



Social Media as a Pedagogical Catalyst in Fostering Environmental Awareness: A Theoretical Perspective

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ABSTRACT

In the present Tech age, social media has emerged as a powerful platform influencing learning processes. This paper presents a theoretical exploration of social media as a pedagogical catalyst in fostering environmental awareness. Moving beyond the concept of social media as merely a communication tool, this study considers social media as a dynamic educational infrastructure that mediates environmental learning through constructivist interaction, transformative reflection, and social learning processes. The framework proposes that digital engagement shapes cognitive, affective, and behavioral dimensions of environmental awareness, contributing to ecological citizenship and responsible environmental action. Furthermore, the study supports integration of Indian Knowledge Systems (IKS) to enrich the ethical and cultural grounding of digital environmental pedagogy. The paper identifies moderating variables such as digital literacy, media literacy, psychological well-being, and institutional support, which influence the depth of environmental learning.

Keywords: Social Media, Environmental Awareness, Indian Knowledge Systems (IKS), Sociocultural Theory, Media Literacy

INTRODUCTION

The current era has emerged as the digital age, where social media has become an important part of everyone's daily lives. Social media is not only a medium of communication but also an effective platform for information exchange and learning. Social media is being seen as a useful tool for enhancing the teaching-learning process. It can play a significant role, especially in the field of environmental awareness. Environmental issues such as pollution, climate change, and biodiversity loss emphasize the need for students to become aware, responsible, and active global citizens. Based on this, this research paper, using various pedagogical principles, explains how social media can serve as a pedagogical catalyst in increasing environmental awareness.

Indian Knowledge Systems reflect the philosophical principles of harmonious existence between human beings and mother nature. *Vasudhaiva Kutumbakam* (the world as one family), *Prakriti-Purusha* interdependence, *Pancha Mahabhuta* (five elements), and ecological reverence embedded in the Vedas, Upanishads, and traditional practices reflect a non-dualistic worldview. In Indian philosophy, nature is not treated as an external resource rather as a sacred and interconnected entity.

According to Piaget Constructivism, students construct their own knowledge through their various experiences. Learning occurs only when new knowledge is connected to prior knowledge. Social media helps students understand various subjects, as well as environmental topics, through a variety of videos, images, and articles. When viewing or reading content related to environmental issues, they reflect on it and develop their knowledge. In this way, social media encourages active learning.

According to Socio-Cultural Constructivism theory, knowledge is constructed through dialogue and collaboration with others. Social media is a platform that provides students with the opportunity to connect with numerous experts. In this way, students can express their views on various issues and find solutions to problems.

According to Situated Cognition, for effective learning, it is essential to connect it with real situations. Social media provides students with current information and connects them with environmental issues. For example, following various campaigns, participating in online activities, etc.

According to the Rogoff's Sociocultural Approach, guided participation is crucial. In this, students learn by engaging in activities under the guidance of experienced individuals. Through social media, students can observe discussions, join campaigns, and connect with environmentalists and organizations.

Students can post on environmental issues and share environmental conservation measures. Thus, social media and constructivism are deeply intertwined, being based on active participation.

REVIEW OF LITERATURE

Hajri O., Daife Y. (2024) in their research paper "**The role of social media in engaging young people in environmental issues**" explained the use of social media to get rid of environmental problems among the younger generation. For example, the #7arbaplastic campaign in Morocco became an important means of exchanging information. Social media is the main means of communication with youth and audiences for political and public figures. In this research, a quantitative survey and online questionnaire have been used to investigate the role of social media in engaging youth in environmental problems and solutions. In this, the questionnaire was conducted for 2 months starting from July 2023 for collection of data. Sphinx Software was used in this. The objective of this survey was to know the role of social media in the interest of youth in environmental topics, patterns of environmental use, campaigns run by Mohammed Foundation etc. Research revealed that in Morocco, youth showed interest in environmental problems by using social media and expressed serious concern. On this basis, it is concluded that social media plays an important role in bringing awareness about the environment to the youth. It serves as a useful platform for all citizens to exchange information.

Syrifuddin, Nurmidi M., Sholeh M. (2024) in their research paper "**The role of Social Media increasing public awareness of environmental issues**" describes the impact of social media on the digital era and the use of social media to raise public awareness on environmental issues. This research mentions environmental awareness through a descriptive qualitative approach and literature review. The impact of social media in this indicates positive results. Such as interactivity, easy exchange of information, environmental facilities, educational initiatives etc. It was concluded that the use of social media in Indonesia highlights the importance of collaborative efforts for policymakers, activists and stakeholders regarding environmental sustainability. Social media acts as a catalyst and collectively unites individuals for sustainability. Thus social media plays a positive role in solving environmental problems and raising awareness.

