Special Issue May 2023

Thiagarajar College of Preceptors

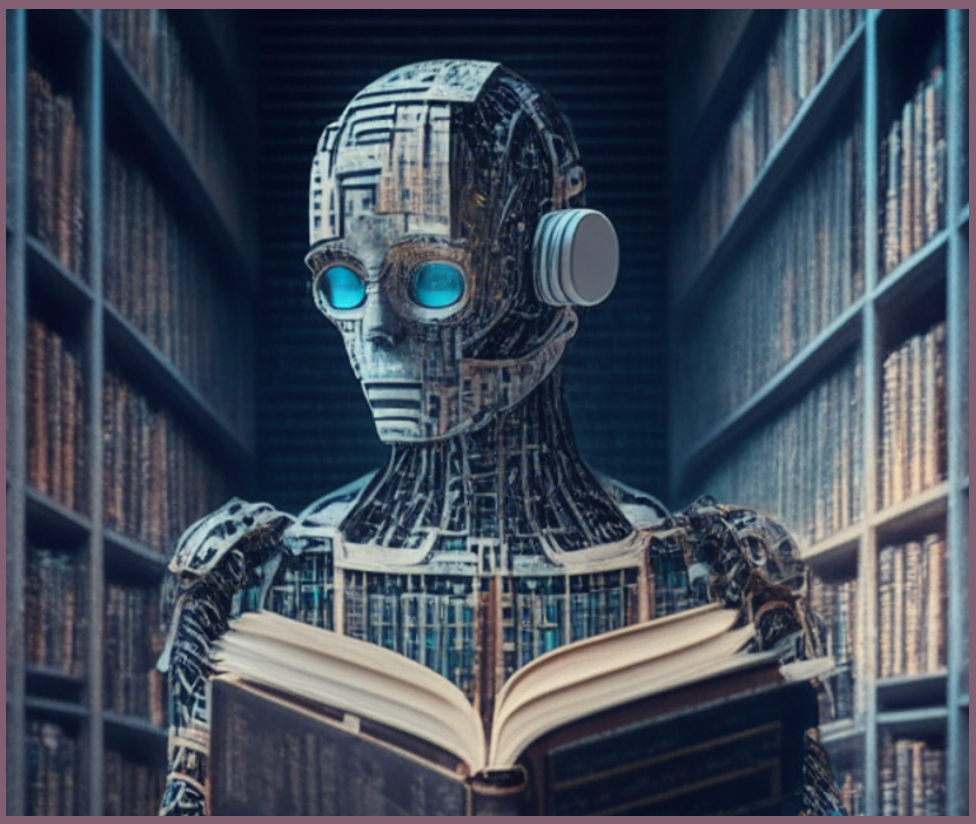
EduSpectra

Vol:5 | Issue:1 eISSN: 2581-8910

a peer reviewed online journal

A Two-day National Conference on

Education 5.0: Revolutionizing Learning for the Future



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Thiagarajar College of Preceptors Edu Spectra

Thiagarajar College of Preceptors was founded by Thiru. Karumuttu Thiagarajar Chettiar. It is run by Manickavasagam charitable foundation. The college is affiliated to Tamilnadu Teachers University, Chennai for B.Ed., degree course. The sanctioned strength at present is 100 in aided section and 100 in additional intake section. It situated is eastern part of Madurai and on western side of Mariamman, Teppakulam.

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To realize aim, it journal invites reflective articles, research papers (action research based), critical reviews, innovation, experimentation and issues and concerns in variety of area including professional development of teachers, teacher education, experiential accounts of educational practitioners and ethical and quality concerns that teacher education. The views expressed by authors them and not to Thiagarajar College of Preceptors Edu Spectra Online Journal.

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THIAGARAJAR COLLEGE OF PRECEPTORS

EDU SPECTRA

Volume 5 Special Issue 1 May 2023 E-ISSN: 2581-8910

CONTENTS

TECHNOLOGICAL REVOLUTION AND ITS IMPACTS ON IMPROVING VALUES, KNOWLEDGE, ATTITUDE, SKILLS, AND HABITS (VKASH) AMONG B.ED. STUDENTS

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DOI: https://doi.org/10.34293/eduspectra.v5is1-may23.001

Abstract

The digital era brings revolutionary changes in the teaching field. Student teachers need more awareness in accessing and handling technology for their teaching. The main factors of teaching are improving the values, knowledge, attitude, skills and habits among student teachers positively. Teacher Educators and student teachers work simultaneously to face the revolutionary changes in using technology in teaching and training to improve the VKASH. This study aims to analyzethe impacts and influencesof a technological revolutionin improving the values, knowledge, attitude, skills and habits of student teachers. A total of 100 student teachers in the age group of 20 and above were considered for the study. They were trained to handle the educational technology and its technique for 15 hours, and their values, knowledge, attitude, skills and habits were assessed by conducting the experimental study. Results: The results showed that there exists statistically significant improvement in values, knowledge, attitude, skills and habits among the student teachers fromthe experimental group (P < 0.001) when compared with the control group. This study suggested that after getting proper hands-on training in accessing and handling the technological tools and teaching /learning apps the student's teachers exposed their significant improvement in values, knowledge, attitude, skills and habits. These revolutionary changes may be due to the improvement and development of knowledge, skills, positive values, attitudes and habits among student teachers and that will help for their future professional growth in the field of teaching.

Keywords*: Technology, Revolution, Values, Knowledge, Attitude, Skills, Habits, Teaching Apps, Technological Tools, VKASH*

Introduction

The digital era brings revolutionary changes in the teaching field. Student teachers need more awareness in accessing and handling technology for their teaching. The main factors of teaching are improving the values, knowledge, attitude, skills and habits among student teachers positively. Teacher Educators and student teachers work simultaneously to face the revolutionary changes in using technology in teaching and training to improve the VKASH.

Materials and Methods

This study was conducted at the College of Education (Thiagarajar College of Preceptors, Madurai) and was shared daily for 60 min in the evening for 7 weeks. Participants In this study, 100 1st year student teachers in the age group of 21 years and above were selected. The participants who had practised educational technology

activity laboratory classes in the past 1-year and those who are not having exposure to educational technology activity laboratory classes are treated as a control group and they are excluded from the experimental setups. The study design was explained to the participants and made them aware that their participation would remain anonymous.

Action Plan

The samples were treated as respondents and they were divided into two equal groups, 50 students in theexperimental group and 50 students in thecontrol group. The samples are coping with the experimental setup and conditions. The Procedures were explained as per the activity and experiments were briefed to them. At the end of the activity, the experimental group and control groups were assessed to find out the differences in Values. Knowledge, Attitude, Skills and Habits. The data were collected before and after interventions for all the participants (n = 100). After completion of the experiment work the student teachers are asked to attempt the assessment procedure related to values, knowledge, attitudes, skills, and habits to cross-verify the scores and the impacts of technological revolutionary changes in teaching and learning.

