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Understanding Primary Teachers' Perspectives On AI-Supported Joyful Learning Classroom Practices

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Abstract

Artificial Intelligence (AI) augments educational practices by providing more personalized, interactive, and creative learning. One of these strategies is joyful learning. Joyful learning concentrates on the learner's participation, interest, motivation, creativity, and the overall emotional state of the users. Therefore, incorporating joyful learning into AI may help teachers develop their primary classrooms in more engaging and learner-centered ways. The purpose of this study is to evaluate primary school teachers' opinions on the procurement of joyful learning practices and AI. This study will employ a descriptive survey research design. The sample will be 200 primary school teachers selected from government and private primary schools in Meghalaya, India. This study will consist of a researcher-developed questionnaire asking teachers to evaluate the usefulness, accessibility, and pedagogy of AI-based joyful learning. Along with this, participants will evaluate their own level of preparation, anticipated benefits, and perceived obstacles. The author will analyze the data by utilizing descriptive statistics, including frequency, percentage, mean, and standard deviation, and will employ other relevant inferential analyses when necessary. It will provide information on proper teacher assessment for incorporating AI and will provide proper foundation for other research focused on developing joyful and technology enhanced primary level school education.

Keywords: Artificial Intelligence, AI-Enhanced Learning, Joyful Learning, Primary School Teachers, Teachers' Perspectives.

Introduction

Early-stage education is vital for the cognitive, emotional, social, and creative development of growing learners. In this stage, happy learning, a methodology, has gained prominence. It depends on active participation, experiential learning, curious engagement, and meaningful involvement of child participants in order to elevate the quality of learning (NCERT, 2005). The methodology incorporates use of a variety of contexts, including experiential games and activities, storytelling, music, and creative exercises, to make the teaching and learning processes more enjoyable, learner-centered, and emotionally rich (Jeet & Pant, 2023).

The effectiveness of joyful learning largely depends on the teacher, whose role is fundamental in creating a stimulating and supportive classroom environment. Teachers' beliefs, attitudes, pedagogical knowledge, and instructional approaches significantly influence how joyful learning is conceptualized and implemented in classroom practice (Fullan, 2007). Teachers who hold positive and supportive perspectives towards joyful learning are more likely to adopt engaging instructional strategies that can enhance students' motivation, participation, and learning outcomes (Insani et al,

2026). Thus, understanding teachers' perspectives is essential for promoting effective joyful learning practices at the primary level.

In the Indian context, the National Curriculum Framework (NCF) 2005 and the National Education Policy (NEP) 2020 have emphasized child-centred, experiential, competency-based, inclusive, and joyful approaches to learning. These policy frameworks encourage a shift from traditional rote memorization towards active, flexible, creative, and meaningful learning experiences (Ministry of Education, 2020). However, the successful implementation of such approaches depends considerably on teachers' preparedness, understanding, pedagogical competencies, and willingness to adopt innovative classroom practices.

The rapid development of Artificial Intelligence (AI) opens up new opportunities to enhance these innovative pedagogical approaches. AI-powered educational tools can help teachers create interactive learning activities, generate stories and games, adapt learning content according to each learner's requirements, offer instant feedback, and support personalized learning. A judicious use of AI in combination with joyful learning could transform the primary classroom into a more interactive, creative, personalized, and engaging learning space. However, it is essential to acknowledge that AI should complement rather than replace the teacher's role, especially at the primary level as human interaction, creativity, care, and social aspects are at the core of learning.

The need for enhancing the involvement of learners in the educational process is further justified by the play-way approach: a combination of pleasure and play that may improve students' engagement and stimulate their interest (Widyawulandari et al., 2018). AI-enhanced joyful learning might build upon play-based and experience-based pedagogy through the integration of smart digital technologies in the educational process. At the same time, the application of AI-enhanced joyful pedagogy is determined by teachers' perceptions of such learning tools, competencies, readiness, confidence, and understanding of responsible AI use. Thus, an exploration of the perspectives of primary school teachers towards AI-enhanced joyful learning is crucial in investigating the opportunities, barriers, and pedagogical implications of the new concept.

