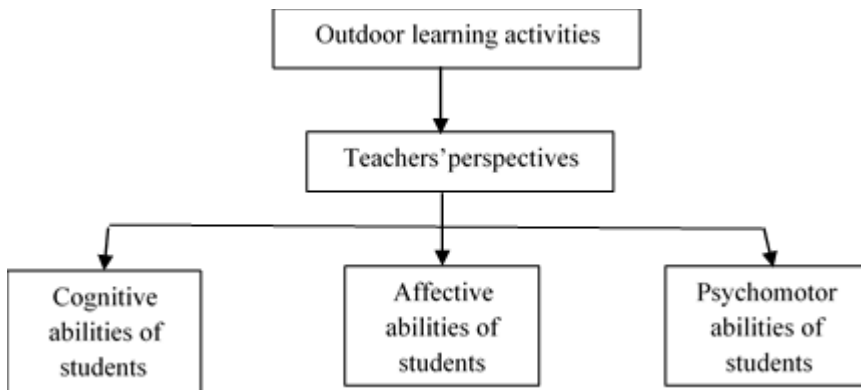
2. What are teachers' perspectives on the effectiveness of outdoor learning activities in developing the affective abilities of students at primary level in district Sialkot?
3. How do teachers in district Sialkot perceive the effectiveness of outdoor learning activities on psychomotor skills of students at primary level?

Conceptual Framework

The conceptual framework of the study provided a structured approach to comprehend the effectiveness of outdoor learning activities from teachers' perspectives. It highlighted the nature of outdoor learning activities, teachers' views, and resulting students development in cognitive, affective and psychomotor domains.

Figure 1

Conceptual Framework on the Study



Method

Research Design

The research was descriptive in nature. Quantitative data were collected from the primary school teachers using survey method to measure teachers' perspectives on the effectiveness of outdoor learning activities at primary level in district Sialkot.

Population and Sample of the Study

Population of the study comprised of 5325 primary school teachers in District Sialkot. Data were collected from 270 primary school teachers using convenient sampling technique.

Instrument

A questionnaire was developed to collect data on teachers' perspective on effectiveness of outdoor learning activities for primary school students. The statements of questionnaire were developed according to the domain of Blooms taxonomy i.e. cognitive, affective and psycho motor.

The questionnaire of this research is based on five point Likert scale. It was developed on the basis of research objectives after extensive review of the related literature. All questions were narrated in the light of the research objectives. The language was kept simple and easy for primary school teachers. The reliability of the questionnaire was 0.932 Cronbach Alpha which is considered as high reliability of a research instrument.

Data Analysis

The data were analyzed using descriptive and inferential statistics. Frequency, percentage, mean and standard deviation were used to determine the teachers' perspectives on the effectiveness of outdoor learning activities for student's achievement. Independent sample t-test was applied to measure the difference in teachers' perspectives on the basis of gender.

Results

The data were analyzed according to the objectives of the study and results are presented in the form of tables.

Objective 1: To determine the teachers' perspectives on the effectiveness of outdoor learning activities on cognitive abilities of students at primary level in district Sialkot.

Table 1 exhibits that most of the teachers agree that outdoor learning activities improve cognitive abilities of primary school students. They believe that these activities contribute to students gaining confidence in the classroom ($M=4.44$), performing well in academic work ($M=4.49$), positively influencing their academic achievement ($M=4.50$), understanding science concepts ($M=4.46$), developing sharper minds ($M=4.36$), and being proactive in classroom activities ($M=4.44$). However, there is no significant difference in the perspectives between male $M=31.38$, $SD=3.12$ and female $M=30.95$, $SD=3.02$, $t(270)=1.12$, $p=0.26$ (two tailed) teachers regarding the effectiveness of outdoor learning activities for enhancing the cognitive abilities of primary school students.