Interventional strategies

The students were trained with educational technology tools and techniques for 1 week before the intervention period starts. The samples were getting exposure to the technology lab classes for each activity there was a demo class for operating the smart board applications and their features. The activity such a smart notebook, Mimio studio with audio effects, documentary camera, e-content creations, smart classroom transformation system, samacheer content module exposures through educomsoftware, and Simple mind apps. Kahoot quiz app, Text fairy apps, free online course with certificates – great learning and SWAYAM courses. After getting proper hands-on training the student teachers are highly experienced in handling the technological tools in education and there are experienced positive impacts and improvements towards values, knowledge, attitudes, skills and habit.

Statistical Analysis

Comparison between pre-intervention and post-intervention scores of each group was carried out by t-test. All the quantitative variables are summarized using descriptive statistics such as mean and standard deviation.

Table 1: Comparison of knowledge and skills and their scores before and after getting hands–on experience in handling educational technology in experimental and control groups. Dimension Mean, SD, t-value& P-value significant at 0.01 level.

Factors	Test	N	Mean	S.D	t-test	Level of significance
Knowledge	Pre-test	50	32.58	25.24	2.538*	P<0.01
	Post-test	50	45.06	28.81		
Skills	Pre-test	50	40.32	23.01	3.009*	P<0.01
	Post-test	50	48.41	28.81		

Table 1 also shows that a significant change in knowledge and skills in the experiment group was t = 2.538* which gives P < 0.01 in the case of knowledge, and t = 3.009* which gives P < 0.001 in the case of skills

Table 2: Comparison of values, attitudes, and habits before and after getting hands–on experience in handling educational technology in experimental and control groups. Dimension Mean, SD, t-value &P-value significant at 0.01 level.

Factors	Test	N	Mean	S.D	t-test	Level of significance
Values	Pre-test	50	32.581	25.24	2.610*	P<0.01
	Post-test	50	45.062	28.81		
Attitudes	Pre-test	50	20.218	15.73	3.246*	P<0.01
	Post-test	50	28.520	17.04		
Habits	Pre-test	50	18.439	22.71	3.021*	P<0.01
	Post-test	50	25.0312	23.69		

Table 2 also shows that a significant change in values, attitudes, and habits inthe experiment group was t = 2.610* which gives P < 0.01 in the case of values, t = 3.246* which gives P < 0.001 in the case of attitude, t = 3.021* which gives P < 0.01 in case of and habits.

Results

In comparison between the two groups, before and after the intervention the scores of the control group and intervention group were differences in their experiences towards values, knowledge, attitude, skills and habits. Results suggest that the experimental group practising educational technology applications had significant improvement in values, knowledge, attitude, skills and habits in comparison to that of the control group. This result may be due to continuous hands-on training achieved due to training in educational technology laboratory demonstration classes. Comparison between before and after the intervention of values, knowledge, attitude, skills and habits of the scores of the control group was done using paired t-test, and the results along with mean and standard deviation are given in Table 1& Table 2. This result shows significance at 0.01 level in the experimental group.

Discussion

In this study, the role of learning educational technology in values, knowledge, attitude, skills and habits of training student teachers was done in a short duration of 15 hours of activity classes every week from Monday to Friday between 4.00-5.00 PM completed working days. A comparison was done between the experimental group and the control group using attitude, values and habit-related intervention scales. The results suggest that the group getting hand –training in handling educational technology had significant improvement in values, knowledge, attitude, skills and habits. in comparison to that of the control group. This result may be due to students' interest, involvement and commitment to learning revolutionary technology in the field of education, especially in teaching the students to achieve high experience in values, knowledge, attitude, skills and habits. Educational values, following ethics in handling android mobile phones, and smart boards, developing their positive attitudes towards handling technology, which is beneficial for their learning, their habits are updated and coping with the recent trends and changes in technology.

Conclusion

Tremendous changes in technology,influence the teaching and learning process. Students in this digital era are highly sharp in thinking and reflect smart performances in their learning. So, the present teachers and future teachers also need to update their skills in teaching by adopting revolutionary technologies which will help in improving the VKASH among students. The main role of the teacher is to channel the student in the right direction and it is the responsibility of the teacher to teach the merits and demerits of technological use thatwill develop the student's positive attitudes, values and good habits. This experimental study suggested that student teachers getting regular drills and practice for a short duration helps inimproving thevalues, knowledge, attitude, skills and habits of student teachers. The researcher alsosuggested that one of the best strategies for improving academic performance is expanding the use of revolutionary technology in teaching and learning.

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EFFECTIVENESS OF FLIPPED CLASSROOM IN LEARNING SOCIAL SCIENCE

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Abstract
The purpose of the study was to find out the effectiveness of flipped classroom in learning social science in Higher Secondary Classes. The experimental method of research was employed to find the effectiveness.The design of this Experimental study wasPre-test Post-test equivalent group design. A sample of 60 III group History students was selected. The flipped classroom video lessons were used in the experimental group and the traditional lecture method was used in the control group. An achievement test was conducted to find the effectiveness of the flipped classroom. The findings revealed that learning through flipped classroom was effective in the attainment of objectives such as knowledge, understanding application and skill development when compared to traditional classroom learning through the lecture method.

Introduction
The COVID-19 pandemic impact left none of the fields untouched including education. When the physical meeting of teachers and learners became impossible, the institutions introduced many innovative teaching-learning methods that had been tried and followed. Some of the effective learning processes stuck around when the students returned to the physical classroom. One among them is flipped classroom which enhances students' learning experiences through active learning; peer collaboration and encouraged individualised learning to cater to the need and level of learning perception of the learners. The flipped classroom inverts the traditional classroom where teachers actively teach and learners passively listen. Flipped classrooms are interred lectures are shared for individual reviews as homework and classroom time is meant for class discussion and interaction with teachers and peers which promote active learning. It makes the classroom an active learning centre and enables the learners to learn at their own pace and gives the teacher more time to cater to individual care and attention to the learners. Together a flipped classroom typically involves a blend of online and face-to-face learning.