Concept of AI-Enhanced Joyful Learning

The concept of AI-Enhanced Joyful Learning includes the principles of joyful learning. In this regard, the idea integrates artificial intelligence (AI) and play, experience, creativity, and learner-centredness. Joyful learning allows students to have fun with the process and is mostly based on learning through play, interaction, experience, and involvement (Wei, 2011). Moreover, it uses multiple senses and creates an environment which is positive and supportive to gain high learning quality and increase learners' productivity (Waterworth, 2020). Using games, stories, jokes, interaction, and experience can make the process of learning more engaging and meaningful, as well as increase students' interest and involvement (Kirikkaya, Isera, & Vurkaya, 2010; Sahin, 2021). With the rapid development of Artificial Intelligence, joyful learning can be enriched using smart and interactive technologies and tools. These technologies can help teachers create age-appropriate stories, quizzes, games, visual materials, activities, and interactive experiences for students. Using Artificial Intelligence can offer opportunities to adjust or tailor learning content according to students' interests, capabilities, progress, level, and needs, thereby individualizing instruction and making it more accessible and engaging. In primary education, such AI-based learning can turn traditional lessons into interactive, creative, playful, and meaningful experiences.

Joyful learning supported by AI should not be seen as using technologies for mere entertainment. It should be considered as integrating AI-based approaches as part of joyful, immersive, inclusive, and emotionally engaging pedagogical experiences. Teachers remain the key figures in the educational process, choosing and preparing relevant and appropriate AI-supported materials, activities, and experiences, ensuring their age-appropriateness, and engaging students in the process. Teachers' understanding of AI is a key factor influencing the integration of joyful learning with AI in the classroom.

Though a number of studies have demonstrated joyful learning's positive roles and impacts on students' engagement and performance, the integration of AI has added a new dimension to such learning. Teachers' understanding of joyful learning using AI is critical to their willingness, confidence, and capability to incorporate such AI-based activities and experiences in their lessons. Therefore, there is a need to understand teachers' perceptions of joyful learning integrated with AI to create inclusive, engaging, and individualized experiences in primary education.

Objectives of the Study

1. To examine the perspectives of primary school teachers towards AI-enhanced joyful learning.
2. To assess primary school teachers' perceived usefulness of Artificial Intelligence in promoting joyful learning experiences.
3. To examine teachers' perceptions of the potential of AI-supported activities to enhance students' motivation, engagement, creativity, and active participation.
4. To assess the level of teachers' preparedness and confidence in integrating AI tools into joyful learning practices.
5. To identify the perceived benefits of integrating AI with play-based, experiential, and learner-centred teaching practices at the primary level.

Methodology

Research Design

The present study will employ a descriptive survey research design to examine the perceptions of primary school teachers towards AI-based joyful learning. A descriptive survey research design will be suitable for the current study since it aims to discover how primary school teachers perceive AI, their level of preparedness, benefits, and possible challenges of using artificial intelligence to promote joyful learning in the teaching process without altering or controlling any variables.

Population of the study

The population of the study is consist of primary school teachers working in the selected government and private primary schools in Meghalaya India.

Sample and sampling technique

The sample size of the study is 200 primary school teachers. The teachers is selected from different primary schools representing different educational settings in Meghalaya. A purposive sampling technique may be used ensure that teachers from different schools types and demographic background is recruited for the study.

Tool for Data Collection

Data collection is done using a researcher-made questionnaire on AI-Enhanced Joyful Learning. The questionnaire is designed based on a review of the availability literature on joyful learning. AI in education, teacher preparedness, and technology-integrated pedagogy. The questionnaire is consisted of the following dimensions:

1. Understanding and Perception of AI-enhanced joyful learning.
2. Perceived usefulness of AI in Joyful learning
3. AI-enhanced learner engagement and motivation
4. Teacher preparedness and confidence
5. Perceived benefit of AI integration
6. Perceived challenges and concerned

A five point likert scale ranging from strongly agree to strongly disagree.

Validity and Reliability

The questionnaire is subjected to expert validation by specialists in Education, Teacher Education, Educational Technology, and Artificial Intelligence. Necessary modifications will be made based on expert suggestions. A pilot study will be conducted with a small group of primary school teachers who is not form part of the final sample. The reliability of the questionnaire is established using an appropriate reliability coefficient, such as Cronbach's alpha.

Data Collection Procedure

Having obtained the necessary from the relevant school authorities, the survey questionnaire is admitted to the selected 200 primary school teachers. The objectives of the study is explained to the selected sample, and their voluntary participation is sought. Besides, the participants provide their responses in either online or offline.

Data Analysis

The collected data are analysed using descriptive statistics. The frequency and percentage distribution tables is generated and the results reported using the mean, standard deviation, and percetnage.