Table 1

Teachers' perspectives on the Effectiveness of Outdoor Learning Activities for Cognitive Abilities of Primary School Students

Cognitive abilities	Frequency (Percentage)					Mean ± SD
	Strongly disagree	Disagree	Neutral	Agree	Strongly agree	
I observe that students became more confident in classroom after outdoor learning activities.	2 (0.7)	0	8 (3)	128 (47.4)	132 (48.9)	4.44 ±0.63
I experienced that students learned academic work very well after outdoor learning activities.	0	2 (0.7)	12 (4.4)	108 (40)	148 (54.8)	4.49 ±0.62
I found that outdoor learning activities have positive influence on the students' academic achievements.	0	0	10 (3.7)	114 (42.2)	146 (54.1)	4.50 ±0.57
I increased knowledge of students about science subject with the help of outdoor learning activities.	0	2 (0.7)	12 (4.4)	116 (43)	140 (51.9)	4.46 ±0.62
I experienced that students better perform in classroom after outdoor learning activities.	0	0	18 (6.7)	118 (43.7)	134 (49.6)	4.43 ±0.62
I observe that students develop sharper minds after outdoor learning activities.	0	4 (1.5)	16 (5.9)	130 (48.1)	120 (44.4)	4.36 ±0.66
I believe that students are more active in classroom after outdoor learning activities.	0	0	12 (4.4)	128 (47.4)	130 (48.1)	4.44 ±0.58

Objective 2: To determine the teachers' perspective on the effectiveness of outdoor learning activities on cognitive abilities of students at primary level in district Sialkot.

Table 2 indicates that most teachers agree that outdoor learning activities enhance affective abilities of primary school students. These activities are perceived to help students follow academic discipline

($M=4.30$), exhibit good manners in the classroom ($M=4.27$), demonstrate tolerance and politeness with peers ($M=4.29$), improve classroom behavior ($M= 4.41$), enhance self-efficacy ($M=4.37$), build positive attitudes ($M=4.30$), and promote patience and respect towards others ($M=4.32$).

Table 2

Teachers' Perspectives on the Effectiveness of Outdoor Learning Activities in Improving Affective Abilities of Primary School Students

Affective abilities	Frequency (Percentage)					Mean ±SD
	Strongly disagree	Disagree	Neutral	Agree	Strongly agree	
I observe that after outdoor learning activities students are able to follow academic discipline.	2 (0.7)	0	20 (7.4)	142 (52.6)	106 (39.3)	4.30 ±0.67
I found that students are more well-mannered in the classroom after outdoor learning activities.	0	8 (3)	28 (10.4)	116 (43)	118 (43.7)	4.27 ±0.77
I feel that students are more tolerant and polite with each other after outdoor learning activities.	4 (1.5)	2 (0.7)	28 (10.4)	114 (42.2)	122 (45.2)	4.29 ±0.80
I feel that after outdoor learning activities students improved their classroom behavior.	0	0	16 (5.9)	126 (46.7)	128 (47.4)	4.41 ±0.60
I observe that after outdoor learning activities students emerge in self-efficacy.	0	4 (1.5)	10 (3.7)	138 (51.1)	118 (43.7)	4.37 ±0.63
I experienced that after outdoor learning activities students built positive attitude in the classroom.	0	4 (1.5)	20 (7.4)	136 (50.4)	110 (40.7)	4.30 ±0.67
I feel that after outdoor learning activities student have more patient and give respect to each other in the classroom.	2 (0.7)	4 (1.5)	18 (6.7)	128 (47.4)	118 (43.7)	4.32 ±0.73

Objective 3: To inquire the teachers' perspective on the effectiveness of outdoor learning activities on psychomotor skills of students at primary level in district Sialkot.

Table 3 shows that most the of the teachers agree that outdoor learning activities help to enhance psychomotor skills of primary school students. These activities are perceived to contribute to students being physically active ($M=4.36$), learning different physical games ($M=4.47$), improving physical strength ($M=4.47$), engaging in outdoor activities ($M=4.44$), providing a space to perform physically ($M=4.54$), and, performing better in classroom activities ($M=4.46$).