Background of the Study
In the flipped classroom the students can work out the learning as a workshop and they can test whether they can apply their knowledge through discussion with teachers and peersasopined by Chang and Hwang (2018). In the flipped classroom the teacher's role is changed. He is no more the instructor simply lecturing; he takes multiple roles as a content designer, motivator and facilitator for group discussions and also individual councillor. The majority of the students had a positive attitude towards flipped classroom the observation by Jalal Nouri (2016) since it largely uses multimedia

for the dissemination of content which always appeal to the learning styles of learners. Flipped classroom provides opportunities for the student to learn at their own pace and they enjoy learning through flipped classroom using various medium of instruction over traditional approaches.This fact was supported by many researchers (Butt, 2014; Davies et al., 2013; Larson & Yamamoto, 2013; McLaughlin et al., 2014; Roach, 2014; Gilboy et al., 2015). Love, Hodge, Grandgenett, and Swift (2014) of their observation that the students learning through flipped classrooms did their exams comparatively fairer than the students learning through traditional methods. McLaughlin et al. (2013) and McLaughlin et al. (2014) reported that the pharmacystudents learning the contents through flipped classroom felt that they were more engaged and enjoyed their learning than the students learning through traditional mode. Davies, Dean, and Ball (2013) research was brought to the limelight right aftercomparing three different instructional strategies and foundthat students attending the flipped classroom expressed their satisfaction.

Significance of Study

In the traditional classroom, the gifted feel bored and the below-average students get nothing since the teacher teaches only to the average. Students listen and take notes, passively receiving the lecture information (www.studocu.com/). Learners learning through flipped mode can review the material given to them at any time and learning can take place part by part at their convenience. In flipped classrooms, the special needs of children with different learning styles are well taken care of in the self-pacing mode of learning. Learning at their convenience reduces anxiety in learning. In flipped learning the basic information is learnt by the learners at home and they come to the class for varied experiences related to the content they learnt at home. The teachers lead the students in their presentations and group discussions. Here in these active learning students apply their knowledge to attain higher cognitive abilities. When study materials are made available, students face the examination with confidence (Michelle Kaye, 2021). With more opportunities for interaction with the teacher, collaboration with other students, problem-solving practice, and self-paced learning, research shows students in flipped classrooms may have better outcomes. The results of the previous research showed that flipped learning, in comparison with traditional teaching, enhanced students' learning interests and motivation as well as promoted students' learning effectiveness; meanwhile, teachers and students presented a positive evaluation concerning the advantages of flipped learning (Chi-Pu Chou (2021). The results of the present study will conform to and support the previous studies in formulating theories related to the flipped classroom.

Statement of Problem

The investigator intended to find the effectiveness of flipped classroom in learning social sciences at higher secondary classes.

Objectives of the Study

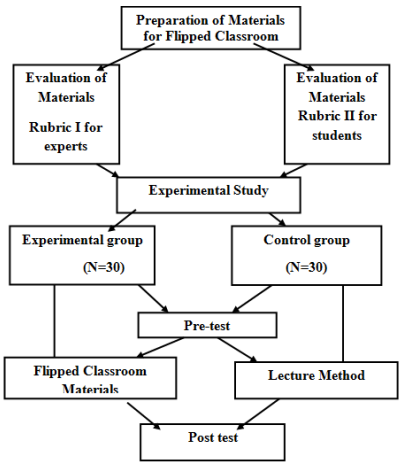
- To find out the significant difference between mean scores of the pre-test of control and experimental groups in their attainment of objectives such as knowledge, understanding, application and skill.
- To find out the significant difference between mean scores of post-test of control and experimental groups in their attainment of objectives such as knowledge, understanding, application and skill.
- To find out the significant difference between the mean scores of control and experimental groups in their gain scores.
- To find out the significant difference between the mean scores of control and experimental groups in their gain scores for the attainment of objectives such as knowledge, understanding, application and skill.

Methodology

The experimental method was mainly used for the study, for testing the effectiveness of flipped classroom in learning social science at the higher secondary level. The effectiveness of learning through flipped classroom was tested by comparing the achievement scores (Pre-test and post-test) of the experimental group (Students wholearnt through flipped classroom) and the control group (traditional lecture method).The two independent variables of the study were (i) Learning through flipped classroom and (ii) the Lecture Method of teaching social science. The Dependent Variable was the achievement in social science.

The Experimental study was conducted on a sample of 60 students from standard XI studying in the Government Higher secondary school, Reddiarpatti, Tirunelveli. (Experimental group-30; Control group-30) The following tools were used for the study. Video lessons (based on a lesson from class XI History Text Book), Video Lessons Evaluation Rubric I (for experts), Video Lessons Evaluation Rubric II (for students), Lesson Transcripts based on Lecture (for the same lesson from class XI History book) and Achievement test in Social Science were used.

Research Design



Experimental Design

The design of this Experimental study was as under: Pre-test Post-test equivalent group design.

CO_1 X_1 CO_2

EO_1 X_2 E O_2

Where,

CO_1 and EO_1 are the pre-tests of the control and experimental group respectively.

X_1 and X_2 are the levels of the independent variables and

CO_2 and EO_2 are the post-tests of the control and experimental group respectively.

Controlling Variance

The main purpose of matching is to reduce the initial differences between the Experimental and Control group on the dependent variable. The extraneous variable like age was controlled by selecting the students from the same standard (plus one class) between the age groups of 16-17 years for both the experimental and control group respectively. The IQ level of the students had been set constant between 90-100 by scores ofthe Test of Intelligence, developed and validated by V.M. Kavitha and S. Francisca (2013). Based on the performance of the social science test students were divided into three groups such as low, average and high scorers. An equal number of students from each group has been placed both in the experimental and control groups respectively. To minimize the gender-based differences, the groups had been equalized with 15 boys and 15 girls in both experimental and control groups respectively. Thus variances were controlled.

Analysis of Data

Hypothesis 1

There was no significant difference between mean scores of the pre-test of control and experimental groups in their attainment of objectives such as knowledge, understanding, application and skill.

Table 1 Difference between Mean Scores of Pre-Test of Control and Experimental Groups in their Attainment of Objectives such as Knowledge, Understanding, Application and Skill

Objectives	Control		Experimental		't' value	Remarks
	Pre-test		Pre-test			
	Mean	S.D	Mean	S.D		
Knowledge	5.03	2.484	6.00	2.704	1.317	NS
Understanding	8.30	2.667	7.97	2.297	0.439	NS
Application	4.67	1.918	4.07	1.818	1.403	NS
Skill	1.97	0.890	1.53	0.860	1.987	NS

*Level of significance at 0.05, table value 2.042

**Level of significance at 0.01, table value 2.750

From the above table, it is inferred that there is no significant difference between mean scores of the pre-test of control and experimental groups in their attainment of objectives such as knowledge, understanding, application and skill.It is evident that both the experimental group and control group had achieved approximately equal scores in the pre-tests in the attainment of all the objectives.

Hypothesis 2

There is no significant difference between the mean scores of the post-test of control and experimental groups in their attainment of objectives such as knowledge, understanding, application and skill. Therefore the null hypothesis is accepted.