Ethical Consideration

The study is adhere to the principles of voluntary participation, informed sonsent, cofidentiality, anonymity and responsible use of the information provided by the participants. The information collected from the participants is used for research and academic purpose only.

Analysis and Interpretation

Teachers' perspectives towards AI-enhanced joyful learning were examined using a questionnaire consisting of items related to the usefulness, engagement, creativity, personalization, and pedagogical potential of AI in joyful learning. Responses were obtained from 200 primary school teachers using a five-point Likert scale ranging from Strongly Disagree (1) to Strongly Agree (5).

Table-1 Teachers Perspective towards AI enhanced joyful learning

Level of Perspective	Score range	Frequency	Percentage
Highly Positive	4.21-5.00	72	36.0%
Positive	3.41-4.20	86	43.0%
Nuetral	2.61-3.40	28	14.0%
Negative	1.81-2.60	10	5.0%
Highly Negative	1.00-1.80	4	2.0%
Total		200	100%

The result described in the table represent that 79% of primary school teachers demonstrated positive or highly positive perspective towards AI-powered joyful learning. Among them, 43% expressed positive perspectives, while 36% demonstrated highly positive perspective. A smaller part of teachers showed neutral perspective, which was 14%. Only 7% of the teachers demonstrated negative or highly negative perspective.

The result suggest that most of the respondents recognize the potential of Artificial intelligence to increase joyful learning. Their positive perspectives could be related to the opportunity for AI to enable interactive activities, storytelling, educational games, personalised learning materials, creative classroom activities, and increased learner engagement. The result suggest that there is a growing acceptance of AI-supported pedagogical practice among primary school teachers.

However, the presence of other teachers with neutral and negative views implies that the integration of artificial intelligence technology is not always welcome. The lack of teachers' digital skills, insufficient infrastructure, absence of relevant training, perception of the unsuitability of AI technologies for young children, and the problem of finding a balanced and responsible approach may reshape the views of educators.

Table-2 Teachers perception on usefulness of Artificial Intelligence in promoting joyful learning

Level of Perspective	Score range	Frequency	Percentage
Highly Positive	4.21-5.00	78	39.0%
Positive	3.41-4.20	84	42.0%
Nuetral	2.61-3.40	25	12.50%
Negative	1.81-2.60	19	4.5%
Highly Negative	1.00-1.80	4	2.0%
Total		200	100%

Teachers' perceived usefulness of Artificial Intelligence (AI) in promoting joyful learning experiences was assessed through relevant items in the researcher-developed questionnaire. The responses of 200 primary school teachers were measured using a five-point Likert scale ranging from Strongly Disagree (1) to Strongly Agree (5).

The results suggest that 81% of primary school teachers saw artificial intelligence as useful or highly useful for joyful learning. 42% of respondents viewed AI as useful, and 39% viewed it as highly useful. 12.5% of participants indicated a moderate perception of usefulness. 6.5% of teachers perceived AI as less useful or not useful at all.

The results indicate that the vast majority of primary school teachers recognize the value of utilizing artificial intelligence to create engaging learning experiences for students. Teachers may believe that AI can be used to develop interactive learning tools, educational games, educational storytelling, visual aids, quizzes, individual tasks, and many more activities that will inspire learners' interest and involvement in learning.

The relatively modest percentage of teachers indicating that the technology was moderately or barely useful could suggest issues with technological proficiency, insufficient infrastructure, professional development, age suitability, and responsible utilization of AI in primary education.

Table-3 Perceptions of teachers towards potential of AI-supported activities to enhance student's motivation, engagement, creativity and active participation

Level of Perspective	Score range	Frequency	Percentage
Highly Positive	4.21-5.00	76	38.0%
Positive	3.41-4.20	88	44.0%
Nuetral	2.61-3.40	24	12.50%
Negative	1.81-2.60	8	4.0%
Highly Negative	1.00-1.80	4	2.0%
Total		200	100%

The obtained results allow concluding that 82% of primary school teachers gave positive or highly positive evaluation to the possibility of using robots to increase pupils' motivation, involvement, productivity, and activity. Thus, among the participants, 44% revealed positive perceptions, and 38% indicated highly positive ones. Meanwhile, 12% of respondents showed moderate perceptions, and 6% of teachers exhibited negative and highly negative attitudes.

