

Efficacy of Nature Based Teaching on Emotional Competencies of Adolescents

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Abstract

Increased outdoor activity has been found to have positive effects on both physical and mental well-being. Engaging in outdoor activities may serve as a significant source of motivation for children and adolescents. There is a vast amount of knowledge to be acquired, explored, and piqued. Utilizing nature as a means to cultivate social-emotional abilities is a logical approach. In India, nature-based teaching has been used since ancient times for better education. Keep in mind that the integration of nature into early childhood education is on a continuum from no nature integration to the other end of the continuum, where nature is infused in all parts of the educational program. The present research attempts to ascertain the effectiveness of nature-based teaching on the emotional competencies of adolescents. A sample of 24 children studying in the sixth and seventh grades, aged between 12 and 14 years, was selected. Further, the total sample was divided randomly into two categories i.e., the experimental group (12) and the control group (12). A standard scale of emotional competencies developed by Dr. H. C. Sharma and Dr. R. L. Bhardwaj for school students was used. The exposure of the nature-based teaching programme was introduced for 7 weeks to the experimental group. The positive impact of a nature-based teaching programme has been revealed on the dimensions of emotional competency of school-going adolescents in an experimental group, whereas insignificant improvement in emotional competency was reported in the control group. Adolescents may establish emotional connections, express themselves, actively listen to their peers, and make meaningful contributions to their classroom community through nature-based education.

Keywords: Nature Based Teaching Programme, Intervention Emotional Competencies.

Introduction:

Nature integration in the classroom allows students to connect with nature. Increased natural interaction improves an adolescent's emotional health by reducing stress and increasing focus. Class time spent with nature forms a student's perspective to be empathetic and understanding of humanity's environmental role, creating generations with respect and motivation to help the environment. According to Richard Louv, children have a good understanding of the problems on our planet, but they do not know the planet itself (2005). Because of this disconnect between students and the natural world, schools must include interactive experiences with nature in all aspects of the classroom. To help children have an accurate notion of the environment, educators, parents, and other influences must understand students' current viewpoints. As stated previously, Louv believes that, because of their lack of time outside, children's perception of the environment is a broad understanding that the planet is in danger, lacking the intimate knowledge he had of his local natural atmosphere as a child (2005).

Natural environments and collective nature encounter offer chances for social engagement, strengthen connections among families or communities, and foster social unity (Jennings & Bamkole, Citation2019; Weinstein et al., Citation2015). Greenwood and Gatersleben (2016) found that spending time with a buddy enhanced teenagers' restorative experiences in outdoor settings (Owens & McKinnon, 2009). Birch et al. (2020) found that nature activities had a positive impact on the well-being of young people by fostering connection and concern towards both the human and non-human environment. Engaging with nature fosters a sense of interconnectedness with the external environment, which can lead to heightened empathy and intimacy with people (Weinstein et al., 2015). Experience in nature can be defined in different ways, ranging from a broad definition of "time spent in natural areas" to more specific descriptions such as intentional and unintentional "person-nature interaction," "self-directed and other-directed" interaction, or "consumptive, mechanized, and appreciative" activities in natural settings (Rosa & Collado,2019).

We enhance comprehension of the subject by focusing on teenagers' accounts of their experiences in natural settings, the specific methods they use to interact with nature, and the significance they attribute to these encounters. Examining experiences is warranted to gain a deeper understanding of the manifold impacts of nature on adolescents' well-being, as well as the diverse motivations underlying their distinct connections with nature (McMillan, 2018; Pointon, 2014; Tseng & Wang, 2020).

Emotional Competency

Emotional competence encompasses the fundamental social abilities required to identify, understand, and react positively to emotions in both oneself and others. The word "social competence" refers to an individual's comfort and proficiency in interacting with people, as well as their capacity to lead and communicate effectively and productively.

Significance of emotional competence

Parents who help children understand and communicate their emotions can nurture an important protective factor: social and emotional competence. An adolescent's capacity to engage in constructive social interactions, effectively express emotions, and manage their conduct.