Table 2 Difference between Mean Scores of Post-Test of Control and Experimental Groups in their Attainment of Objectives Such as Knowledge, Understanding, Application and Skill

Objectives	Control		Experimental		't' value	Remarks
	Post-test		Post-test			
	Mean	S.D	Mean	S.D		
Knowledge	5.90	2.203	7.90	1.954	3.525**	S
Understanding	8.83	2.574	10.33	2.354	2.314*	S
Application	5.67	2.023	7.47	2.968	2.787**	S
Skill	2.23	0.728	4.57	0.898	10.536**	S

*Level of significance at 0.05, table value 2.042

**Level of significance at 0.01, table value 2.750

There is a significant difference between the mean scores of the post-test of control and experimental groups in their attainment of objectives such as knowledge, understanding, application and skill. Since the calculated 't' value is greater than the table value, the formulated null hypothesis was not accepted. Comparing the mean scores the post-test performance of the experimental groups was better than the post-test performance of the control group in the attainment of all the objectives

Hypothesis 3

There is no significant difference between the mean scores of the control and experimental group in their gain scores.

Table 3 Difference between the Mean Scores of the Control and Experimental Group in their Gain Scores

Group	Mean	S.D	't' Value	Remarks
Control	2.67	1.918	8.300**	S
Experimental	10.70	5.338		

*Level of significance at 0.05, table value 2.042

**Level of significance at 0.01, table value 2.750

From the above table, it is inferred that there is a significant difference between the control and experimental group in their gain scores. Since the calculated 't' value is greater than the table value, the formulated null hypothesis was not accepted. The experimental group's gain scores were better than the gain scores of the control group.

Hypothesis 4

There is no significant difference between the mean scores of the control and experimental groups in their gain scores for the attainment of objectives such as knowledge, understanding, application and skill.

Table 4 Difference between the Mean Scores of Control and Experimental Groups in their Gain Scores for the Attainment of Objectives Such as Knowledge, Understanding, Application and Skill

Objectives	Pre-test		Post-test		't' value	Remarks
	Mean	S.D	Mean	S.D		
Knowledge	0.87	1.074	1.90	2.123	2.531*	S
Understanding	0.53	0.860	2.37	1.956	4.704**	S
Application	1.00	1.597	3.40	3.276	3.616**	S
Skill	0.27	0.640	3.03	0.999	13.006**	S

*Level of significance at 0.05, table value 2.042

**Level of significance at 0.01, table value 2.750

From the above table, it is inferred that there is a significant difference between the control and experimental groups in their gain scores for the attainment of objectives such as knowledge, understanding, application and skill. Since the calculated 't' value is greater than the table value, the formulated null hypothesis was not accepted. The gain scores of the experimental group were better than the gain scores of the control group in their attainment of all the objectives.

Conclusion

The results of the study revealed that the flipped classroom learning of social science is a better way of learning than teaching the lesson through the lecture method by a teacher. The result of the study draws the support of Chi-Pu Chou (2021) found flipped classroom model seems to offer promising ways to engage students in more effective, supportive, motivating and active learning, especially for low achievers and students that may struggle with traditional lectures Jalal Nouri (2016) Campillo-Ferrer et.al (2021) concluded that students had a positive perception about the flipped classroom. Flipped learning, compared to traditional teaching, could enhance students' learning motivation and learning attitude and because of these reasons flipped learning is certainly worth attempting (Chi-Pu Chou,2021). FurtherChi-Pu Chou (2021) is of the opinion that traditional learning also has some good features within it and the

institutions can blend along with flipped learning. Students feel that learning content is easier with flipped learning compared to traditional mode.

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IMMERSIVE LEARNING: UNLOCKING THE FUTURE OF EDUCATION

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Abstract
Educational technology has experienced significant growth and development in recent years, offering new opportunities for enhancing the learning experience. Education 5.0, a student-centred approach to learning, emphasizes the use of emerging technologies such as virtual reality (VR), augmented reality (AR), and blockchain to create immersive and engaging learning experiences. Immersive learning technology has gained recognition, particularly in response to the disruptions caused by the global pandemic, as it bridges the gap between physical and virtual classrooms and provides dynamic and interactive learning experiences. This article explores the potential of immersive learning technology and its impact on education, highlighting its ability to revolutionize the learning process. By analyzing its benefits, challenges, and prospects, this article delves into how immersive learning reshapes education. The article also examines the components of immersive learning technologies, including virtual reality, augmented reality, and mixed reality, and discusses their potential benefits and challenges. It concludes with a discussion on the importance of immersive learning in education and the need for addressing challenges such as cost, content development, and accessibility to unlock its full potential. Overall, immersive learning holds promise for transforming education by enhancing student engagement, promoting personalized and adaptive learning, fostering collaboration and social interaction, and expanding access to education.
Keywords: *Immersive Learning, Virtual Reality, Augmented Reality, Mixed Reality, Future of Education.*

Introduction
Educational Technology is a field that has seen significant growth and development in the past few decades. The advancements in technology have provided new opportunities for educators to enhance the learning experience of their students. As a result, the use of educational technology has become increasingly popular in classrooms around the world. In this modern era, students have access to a wide range of tools and resources that can help them learn more effectively and efficiently. From online learning platforms to educational apps and software, technology has revolutionized the way we approach education. As we continue to explore the potential of educational technology, it is clear that it will play an increasingly important role in shaping the future of education.

Education 5.0 is an emerging concept that takes advantage of the latest technological advancements to provide a more personalized and student-centred approach to learning. This new paradigm of education focuses on developing the skills

and competencies needed for success in the 21st century, such as critical thinking, problem-solving, and collaboration. Education 5.0 also emphasizes the use of emerging technologies such as artificial intelligence, virtual and augmented reality, and blockchain to create immersive and engaging learning experiences. As we move towards a more digital and interconnected world.

In recent years, there has been a growing recognition of the transformative power of immersive learning technology. The global pandemic, with its disruptive impact on traditional education systems, has further accelerated the adoption and exploration of these technologies. Schools, universities, and training institutions have increasingly embraced immersive learning to bridge the gap between physical and virtual classrooms, offering learners a dynamic and interactive learning experience.

This article explores the potential of immersive learning technology and its impact on education, with a focus on its ability to unlock the future of learning. Through a comprehensive analysis of the current state of immersive learning, its benefits, challenges, and prospects, we will delve into how this technology is reshaping education.

Immersive Learning

"Tell me and I forget; teach me and I may remember; involve me and I learn."