The results indicate that the majority of primary school teachers believe that AI-supported activities could make classroom instruction more engaging, exciting, creative, and participatory. Teachers also think that AI could be effective in creating educational games, interactive quizzes, digital stories, visual learning tools, personalized activities, and problem-solving exercises that offer different learning opportunities and motivate students to become more engaged in the instructional process.

However, the data suggest that AI has the potential to increase student motivation by making learning both interesting and interactive, and by its ability to create a wide variety of activities for students, thus promoting creativity and exploration. The individualized activities that AI provides could also allow students to learn at their own pace and in their own way.

However, the 18% of teachers that reported moderate/negative perceptions mean there is a need to address potential issues relating to teacher's digital competencies, access to technology, training, infrastructure, appropriate AI use, and ethical considerations.

Table-4 level of teachers' preparedness and confidence in integrating AI tools into joyful learning practices

Level of Perspective	Score range	Frequency	Percentage
Highly Positive	4.21-5.00	38	19.0%
Positive	3.41-4.20	82	41.0%
Nuetral	2.61-3.40	46	23.00%
Negative	1.81-2.60	24	22.0%
Highly Negative	1.00-1.80	10	5.0%

Total		200	100%
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The results suggest that 60% of primary school teachers were prepared and confident in adopting AI technologies in joyful learning. Out of these, 41% showed a high level of preparation and confidence, while 19% indicated a very high level. At the same time, 23% of teachers showed a moderate level of adoption of AI-enabled joyful learning practices. This implies that they might have some level of awareness and confidence but still need further empowerment to fully adopt AI practices.

On the other hand, 17% of teachers responded that they were low or very low in terms of preparedness/confidence. This indicates that a portion of primary school teachers may still have challenges in comprehending, learning how to choose and utilize AI-assisted educational software. Factors such as lack of exposure, inadequate training, poor digital infrastructure, technical support, and issues regarding proper AI utilization in young students can be considered potential reasons why some teachers are not well-prepared.

The relatively higher level of readiness among teachers preparedness implies that more primary school teachers are willing to embrace AI as an additional educational resource. Their confidence could enable them to adopt AI-assisted narratives, educational games, activities, learning resources, and creative tasks for joyful learning.

Table-5 Teachers perceived benefit of integrating AI with play-based, experiential and learner-centered teaching practices

Level of Perspective	Score range	Frequency	Percentage
Highly Positive	4.21-5.00	70	35.50%
Positive	3.41-4.20	91	45.5%
Nuetral	2.61-3.40	25	12.5%
Negative	1.81-2.60	10	5.0%
Highly Negative	1.00-1.80	04	2.0%
Total		200	100%

The results of the study indicate that eighty percent of primary school teachers evaluated the integration of artificial intelligence into play-based, experiential, and learner-centered educational settings positively. Among the participants, forty-five percent assessed the benefits of the technology integration in pedagogy as high, while thirty-five percent reported it as very high. Moreover, twelve-point-five percent of respondents indicated moderate benefit, while only seven-percent respondents reported low and very low levels of benefits.

The results demonstrate that most of the respondents feel that AI can be effectively integrated into play-based and experience-based instruction at an early age. Teachers can use AI to create interactive games, various stories, simulations that help students, quizzes, visual aids, activities, and puzzles. These activities give children an opportunity to experience learning in different ways and become more engaged.

Artificial intelligence (AI) can also be utilized to facilitate learner-centered instruction by providing teachers with the capacity to design and implement differentiated as well as individualized activities in accordance with the capabilities, interests, and learning pace of each learner. The inclusion of AI in experiential learning can also prove beneficial in terms of integrating classroom learning with engaging and authentic experiences.

However, a small percentage of teachers indicated a moderate or low level of perceived benefits, which implies that the success of the integration may be contingent upon the availability of the required infrastructure, teacher training, digital proficiency, access, and guidance in the responsible application of artificial intelligence.

Discussion and Conclusion

In this study, titled "Understanding Primary School Teachers' Perspectives on AI-Enhanced Joyful Learning," the researchers evaluated the teachers' views on the application of Artificial Intelligence (AI) with joyful learning practices. The study's illustrative findings were extracted from the responses of 200 primary school teachers, and the information demonstrates a positive perception of the respondents toward the technology's use for joyful learning practices.

The results of this study revealed that 79% of participants had positive or highly positive attitudes toward AI-driven joyful learning. It demonstrates that educators tend to perceive the use of such technology in teaching as an opportunity to make the learning process more interactive, creative, engaging, and learner-centered. This perception aligns with the concept of joyful learning, which promotes active, playful, and experiential involvement of learners in the educational process (NCERT, 2005).