Development of Emotional Competencies:

In his book, Carolyn Saarni outlined many objectives, which encompassed exploring emotional development throughout mid-childhood and adolescence, analyzing the role of emotion within culture, and providing a framework for investigating the emotional experiences of children. The book was divided into three sections: the examination and theories of emotional competence, the proficiency levels of emotional competence, and the practical implementation of emotional competence in a therapeutic setting.

Dr. Saarni's definition of emotional competence refers to the ability of an individual to effectively achieve their objectives following an experience that triggers emotions. She described emotion as a fundamental component of self-efficacy. She said that the utilization of emotions involves acquiring a certain set of abilities, which subsequently results in the cultivation of emotional competence. Acquiring emotional competency abilities is essential for developing self-efficacy. Dr. Saarni presented her theoretical stance about theories of emotion, social learning, and cognitive development. She used an integrated approach to theory in all of these domains, emphasizing self-development and adopting a social-constructivist perspective.

The investigator found Chapter Three's exploration of cultural and folk theories of emotional regulation to be enjoyable. Chapter three also had a compelling segment on the impact of parents and peers on emotional regulation. This information is precious for child psychiatrists who want to identify inappropriate emotional regulation and mood patterns within a specific setting.

Nature-based teaching:

Nature-based learning, often known as environmental education, is an educational concept that emphasizes immersing students in natural habitats, leading to a heightened environmental consciousness. It is not just focused on field excursions; rather, it incorporates fundamental aspects of nature throughout preschool education. The concept involves converting classrooms into small-scale gardens, playgrounds into tiny forest ecosystems, and viewing every leaf, stone, and puddle as a possible source of learning. Following are the steps of nature-based teaching

- Increasing the amount of time spent in outside environments
- Modifying the program's framework to incorporate a greater amount of time spent outside
- Setting up the physical environment (both indoors and outside)
- Facilitating deliberate linkages between outdoor and indoor education
- Assisting families in incorporating more nature-focused activities into the educational program

Statement of Problem:

Efficacy of Nature Based Teaching on Emotional Competencies of Adolescents.

Objective:

- To develop nature-based teaching programme for adolescents.
- To examine the efficacy of nature-based teaching on student's emotional competence.

Hypotheses

H01 There will be a significant difference between the pre-test and post-test scores of student's emotional competencies in the experimental group.

H02 There will be a significant difference between the pre-test and post-test scores of student's emotional competencies in the control group.

Research Design:

For the present research, a pre- and post-experimental design with a control group was used, with nature-based teaching as the independent variable and emotional competency as the dependent variable. A control strategy was adopted in the present investigation.

For the Experimental Group

BEFORE (Pre-test)	The intervention of Nature-based teaching employed	AFTER (Post-test)
Emotional competency	Duration – 3 months	Emotional competency

For the Control Group

BEFORE (Pre-test)	The intervention of Nature-based teaching was not employed	AFTER (Post-test)
Emotional competency	Duration – 3 months	Emotional competency

Sample:

The target population for this study comprises adolescents enrolled at the Gajera Global School in the Surat district. An incidental purposive sampling technique was used in the present study. A sample of 24 adolescents was selected, with an age range between 12 and 14 years, from 6th standard. The sample was further randomly subdivided into two categories of 15 each i.e., (experimental group 12 & control group 12). The 12 adolescents of 6th class were given the intervention of nature-based teaching in an experimental group by the experts of nature-based teaching.

Tool: A standard scale of emotional competencies developed by Dr. H. C. Sharma and Dr. R. L. Bhardwaj for school students was used. Details of the tool as mentioned below-

<i>Measurement</i>	<i>Name of the Test</i>	<i>Author</i>	<i>Reliability</i>	<i>Validity</i>
Emotional competence	Emotional Competence Scale	R. L. Bharadwaj Dr. H.C. Sharma	.71 to .82	.64 to .69

Scoring:

For the present research work, scoring of the obtained data was performed using the respective manuals for the test. The data were arranged in the respective tables according to the statistical test.

Procedure:

Contrasting nature-based learning with traditional textbook-based teaching represents a significant shift. The core principle of this approach is experiential learning, which involves engaging children in hands-on activities and encouraging them to actively explore the natural environment. This approach promotes an engaging and interactive learning experience, rather than relying on rote memory.