Table 3

Teachers' Perspectives on the Effectiveness of Outdoor Learning Activities for Psychomotor Skills of Primary School Students

Psychomotor skills	Frequency (Percentage)					Mean ±SD
	Strongly disagree	Disagree	Neutral	Agree	Strongly agree	
I experienced that students are physically active in classroom after outdoor learning activities.	0	4 (1.5)	16 (5.9)	128 (47.4)	122 (45.2)	4.36 ±0.66
I found that students learn different type of physical games with the help of outdoor learning activities.	2 (0.7)	2 (0.7)	10 (3.7)	108 (40)	148 (54.8)	4.47 ±0.68
I observe that outdoor learning activities help to boost a child's physical strength.	0	0	36 (6.7)	106 (39.3)	146 (54.1)	4.47 ±0.62
I feel that all students need to get outside and move their bodies with the help of outdoor learning activities.	0	2 (0.7)	20 (7.4)	104 (38.5)	144 (53.3)	4.44 ±0.66
I experienced that outdoor learning activities give to the students a space where they can walk, play and swing freely.	0	0	2 (0.7)	120 (44.4)	148 (54.8)	4.54 ±0.51

Psychomotor skills	Frequency (Percentage)					Mean ±SD
	Strongly disagree	Disagree	Neutral	Agree	Strongly agree	
I encourage students to participate in at least one hour of physically active play each day.	0	2 (0.7)	16 (5.9)	110 (40.7)	142 (52.6)	4.45 ±0.64
I observe that physical activity during the school day can also help students' behave better in classroom activities after outdoor learning activities.	0	0	6 (2.2)	134 (49.6)	130 (48.1)	4.46 ±0.54

Discussion

The study conclusions indicate that primary school teachers perceive outdoor learning activities as beneficial for enhancing cognitive, affective and psychomotor abilities of their students. Teachers noted that these activities improve students' cognitive abilities that lead to effective learning and better performance.

Specifically, the study found that most of the teachers agreed that outdoor learning activities improve cognitive abilities of primary school students by fostering confidence in the classroom, improving academic performance, positively influencing their academic achievement, enhancing understanding of science concepts, and encouraging proactive participation in classroom activities (Anderman, [2009](#); Andersson & Strander, [2004](#)).

The results of the study reveal that most of the teachers agreed that outdoor learning activities enhance affective abilities of primary school students by enabling them to follow academic discipline, exhibit good manners in the classroom, show tolerance and politeness towards peers, improve classroom behavior, enhance self-efficacy, foster positive attitudes, and promote patience and respect towards others. These findings are consistent with the study of Andersson and Strander ([2004](#)).

It is shown from the findings that most of the teachers agreed that outdoor learning activities enhance psychomotor skills of primary school students by helping them to be physically active, learning different physical games, improving physical strength, engaging in outdoor activities, providing them space to perform physically, and, performing better in

classroom activities. These findings are aligned with the study of Kruger et al., (2010).

Conclusion

The findings of the study concluded that primary teachers perceived outdoor learning activities to be helpful for primary school students in enhancing their cognitive abilities. These activities positively influence their academic achievement and make them proactive in classroom activities. Primary school teachers also agreed that outdoor learning activities are helpful in developing affective abilities in students as they enhance their self-efficacy, build positive attitude and promote respect towards others. The results of the study also concluded that primary school teachers perceived that outdoor learning activities enhance the psychomotor skills of primary school students by helping them to be active and learn through physical games and providing them space for physical performance.

Recommendations

Based on these findings, the study suggests several recommendations. As it is evident in this study that outdoor learning activities help the primary school students improve their cognitive, affective and psychomotor skills, thus training could be conducted for primary school teachers to train them to incorporate out door learning activities into their lesson plans and teaching. Primary school students should be provided with more opportunities to interact with the nature through outdoor learning activities. This approach will facilitate effective learning experiences and enhance students' overall development.

Conflict of Interest

The author of the manuscript has no financial or non-financial conflict of interest in the subject matter or materials discussed in this manuscript.

Data Availability Statement

The data associated with this study will be provided by the corresponding author upon request.