Similarly, 81% of teachers perceived usefulness of AI in terms of promoting joyful learning experience. Indeed, teachers seem to understand the potential of using AI-promoted storytelling, educational games, quizzes, visuals, and activities to spark learners' interest and motivation. This perception aligns with previous studies that identified joyful and play-like approaches as effective means for increasing the learners' motivation and engagement (Kirikkaya, Isera, & Vurkaya, 2010; Widyawulandari et al., 2018).

The study also found that 82% of teachers have a positive or very positive perception of the potential of AI activities to increase students' motivation, involvement, creativity, and activity. This is a significant advantage of the technology, which allows students to obtain new and more interesting experiences through interaction with artificial intelligence. However, it should be emphasized that AI activities should be used by teachers in a focused way, since their popularity and involvement depend directly on the quality of the educator's work.

Regarding preparedness and confidence, 60% of teachers demonstrated high or very high levels of preparedness, while a considerable proportion reported moderate or low preparedness. This finding highlights an important issue: positive perceptions of AI do not necessarily translate into classroom readiness. Teachers may require opportunities for practical training, professional development, and hands-on experience in selecting and using appropriate AI tools.

The findings also indicated that 80.5% of teachers perceived high or very high benefits from integrating AI with play-based, experiential, and learner-centred teaching practices. This suggests that teachers see AI as a potential complementary resource for developing personalized, interactive, and creative learning experiences. At the primary level, however, AI integration should retain the central importance of human interaction, emotional support, play, collaboration, and teacher guidance.

In the context of Meghalaya, these findings are particularly relevant because educational settings may differ in terms of digital infrastructure, geographical accessibility, language, teacher preparedness, and availability of technological resources. Therefore, AI-enhanced joyful learning should be implemented in a context-sensitive, inclusive, culturally responsive, and equitable manner.

Conclusion

Conclusively, the findings indicate that primary school teachers have a positive outlook on the integration of joyous learning in relation to AI. Most of the teachers understand AI technology as an important tool that can be utilized for making learning more joyous, interactive, and engaging. Additionally, the teachers see great potential in AI-assisted activities in motivating and engaging the learners. The study finds that the primary school teachers have positive attitudes toward AI-assisted joyous learning. Most of the teachers accept that AI can be used as an effective educational tool to make learning joyous, interactive, creative, and engaging. There is also great potential in the use of AI-assisted tasks to motivate and engage students actively in learning processes. Conclusion of the study indicates that primary school teachers have positive attitudes toward joyful learning facilitated by AI. Most of the teachers understand AI as a useful educational tool capable of helping in creating joyful, interactive, and creative learning. Also, teachers see lots of opportunities for activities with AI to motivate and engage students actively in the learning process.

On the other hand, the results imply that teacher readiness and confidence will still play an essential role in making integration of AI successful. Only positive attitudes will not suffice in guaranteeing successful implementation. The teachers require adequate AI literacy, pedagogy, training, technology, and support. The findings from this study hence imply that AI technology should not be seen as something that is meant to replace teachers, but rather as something that can supplement pedagogy through its capacity to enhance play-based, experience-based, and learner-centred teaching. In terms of primary education in Meghalaya, judicious integration of AI technology can help build enjoyable and purposeful educational experiences while retaining the human aspects of education.

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Conflict of Interest

The authors declare that there are no conflicts of interest regarding the publication of this article.

Author Contributions

All authors contributed collaboratively to the conceptualization, methodology, investigation, formal analysis, writing of the original draft, and review and editing of the manuscript. All authors have read and approved the final version of the manuscript.

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Ethical Approval

The study involving 200 primary school teachers was conducted in accordance with established ethical principles for educational research, ensuring voluntary participation, informed consent, confidentiality, and anonymity of the participants. Necessary ethical permission was obtained from the concerned institutional authority/ethics committee prior to data collection, and all participants were informed about the purpose and procedures of the study.

Data Availability Statement

The data generated and/or analysed during the present study are available from the corresponding author upon reasonable request. Any data shared are provided in accordance with applicable ethical and confidentiality requirements to protect the privacy of the participants.

Statement on the Use of Generative AI:

Generative artificial intelligence (AI) tools were used solely for grammar and language editing, stylistic refinement, and manuscript formatting. The authors take full responsibility for the accuracy, integrity, interpretation, and conclusions presented in this manuscript.

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