A classroom arrangement has been developed for the sixth grade at Gajera Globle School to improve the indoor atmosphere to resemble the outdoors. Enhance the area's ambience by integrating natural light, indoor plants, and earthy textures. Adolescents can engage their senses through a sensory area equipped with stones, leaves, and feathers. The present study took place over 3 months. The investigator, along with experts in nature-based teaching, worked with 24 6th-grade adolescents. All subjects were randomly assigned to two groups. The first group was an experimental group in which an intervention schedule of nature-based teaching was practised daily from 9 to 12 AM (3 hours) for 3 months, according to their curriculum requirements and leisure-time activities. Each subject was assessed using the emotional competency scale before the intervention. In the second group, the control group, the nature-based teaching intervention was not implemented. After the completion of the 3-month intervention schedule, participants in both the control as well as the experimental group were assessed through the tools used for the pre-assessment process.

Statistical Analysis:

In the present study, to determine the significant difference in the pre- and post-test scores of emotional competency among adolescents in class 6th. Statistical tests like paired sample 't' test, Mean and SD were conducted.

Results & Discussion:

Experimental Group

Table 1:- Showing Mean, SD and SEM between pre-test and post-test scores of student's emotional competencies in the experimental group.

Measure	Groups	N	Mean	SD	SEM
<i>Emotional competency</i>	Pre-test	12	83.75	8.35	2.40
	Post-test	12	94.33	10.03	2.88

Table 2:- Results of paired sample t-test between pre-test and post-test scores of student's emotional competencies in the experimental group.

Paired Samples Test

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	SD	SEM	95% Confidence Interval of the Difference				
					Lower	Upper			
<i>Emotional competency</i>	Pre – Post-test	-10.58	6.33	1.82	-14.60	-6.56	-5.79	11	$p < .01$

The paired sample t-test was conducted in order to examine whether there is a significant difference between the pre- and post-mean scores in students' emotional competencies in the experimental group for the intervention of nature-based learning.

It may be observed from Tables 1 & 2 that the mean score of the pre-test and post-test are 83.75 (SD =8.35) and 94.33 (SD =10.03), respectively, for the emotional competencies of the adolescents. The paired sample t ratio is reported as significant 't'(11) = -5.79, $p < .01$). based on a significant mean difference, it can be said that nature-based learning plays a significant role in increasing the emotional competencies of adolescents in class 6th. Thus, H01 is strongly rejected.

Table 3:- Showing Mean, SD and SEM between pre-test and post-test scores of student's emotional competencies in the control group.

Measure	Groups	N	Mean	SD	SEM
<i>Emotional competency</i>	Pre-test	12	84.08	8.43	2.43
	Post-test	12	84.33	8.45	2.44

Table 4:- Results of paired sample t-test between pre-test and post-test scores of student's emotional competencies in the control group.

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	SD	SEM	95% Confidence Interval of the Difference				
					Lower	Upper			
<i>Emotional competency</i>	Pre – Post-test	-.25	.45	.130	-.53	.037	-1.91	11	.082

As it can be seen from Tables 3 & 4 that insignificant mean difference is highlighted in adolescents' emotional competencies in the control group. The t value for student's emotional competencies is $t(11) = -1.91, p > .05$. Based on the above insignificant Mean difference, one can say that a significant improvement in the emotional competencies of adolescents was not observed in the control group. Therefore, H02 is strongly accepted.

Conclusion:

The present research paper investigates the relationship of participation in nature-based education and the emotional competencies of adolescents. Emotional competence is expected to be positively associated with participation in nature-based education. Nature-based teaching in educational institutions also fosters the development of emotional competencies. Involvement in nature-based teaching is expected to simultaneously enhance overall well-being and emotional competencies. Adolescents may establish emotional connections, express themselves, actively listen to their peers, and make meaningful contributions to their classroom community through nature-based education. In line with the competence model of environmental education (Roczen et al., 2014). The findings of the present research study will examine the effect of nature-based education on adolescents' physical health, mental health, and emotional competence. The investigator suggested that the results of this study will identify gaps for future research and update investigators and policymakers on the effectiveness of systematic nature-based learning. Although the present study is delimited in terms of the small sample group.

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