References

- Amos, R., & Reiss, M. (2012). The benefits of residential fieldwork for school science: Insights from a five-year initiative for inner-city students in the UK. *International Journal of Science Education*, 34(4), 1–27. <https://doi.org/10.1080/09500693.2011.585476>
- Anderman, E. M. (2009). School effects on psychological outcomes during adolescence. *Journal of Educational Psychology*, 94(4), 795–809. <https://psycnet.apa.org/doi/10.1037/0022-0663.94.4.795>
- Andersson, B. E., & Strander, K. (2004). Perceptions of school and future adjustment to life: A longitudinal study between the ages of 18 and 25. *Scandinavian Journal of educational Research*, 58(5), 459–476. <https://doi.org/10.1080/003138042000272122>
- Andić, D., & Mažar, S. (2023). Teachers' connectedness to nature, education for sustainable development and the contemporary teaching of the subject "nature and society" in croatian schools. *Journal of Teacher Education for Sustainability*, 25(1), 86–97. <https://doi.org/10.2476/jtes-2024-0009>
- Azzarito, L., & Solomon, M. A. (2005). A reconceptualization of physical education: The intersection of gender/race/social class. *Sport, Education and Society*, 10(1), 25–47. <https://doi.org/10.1080/135733205200028794>
- Becker C., Lauterbach G., Spengler S., Dettweiler U., & Mess F. (2017). Effects of regular classes in outdoor education settings: a systematic review on students' learning, social and health dimensions. *International Journal of Environmental Research and Public Health*, 14(5), Article e485. <https://doi.org/10.3390/ijerph14050485>
- Gilchrist, M., Passy, R., Waite, S., & Rachal, C. (2016). Exploring Schools Use of Natural Spaces. In C. Freeman, P. Tranter, & T. Skelton (Eds.), *Risk, protection, provision and policy*. Singapore.
- Gray, T. (2018). Outdoor learning: Not new, just newly important. *Curriculum Perspect.* 38, 145–149. <https://doi.org/10.1007/s41297-018-0054-x>
- Gromada, A., Gwyther, R., & Yekaterina, C. (2020). *Worlds of Influence: Understanding What Shapes Child Well-being in Rich Countries*. UNICEF. <https://www.unicef.org/innocenti/reports/worlds-of-influence>

- Hattie, J., Marsh, H. W., Neill, J. T., & Richards, G. E. (1997). Adventure education and Outward Bound: Out-of-class experiences that make a lasting difference. *Review of Educational Research*, 67(1), 43–87. <https://doi.org/10.3102/00346543067001043>
- lipinge, S. M. (2013). Challenges of large class teaching at the university: implications for continuous staff development activities. *The Namibia CPD Journal for Educators*, 1(1), 105–12. <https://doi.org/10.32642/ncpdje.vi.1263>
- Jurčić, M. (2015). Education in extracurricular classes. In S. Opić, V. Bilić & M. Jurčić (Eds.), *Education in school*. Zagreb
- Kocayiğit, A., & Ekinci, N. (2020). Evaluation of extra-curricular activities implemented in high schools according to teachers' opinions. *OPUS International Journal of Society Researches*, 16(29), 1810–1848.
- Kuo, M., Browning, M., & Penner, M. (2018). Do lessons in nature boost subsequent classroom engagement? Refueling students in flight. *Frontiers in Psychology*, 8, Article e2253. <https://doi.org/10.3389/fpsyg.2017.02253>
- Liu, J., & Green, R. J. (2023). The effect of exposure to nature on children's psychological well-being: A systematic review of the literature. *Urban Forestry & Urban Greening*, 81, Article e127846. <https://doi.org/10.1016/j.ufug.2023.127846>
- Prado, M., Masset, T., Fernani, D., & Monteiro, C. B. (2016). Analysis of psychomotor development and level of physical activity of children with extracurricular physical activities. *Acta Fisiátrica*, 23(4), 208–212. <https://doi.org/10.5935/0104-7795.20160039>
- Putnam, R., McCart, A., Griggs, P., & Choi, J. H. (2009). Implementation of schoolwide positive behavior support in urban settings. In W. Sailor, C. Dunlap, G. Sugai & R. Horner (Eds.), *Handbook of positive behavior support* (pp. 443–463). Springer.
- Rickinson, M., Dillon, J., Teamey, K., Morris, M., Choi, M., Sanders, K., & Benefield, P. (2004). *A review of Research on Outdoor Learning*. National Foundation for Educational Research.
- Sahlberg, P. (2016). The global educational reform movement and its impact on schooling. In K. Mundy, A. Green & A. Verger (Eds.), *The handbook of global education policy*. (pp. 128–44). Wiley Online Library. <https://doi.org/10.1002/9781118468005.ch7>