- Benjamin Franklin

The term "immersive learning" refers to the practice of utilizing immersive technology to improve educational settings and encourage student participation. It can be a type of Blended Learning (BL). In recent years, the advantages of blended learning have become abundantly clear, and they include increased educational accessibility and a less repetitive learning environment. Blended learning enhances the academic achievement and retention levels of students (Sivakumar & Selvakumar, 2019). Immersive learning is a transformative concept that revolutionizes traditional education by creating immersive and interactive experiences for learners. It goes beyond the confines of textbooks and classrooms, offering engaging and dynamic learning environments. By leveraging advanced technologies like virtual reality (VR), augmented reality (AR), and mixed reality (MR), immersive learning enables students to step into realistic simulations and explore complex subjects in a hands-on and experiential way. Whether it's exploring ancient civilizations, conducting virtual science experiments, or practising real-life scenarios in a safe and controlled environment, immersive learning immerses learners in rich, multidimensional experiences that enhance their understanding and retention of knowledge.

Immersive learning utilizes one or more of the following technologies: Virtual Reality (VR), Augmented Reality (AR), Mixed Reality (MR), and Simulation Learning. VR fully immerses the learner in a virtual world with the use of a headset; AR enhances the real-world view by adding digital elements over it; MR allows digital and physical objects to co-exist and interact in real-time using a combination of VR and AR; and

simulation learning provides a semi-immersive experience (Buljan, 2022). With immersive learning, the focus is on creating an environment that simulates real-world scenarios, allowing students to learn through experience and application. This approach to education is particularly effective for subjects that require practical application, such as science, engineering, and medicine. Immersive learning technology can take many forms, including virtual and augmented reality, gamification, and simulations. By using these technologies, educators can create a more engaging and interactive learning experience for students, which can lead to better learning outcomes and higher student satisfaction. This concept promotes active participation, collaboration, critical thinking, and problem-solving skills, empowering learners to become more engaged and enthusiastic about the learning process. As technology continues to advance, immersive learning has the potential to reshape education by fostering creativity, innovation, and a deeper connection between learners and the subjects they study.

Components of Immersive Learning Technologies

The following technologies are used to implement immersive learning in classroom teaching and learning.

Virtual Reality

Virtual reality is the creation of simulated environments using computer technology. The user is immersed in a three-dimensional virtual reality experience. Users are immersed in and interact with 3D worlds instead of observing a screen in front of them (Bardi, 2019). "Virtual reality generates a fully immersive, 360-degree user experience that feels real. In a virtual reality environment, pupils can interact with what they see as if they were present" (*Benefits of Virtual Reality in Education: Tools & Resources | American University*, 2019). Real-world scenarios are recreated using digital simulations. By donning a headset, a user is immersed in the virtual world and able to travel to physically inaccessible locations.

Augmented Reality

The purpose of augmented reality is either to alter the appearance of natural environments or to provide users with additional information. The primary advantage of augmented reality is its ability to combine digital and three-dimensional (3D) elements with a person's perception of the actual world. AR has many applications, including decision-making and entertainment. (*What Is Augmented Reality (AR)?* 2022). "Augmented reality superimposes sounds, videos, and graphics onto an existing environment. It uses four main components to superimpose images on current environments: cameras and sensors, processing, projection, and reflection." (*Augmented Reality in Education: Interactive Classrooms | Maryville Online*, 2021)

Mixed Reality

"Mixed reality is a blend of physical and digital worlds, unlocking natural and intuitive 3D human, computer, and environmental interactions. This new reality is based on advancements in computer vision, graphical processing, display technologies, input systems, and cloud computing." (Quinaw,2023). Mixed reality allows users to interact with digital technology in a virtual world in a way that feels natural and instinctive (Carter, 2023). Mixed reality makes it possible for students to engage in immersive and interactive learning experiences, which has a transformative effect on both training and education. Companies from different sectors are already creating software for classrooms and offices that will improve employees' and students' learning. These platforms allow instructors to design dynamic, engaging classes that increase learners' interest and retention. (*How Does Mixed Reality Help in Education?* 2023)

Virtual reality is the creation of simulated environments using computer technology, allowing users to interact with 3D worlds and travel to physically inaccessible locations. Augmented reality is the ability to combine digital and three-dimensional (3D) elements with a person's perception of the actual world. Mixed reality is a blend of physical and digital worlds, unlocking natural and intuitive 3D human, computer, and environmental interactions.

Immersive Learning in Education

Immersive learning is gaining importance in education because it enables students to engage with complex ideas in a way that traditional methods cannot. By providing an immersive experience, students are more likely to retain their knowledge and be better equipped to implement it in the real world. In addition, immersive learning can help bridge the divide between theory and practice, which is frequently a challenge in conventional education. As a consequence, educators who want to provide their students with the best possible learning experience are turning to immersive learning. Immersive technology can realistically simulate real-life situations, which mentally and emotionally engage the learner. With immersive technology, students can learn quickly by being active participants in the learning experience. They learn by ‘doing’ and interacting in a way that simulates real-life experiences, leading to long-term knowledge retention. Hands-on experience helps to build soft skills and operational knowledge. Any scenario can be repeated as many times as the learner requires to master the skill or learning objective. Further, it eliminates the fear of making a mistake and creates a safe learning environment. Immersive learning technology also assists learners in improving their decision-making in real-world situations by providing immediate feedback on their actions in VR. Furthermore, it supports their self-regulation and self-assessment of how they would respond to the scene in real life (Buljan, 2022). As a result, completion rates and meaningful engagement with learning materials increase.

There are a variety of immersive learning techniques used in the school and higher education sectors. To learn about Ancient Greece, students may view videos of ancient Greek dramas or visit websites with images of archaeological sites. They may also engage in discussions with classmates from around the globe. Moreover, a science teacher may take their students on a field excursion to a nearby nature reserve to study ecology, while an art teacher may have their students collaborate to create a mural inspired by Vincent van Gogh's works. Immersive learning experiences seek to engage students to facilitate optimal learning. There is a good chance that colleges and universities are researching immersive learning technologies such as virtual reality, augmented reality, mixed reality, and 360-degree film to improve their teaching methods. In addition, they may collaborate with industry partners to develop new immersive learning platforms and tools. (*Transforming Education with Immersive Learning Techniques*, 2022)

Potential Benefits of Immersive Learning

Immersive learning can be particularly advantageous for subjects such as History, Geography, and Science that require hands-on investigation. One of the benefits of immersive learning is that it enables students to actively participate in their education. Potential advantages of immersive learning include increased student engagement and motivation, enhanced information retention due to the multisensory nature of the experience, and the ability to simulate real-world scenarios that may be difficult or impossible to replicate in a traditional classroom setting (eLearning Industry, 2020).

Immersive learning provides students with a dynamic environment that requires their full cognitive capacity, which can result in a deeper understanding and greater retention of information. Traditional classroom-based learning, in contrast, can be inert and may not engage students as effectively. Immersive learning also allows for the practical implementation of skills in a safe and controlled environment, which can be particularly advantageous in industries with high risk. Immersive learning can also be more engaging and pleasant for students, resulting in greater motivation and participation (Future Visual, 2021).