Lovochkina A., Otych D., Spirak L.(2023) in their research paper "**Formation of students' environmental awareness through social media**" stated that social media plays an important role in increasing environmental knowledge and environmental awareness. Because it is easy to communicate through it. The role of social media is important in developing practical knowledge and environmental awareness of students, in getting information about information. In this research, the perspective of scientists and teachers of higher education institutions has been examined. What is the impact of environmental problems and solutions through social media on their views? In this, interviews were used for fact analysis. In this, attention was paid to the main functions of social media to conduct practical studies regarding the environment. The researchers concluded that there is a need to provide more information about developing students' environmental awareness through social media to prevent its negative impacts.

Kour A, Chahal H.S. (2022) in their paper "**Role of Social Media in Increasing Environmental Issue Awareness**" have described the role of social media in environmental issues. This paper examines the levels of use of social media in promoting environmental awareness. It describes environmentally friendly behaviour through motivating factors of social media. Percentage data and data collected through questionnaires mention six major factors. These include factors such as competitive motivational power, perceived credibility and promptness of action. Social media serves as an effective tool to increase environmental awareness. Organizations like the WWF use platforms like YouTube and Facebook for awareness campaigns. In conclusion,

it can be said through the paper that environmental problems and their solutions and awareness have a positive relationship with social media.

Chen M. and Xiao X. (2022) of social media in their research paper "**The effect on the development of students. affective variables**" have studied the effect of social media on emotional variables such as stress, anxiety, depression. This research was done on students. After the use of social media, positive changes have been seen in the education system, especially after the epidemic. Thus social media is playing an important role in the lives of students. The psychological impact of social media on the population has been studied through social media. In this, information about the emotional well-being of students through social media has been given. Therefore, in conclusion it can be said that social media has a mixed effect of positive and negative effects on the emotional well-being of students. It is stronger with negative psychological symptoms like depression, anxiety and stress.

Sinha A., Padhy M. (2022) in their research paper "**Role of Social Media in Creating Environmental Awareness in Lucknow**" have described the contribution of social media in the environmental awareness of Lucknow city. This research paper describes social media as an accessible means of reaching environmental problems and related issues to as many people as possible. It highlights the importance of environmental protection. Social media platforms play an important role in actively providing information to people on environmental issues and involving them. This research was conducted in Lucknow city. The objective of this research is to find out the level of environmental awareness among the people of Lucknow through newspaper columns and advertisements etc. This research has adopted the descriptive research method and used an excel sheet for Google form analysis tool for data collection. Questionnaire has played a major role in data collection. From the data obtained, it can be concluded that all those involved in the research process are well aware of social media. Exchange of all types of information is easily possible through social media. From this point of view, it can be said that through social media, environmental awareness and interest has become possible among the people connected to social media in Lucknow city.

Hamid S., Sulaiman H., Ijab M., Anwar R. and Normona (2016) in their research paper "**Social Media for environmental sustainability awareness in higher education**" results have been found through a systematic literature review. The need for social media has been emphasized to increase environmental sustainability and awareness in higher education institutions. Researchers have selected three types of online databases. During this research describe the role of social media in increasing environmental awareness and sustainability among students and employees. Social media mainly talks about platforms like Facebook. In this research study, th, thematic analysis was done to analyze and describe the data. In conclusion, it was found that social media plays a wide role in environmental sustainability and awareness and introduces many perspectives.

Tlebere T., Scholtz B., Calitz A.(2015) in their research paper "**Using social media to Improve environmental awareness in higher education institutions**" have described the usefulness of social media for improving environmental awareness. For this, the social media model (SMENA) was introduced. SMENA was created to bring environmental knowledge and awareness to higher education institutions. After research at the University of South Africa, it was found that environmental knowledge and awareness has increased positively by using social media platforms like Facebook, Twitter etc. Social media makes it easy to communicate information immediately, ask questions and answer them and improve it. Environmental education makes people aware of information related to environmental problems, their solutions and awareness. The objective of this research is to increase environmental awareness with the help of the SMENA model. The SMENA model has three phases – strategy development, planning, and implementation. Through qualitative data analysis, the reason for individuals being less active on social media is revealed. This study involved UG students from South Africa. As a result, the SMENA model has promoted environmental knowledge and awareness in higher education

Kratzig S. and Kretzchmer W. (2014) in their paper "**Using Interactive web tools in Environmental Planning to improve communication about sustainable development**" explains the importance of social media in improving communication of sustainable development tools in the field of environmental planning. Apart from this, the visualization approach is also described for the development of communication in environmental planning. Focusing on public engagement and citizen perception at local and rural level, this research provides important information in decision making with the help of modern communication technology. Through case

studies in participation, with special focus on topics such as intensive livestock farming and interactive livescape planning, this research paper has analyzed how social networks can enhance the concept of sustainable development and make a strong contribution to the concepts of environmental sustainability. Hence, the conclusion is that social networks play a role in providing important information to planners, through which officials can collect various types of views and engage in informal participation.

Melville (2010) in his paper titled "**Information systems innovation for environmental Sustainability**" explores the philosophical perspective, methodological applications and sustainability phenomenon. The population considered is prior research outputs, which consisted of articles published between 2000 to 2007 in operational journals and leading IS. The Sample of the study has 35 articles and purposive sampling was used. The primary technique used by researchers was thematic content analysis and the methodology includes secondary data analysis. The Major findings of the study has pointed out that information system scholarship has largely overlooked environmental issues.

Gupta (2023) in his paper "**Effect of Social Media Platforms on Environmental Awareness on B.Ed. Interns**" studied the impact of social media on environmental awareness among B.Ed. Teacher Trainees. The research aimed to understand environmental awareness through digital platforms, social media usage and time in daily life, and type of institution. The survey method was used. The population included teacher trainees from Bareilly. A self-developed tool was used to assess awareness levels. The findings revealed no significant difference in environmental awareness regardless of gender, type of institution (government vs. self-financed), or location (rural vs. urban). Ultimately, the study concluded that teacher trainees respond positively to social media for environmental awareness.

Simionescu et al. (2020) in their research paper "**Social media, sustainability and environmental protection in sustainable education**" study the role of digital communication in sustainability education. She studies the perceptions of social media users about environmental issues. The aim of this research is to evaluate whether social media platforms, such as Facebook and WhatsApp, promote environmental awareness and how knowledge about sustainability influences attitudes toward environmental protection. A quantitative survey method was used. The sample included Romanian social media users. Data was collected through questionnaires. The study concludes that social media plays an important role in spreading environmental awareness and educational content.

Research Question: How does social media restructure environmental learning within digitally mediated pedagogy?

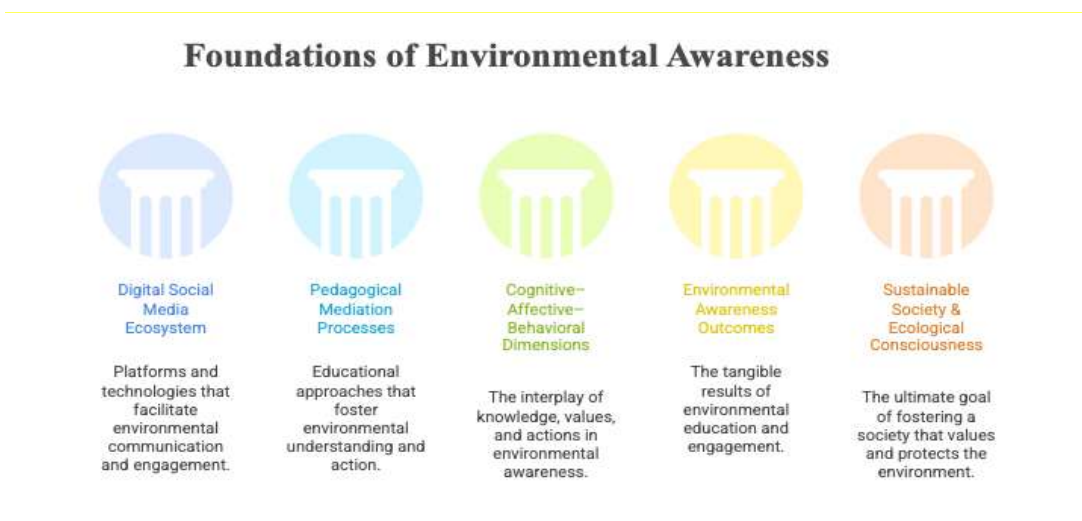


Fig 1: Conceptual Model: Foundations of Environmental Awareness

Social media provides students with the opportunity to actively acquire knowledge through the exchange and interaction of various types of content and information. Piaget's constructivist learning theory forms the base of this study as students construct their own knowledge.



Social media provides students with the opportunity and a platform to connect with society, through which they can express their views and opinions on environmental awareness and seek solutions to problems. This also aids in clarifying and enhancing their understanding. Therefore, this study places a special emphasis on sociocultural learning, giving importance to social interaction in the process of learning and developing awareness.