Personalized and Adaptive Learning

Immersive learning technology allows for personalized and adaptive learning experiences. Learners can tailor their educational journey to suit their learning styles and needs. Through interactive simulations and virtual scenarios, they can actively participate and practice skills in a risk-free environment, gaining confidence and competence at their own pace.

Facilitation of Collaboration and Social Interaction

Immersive learning technology promotes collaboration and social interaction among learners. Virtual classrooms and shared experiences enable students to work

together, fostering teamwork and cooperation. Learners can engage in group projects, problem-solving activities, and interactive discussions, enhancing their understanding through peer-to-peer interactions.

Expanded Accessibility

Immersive Learning Technology breaks down geographical barriers and expands access to education. It provides opportunities for remote or disadvantaged learners to access high-quality educational resources that may otherwise be unavailable to them. By leveraging technology, immersive learning makes education more inclusive and accessible to a wider range of individuals.

Immersive learning technology offers several advantages that revolutionize the learning experience. It enhances engagement and motivation, provides personalized and adaptive learning, fosters collaboration and social interaction, and expands access to education. These benefits collectively contribute to a more effective and inclusive learning environment.

Challenges and Solutions for Implementing Immersive Learning

Immersive learning offers the potential to revolutionize education by creating interactive and engaging experiences. However, implementing immersive learning presents challenges such as high costs for technical requirements, content development, accessibility, and teacher training. The following discussions will examine these challenges and provide practical solutions to overcome them, empowering educators to harness the power of immersive learning and enhance student outcomes.

Cost of Implementation

One of the main challenges of immersive learning is the initial cost involved in implementing the necessary technologies. Virtual reality (VR) headsets, augmented reality (AR) devices, and other immersive tools can be expensive, making it difficult for institutions with limited budgets to adopt them. This financial barrier can hinder widespread implementation and access to immersive learning experiences.

Solution

The cost challenge is being addressed through advancements in technology and increasing market competition. As the demand for immersive learning grows, more affordable options are becoming available, making these technologies more accessible to a wider range of educational institutions. Additionally, some organizations offer rental or subscription models, allowing schools to utilize immersive tools without a significant upfront investment.

Content Development

Creating high-quality immersive content that aligns with educational objectives and curriculum standards can be a complex challenge. Educators and content

developers must collaborate to design immersive learning experiences that effectively convey educational concepts and engage learners in meaningful ways. This requires expertise in both educational pedagogy and immersive technology.

Solution

The solution lies in fostering collaboration between educators and content developers. By working together, they can combine their respective expertise to create immersive learning experiences that are both educationally effective and technologically engaging. Educators can provide insights into curriculum requirements, learning objectives, and pedagogical strategies, while content developers can bring their technical knowledge and skills to designing immersive environments and interactions.

Accessibility

Another challenge of immersive learning is ensuring accessibility for all students. Not all learners may have access to the necessary hardware, such as VR headsets, powerful computers, or reliable internet connections. This can create a digital divide, limiting the participation and benefits of immersive learning experiences.

Solution

To address accessibility challenges, alternative approaches can be explored. For example, instead of relying solely on expensive equipment, educators can leverage mobile devices or web-based platforms that require minimal hardware requirements. Mobile-based AR applications can provide immersive experiences using smartphones or tablets, making them more accessible to a wider range of learners. Additionally, web-based platforms can deliver immersive content through standard web browsers, eliminating the need for specialized hardware or software.

To encourage teachers to experiment with immersive learning in their classrooms and provide a safe space for them to reflect on their experiences. Foster a culture of innovation and continuous improvement by celebrating and showcasing successful implementations of immersive learning. By empowering teachers with the necessary training, support, and opportunities for collaboration, they can confidently embrace immersive learning and effectively leverage it to enhance student engagement and learning outcomes. Besides, institutions and policymakers can work towards bridging the digital divide by providing equitable access to technology and internet connectivity, ensuring that all students have equal opportunities to engage in immersive learning experiences.

Addressing the challenges of cost, content development, and accessibility, immersive learning can become more inclusive and impactful in education. Continued innovation, collaboration between stakeholders, and a focus on accessibility will help

unlock the full potential of immersive learning for learners of all backgrounds and abilities.

Conclusion

Immersive learning technology is revolutionizing the way we approach education, providing a personalized and student-centred approach to learning. This article explores its potential to unlock the future of learning, with a focus on its benefits, challenges, and prospects. Immersive learning is a transformative concept that revolutionizes traditional education by creating immersive and interactive experiences for learners. Immersive learning technology offers an interactive and dynamic learning experience that enhances engagement and motivation, provides personalized and adaptive learning, fosters collaboration and social interaction, and expands access to education. The challenges of immersive learning are being addressed through advancements in technology and market competition. Immersive learning technology is a promising trend that has the potential to revolutionize the way we learn and teach. To address accessibility challenges, alternative approaches can be explored, such as mobile devices or web-based platforms. Collaboration between stakeholders and a focus on accessibility will help unlock the full potential of immersive learning.

Acknowledgement

The scholar Dr. S. Selvakumar is the awardee of the ICSSR Post-Doctoral Fellowship. This paper is largely an outcome of the Post-Doctoral Fellowship sponsored by the Indian Council of Social Science Research (ICSSR). However, the responsibility for the facts stated, opinions expressed, and the conclusions drawn is entirely of the author.

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A COMPARATIVE STUDY OF THE EFFECTIVENESS OF VISUALIZATION LEARNING PACKAGE AND CONVENTIONAL METHOD FOR LEARNING BOTANY

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DOI: https://doi.org/10.34293/eduspectra.v5is1-may23.004

Abstract

The development of visualisation technology has opened new channels for putting educational and instructional concepts into practice. It effectively conveys knowledge and gives students the chance to organise and study exercises at their own pace. Visualization products combine text, images, sounds, educational, and amusing creations. It employs a variety of communication methods, including written text, recorded data, numeric data, drawings, photos, voice recordings, and videos. The present paper evaluates the comparative effectiveness of the visualization learning packages and conventional method for learning botany to XI class students. 50 Botany students of XI class of one Government school of Salem district were the subjects of the study. The data collection tools were the Visualization learning package and Botany Achievement Test. The Topic "Photosynthesis" was taught to the botany students of the control group through the conventional method of teaching and experimental group through a visualization learning package. The results of the t-test analysis of the pre-test and post-test mean achievement test scores revealed that there was a statistically significant difference between the achievement level of botany students of the control group and the experimental group. The findings of the study suggest that the Visualization learning package could be considered a better alternative to the conventional method for teaching botany.