Rogoff's and Vygotsky's sociocultural perspective emphasizes guided participation. Students connect with environmental experts through social media and participate in their activities, which in result fosters environmental awareness.

Learners use social media for constructing and sharing of knowledge and. They participate in campaigns and post. Thus, this connection between constructivism and social media leads to creativity and critical thinking, making learning more meaningful by applying knowledge in practice, according to situated cognition.

The present study positions social media not merely as a digital communication platform but as a dynamic pedagogical catalyst that facilitates the development of environmental awareness through structured learning processes. At the foundational level, the digital social media ecosystem—comprising interactive platforms, multimedia content, algorithm-driven exposure, online communities, and environmental campaigns—creates a technologically mediated learning environment in which environmental information is continuously produced, shared, and negotiated. However, awareness does not emerge automatically from exposure; rather, it is shaped through pedagogical mediation processes grounded in constructivism, connectivism, transformative learning, and social learning theory. Through constructivist interaction, learners co-construct environmental knowledge via dialogue, sharing, and collaborative engagement. Connectivist networking enables learners to access distributed knowledge across digital nodes, thereby expanding their ecological understanding beyond local contexts. Transformative learning processes encourage critical reflection on environmental crises, prompting shifts in attitudes and worldviews toward sustainability. Simultaneously, social learning mechanisms facilitate observational modeling, where individuals emulate pro-environmental behaviors demonstrated by community, peers and activists. These pedagogical processes influence the cognitive (knowledge and understanding of environmental issues), affective (values, concern, ecological sensitivity), and behavioral (intentions and sustainable practices) dimensions of environmental learning. The interaction of these dimensions culminates in measurable outcomes such as strengthened environmental attitudes, increased civic participation, advocacy engagement, and sustainable lifestyle orientation. Furthermore, the framework acknowledges moderating variables—including digital literacy, critical media literacy, psychological well-being, cultural knowledge systems such as Indian Knowledge Systems (IKS), and institutional support—that shape the depth and quality of engagement with environmental content. By integrating technological affordances with pedagogical theory, the framework advances the discourse from viewing social media as a mere awareness tool to conceptualizing it as an educational infrastructure capable of fostering ecological consciousness and responsible environmental citizenship, connecting social media pedagogy with Indian Knowledge Systems produces a holistic model of environmental awareness that integrates technology, ethics, culture, and transformative learning. Social media provides the structural and interactive infrastructure, while IKS offers the philosophical and moral compass guiding ecological consciousness. Together, they reposition environmental education from information dissemination toward value-based, culturally rooted, and socially transformative sustainability learning.

Based on the analysis, it is clear that the use of social media is consistent with constructivist learning principles. According to Piaget, students construct their own knowledge through their experiences, which is also evident in the use of social media. Vygotsky's sociocultural theory suggests that knowledge is constructed through interaction with society, and social media provides an effective medium for this.

Based on the above principles, it can be said that social media acts as a catalyst for promoting environmental awareness. Therefore, teachers can use social media as an effective tool.

CONCLUSION

According to research, social media is not just a means of information exchange, but as an educational catalyst, it aligns with key educational theories regarding environmental awareness. Social media promotes active and participatory learning in environmental education. Social media platforms provide an environment in which

students construct their own knowledge related to ecological issues. According to Chen & Xiao (2022), digital platforms help solve problems related to the environment as a social process. Research by Hamid et al. (2017) and Kaur and Chahal (2018) explain that social media addresses social issues by shaping learners' affective variables. Through social media, learners are able to acquire higher levels of knowledge in the presence of other experts. Therefore, social media acts as a more knowledgeable other. Social media facilitates guided participation in line with Rogoff's sociocultural perspective. According to Melville (2010) and Kratzig and Kretzschmar (2014), social media (web tools) provides valuable space to global issues. Hajri and Daife (2024) stated in their study that learners acquire knowledge through various mediums, but knowledge acquired through digital tools and platforms is effective. Gupta (2023) and Syarifuddin et al. (2024) explain that digital platforms increase awareness, meaningful social interaction and have the potential for cognitive development.

Based on the above literature review, it is concluded that social media serves as an educational catalyst. Social media has emerged as an important tool for environmental awareness. This is consistent with constructivist theories because social media supports active, collaborative, and guided learning. By exposing learners to real-world situations, social media promotes responsible global citizenship.

Although social media is useful in education, it also poses several educational challenges, such as misinformation, distraction, and privacy. Therefore, it is essential to provide teachers with appropriate guidance. However, proper guidance and caution are essential in the use of social media. Teachers should guide students to use social media responsibly and productively. In this way, social media environmental education can play a significant role in developing environmental awareness.

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