Keywords: *Visualization Learning Package, Botany, Conventional Method, Effectiveness, Academic Achievement, Experimental Method.*

Multimedia Instruction

Text, photographs, sounds, and full-motion clips are all integrated into multimedia goods to create engaging, educational, and amusing performances. It employs a variety of communication methods, including written text, recorded data, numeric data, drawings, photos, voice recordings, and videos. Information representation and transmission have been significantly impacted by multimedia technologies. It has taken computer users to high-technology desktop systems that offer fun adventure and interactive learning. Multimedia products are complementary to the teaching-learning process as they assist the teachers in better communication of the content. These provide learning information to teachers, students and scholars in a newly engaging and meaningful way. Visual technology overcomes the limitations in science classrooms by enabling the investigations of phenomen a that would otherwise be too expensive, time-consuming, and risky.

Backgroundof the Study

Multimedia can improve the academic achievement of students (Park, et al., 2019; Saputri & Indriayu, 2018) some other studies shared contrary opinions about the effectiveness of multimedia in improving the attitude of students towards science and its related disciplines (Ercan, 2014; Zahorec, Haskova & Bilek, 2014; Lipnevich, Gjicali, & Krumm, 2016; and Kareem, 2018). Multimedia has been defined in different contexts, depending on the multimedia element used. Mukherjee (2018) opined that multimedia should be interactive, should be controllable by the user.

Learning techniques to impact significantly learning (Bethel-Eke and Eremie (2019) and Magulod (2019). However, a few researchers have debunked the belief that learning techniques havea widespread impact on instructional performance. Munir, Ahmad, Hussain, and Ghani (2018); and, Huang, et, al. (2019) do now no longer discover any widespread dating among learning techniques and college students' instructional performance. Also, even as a few researchers advise that learning techniques problems need to be taken into attention while seeking to recognize how learners learn more efficaciously (Kirshner, 2017; Knoll et al., 2016), a few different researchers accept as true that educational designers do now no longer need to necessarily take students preferred learning techniques into account to facilitate learning, but rather focus on the attention of mental constraints (Moussa-Inatyetal., 2019). Hence, learning technique may be an important variable to also consider and experiment within this study. Gender inequality, especially in growing nations isn't a brand-new phenomenon. Ayittey, Arthur-Nyarko, & Onuman, 2020) finding supports that multimedia learning packages enhanced students' academic achievement. Akinbadewa (2020), computer-based multimedia instructional packages can bring about meaningful learning and improved academic achievement in Biology. Kousar & Vamadevappa (2019) found that significant improvement in Scientific Aptitude after the implementation of a multimedia package in science on 9th standard students of secondary schools in the experimental group and a multimedia package in science is effective in fostering scientific aptitude.

Objectives of the Study

1. To compare the effectiveness of the conventional method for learning botany through visualization package in pre-test and post-test achievement scores of botany students of the control group.
2. To compare the effectiveness of the conventional method for learning botany through visualization package in pre-test and post-test achievement scores of botany students of the experimental group.
3. To compare the effectiveness of the conventional method for learning botany through a visualization package in post-test achievement scores of botany students of the control group and experimental group.

Hypotheses of the Study

The following hypotheses are investigated by the researcher: such as

Hypothesis 1: There is no significant difference in the effectiveness of the conventional method for learning botany through visualization package inpre-test and post-test mean achievement scores of botany students of the control group.

Hypothesis 2: There is no significant difference in the effectiveness of the conventional method for learning botany through the visualization package in pre-test and post-test achievement scores of botany students of the experimental group.

Hypothesis 3: There is no significant difference effectiveness of the conventional method for learning botany through the visualization package in post-test achievement scores of botany students of the control group and experimental group.

Sample

A sample of the 50 botany students of XI class was selected purposively from one school from Salem District. The control group was comprised of 25 botany students who were taught through the **Conventional method** of teaching and the experimental group was comprised of 25 students who were taught through the intervention programme conducted by the researcher to

Visualization Learning Package

Design

One group pre-test and post-test design

Tools used

- Package for Visualization Learning
- Questionnaire for Botany Achievement Test

Analyses and Interpretation of Data

The data collected from the sample of the study was organized and tabulated to facilitate the application of appropriate statistical techniques for its analysis. The score complied, Mean, and Standard Deviation was computed for the table, and 'the t-test was chosen be cause the researcher wished to test the null hypothesis. The true level of significance was considered, i.e. 0.01 level of significance as an arbitrary standard for accepting or rejecting the null hypotheses.

Hypothesis 1: There is no significant difference in the effectiveness of the conventional method for learning botany through visualization package in pre-test and post-test achievement scores of botany students of the control group.\

Table 1 Significant Difference in the Effectiveness of the Conventional Method for Learning Botany through Visualization Package in Pre-Test and Post-Test Achievement Scores of botany Students of the Control Group

Control Group	N	Mean	SD	t-value
Pre-Test Control group	25	8.32	1.81	32.92
Post Test Control group	25	29.08	3.39	

Table (1) showed that the calculated values of pre-test and post–test achievement scores of control group botany students are found to be 8.32 and 29.08 respectively. The obtained calculated 't'-value 32.92 which is found that the significant at 0.01 level of significance. The calculated 't' value of 32.92 is higher than the tabulated value of 2.48 at a 0.01 level of significance. Consequently, the null hypothesis is not accepted. The result concluded that there is a significant difference in the effectiveness of the conventional method for learning botany through visualization package in pre-test and post-test achievement scores of botany students of the control group botany students.

Hypothesis 2: There is no significant difference in the effectiveness of the conventional method for learning botany through visualization package inpre-test and post-test achievement scores of botany students of the experimental group.

Table 2 Significant Difference in the Effectiveness of the Conventional Method for Learning Botany through Visualization Package in Pre-Test and Post-Test Achievement Scores of Botany Students of the Experimental Group

Experimental Group	N	Mean	SD	t-value
Pre-Test Experimental group	25	8.56	1.68	73.57
Post Test Experimental group	25	42.04	2.01	

Table (2) showed that the calculated values of pre-test and post–test achievement scores of control group botany students are found to be 8.56 and4 2.04 respectively. The obtained calculated 't'-value 73.57 which is found that the significant at 0.01 level of significance. The calculated 't' value of 73.57 is higher than the tabulated value of 2.48 at a 0.01 level of significance. Consequently, the null hypothesis is not accepted. The result concluded that there is a significant difference in the effectiveness of the conventional method for learning botany through visualization packages in pre-test and post-test achievement scores of experimental group botany students.

Hypothesis 3: There is no significant difference in the effectiveness of the conventional method for learning botany through visualization package in post-test achievement scores of botany students of the control group and experimental group.

Table 3 Significant Difference in the Effectiveness of the Conventional Method for Learning Botany through Visualization Package in Post-Test Achievement Scores of Botany Students of the Control Group and Experimental Group

Testing groups	N	Mean	SD	t-value
Post-Test Control group	25	29.08	3.39	14.38
Post Test Experimental group	25	42.04	2.01	

Table (3) inferred that the calculated 't' value of the post-test control group and post-test of the experimental group botany students' mean achievement score of 14.38 is higher than the tabulated value of 2.48 at 0.01 level of significance. Consequently, the null hypothesis is not accepted. The result concluded that there is a significant difference in the mean achievement score of the post-test control group and post-test experimental group botany students.

Findings of the Study

Following are the findings of the Study

There is a significant difference was found in the pre-test and post-test achievement scores of botany students of the control group after the experimental treatment. The above-given finding infers that the conventional method of teaching was found effective concerning academic achievement in botany.

There is a significant difference was found in the pre-test and post-test achievement scores of botany students of the experimental group after the experimental treatment. From the above given finding infer that the visualization learning package was found effective with respect to academic achievement in botany.

There is a significant difference was found in the post-test achievement scores of botany students of the control group and experimental group elucidating that experimental treatment yielded a significant difference in post-test mean achievement scores of botany students. The above-given finding is that botany students of the experimental group who were taught through a visualization learning package exhibited better achievement in botany as compared control group who were taught through the conventional method.

Discussion of the Results

The visualization learning package affects students' performance in botany. Most of them have concluded that multimedia instruction helps students learn and succeed better than other teaching strategies or methodologies. In this study, the botany

students of the Experimental Group who were taught through the visualization learning package achieved better than the Control Group who were taught through the conventional method of teaching.

Conclusion

From the findings of the study, the botany students of the experimental group who were taught through the visualization learning package exhibited better achievement in botany as compared control group who were taught through the conventional method of teaching. The visualization learning package was found more effective as compared to the conventional method for teaching botany students in XI class. It may be concluded that the visualization learning package contributed to raising the achievement of botany Students. Based on the results of the study visualization learning packages can be used for learning students as it enhances their academic achievement and is the best technique to increase students' achievement, interest and active participation in classroom teaching learning.

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ATTITUDE TOWARDS ONLINE TEACHING-LEARNING PROCESS AMONG THE COLLEGE TEACHERS IN RAMANATHAPURAM DISTRICT

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Abstract
The key objective of the research is to determine the attitudes of college teachers in the Ramanathapuramdistrict regarding the online teaching-learning process.In the present investigation, the survey method was adopted. The sample consists of 300 teachers from 20 colleges in the Ramanathapuramdistrict. By employing a simple random sampling technique, 300 college teachers only from arts and science, B.Ed. colleges in Ramanathapuram district were identified excluding engineering colleges. To collect data, the researcher and the supervisor created and validated an attitude scale towards online teaching and learning. According to the research outcomes, there are no significant disparities among college teachers' attitudes towards online teaching and learning processes with regard to gender, major academic fields, and technology amenities at their residences. Additionally, their attitude level was found to be average.
Keywords: *Attitude, Online Teaching-Learning Process and College Teachers.*

Introduction

The teacher-transmitted knowledge was sufficient for a child in the Vedic era. The teacher-centred approach to education was essential to the Gurugulka educational system. Numerous industries, including tourism, finance, and business, experienced dramatic change as a result of science and technology innovation [1-5]. However, India has been hesitant to adopt new technology in the field of education. The moment has arrived for education to undergo a swift, successful revolution right now. For a certain amount of time, it was required of a teacher to conduct class using a blackboard, chalk, and a book. But it is been completely updated now. A smart board or interactive whiteboard in the classroom is a necessity in the century. Electronic devices are being utilised to facilitate learning and teaching. A learner can gain a more comprehensive understanding of the subject than what is required in a book form with the aid of online learning. The student has been attracted towards online learning due to gaining vast information. Despite of the places, there is a chance for the flow of knowledge in all directions.

Online learning eliminates all geographical boundaries. The global village is reducing the size of the world. Therefore, a demand for technology-based knowledge exists for both teachers and pupils. Students that use online learning can refresh their expertise. Hence, online education is considered adynamic educational methodology. The Ramanathapuramdistrict college teacher assessments towards the online teaching-

learning process are the subject of a study. In the present investigation, online refers to all instructional activities that take place primarily in online mode, either synchronously or asynchronously, using a network, computers, or other electronic devices. Consequently, it means having access to educational information at any time and from any place.

Significance of the Study

The advancement of technology during the globalisation era has changed the teaching-learning process. Through the process of globalisation, all of creation is brought together to become a single human civilization [6,7]. The increase of total humanity is focused on technology and communication improvements that shape college teachers who are the future pillars of the world into global citizens. Online becomes a tinkle term in this technoage. Online is essential because it helps to develop the excellence of teaching through blended learning [8-10]. Online education supports students as well as college teachers to upgrade his/her knowledge. It is one of the contemporary learnings in education. But today's instructive structure has been noticed in the examination systems; hence the emotional purview such as attitude is not taken into consideration. To the best of the researcher's knowledge, there have been only a few studies related to online learning. So far very fewhave conducted a study on the attitude of college teachers in Ramanathapuram district towards the online teaching-learning process**.** Hence this topic has been taken for this research.

Objectives

- To find out the level of attitude of college teachers in Ramanathapuram district towards the online teaching-learning process**.**
- To determine the substantial variation in college teachers' attitudes regarding online teaching and learning processes according to gender, major discipline, and access to technology at home.

Hypotheses

- There are no apparent attitudes regarding the online teaching-learning process between male and female college teachers.
- Regarding their major discipline, college teachers in the arts and sciences and B.Ed. programmes have similar attitudes regarding the online teaching-learning process.
- College teachers' attitudes regarding the online teaching-learning process are not significantly different whether they have access to technology at home or not.

Methodology

The investigator used a survey method to study the attitude towards the online teaching-learning process.

Population

The population for the study was all the college teachers of arts and science colleges and B.Ed. colleges in Ramanathapuram district.

Sample

The investigator selected 300 college teachers by using a simple random sampling technique, only from the arts and science colleges and the B.Ed. colleges in Ramanathapuram district.

Tool Used

The investigator has used self- constructed Attitude scale towards online teaching-learning for the present study. The Attitude scale towards online teaching-learning consists of 30 items. Each item has to be answered by choosing any one of the five choices namely strongly agree, agree, undecided, disagree and strongly disagree.

Statistical Techniques Used

Mean, standard deviation and t-test were used to analyse the data.

Analysis

Level of the attitude of college teachers towards the online teaching-learning process.

Table 1 Level of Attitude of College Teachers Towards Online Teaching-Learning Process

Low		Average		High	
N	%	N	%	N	%
40	13.3	210	70.0	50	16.6

From the above table, it is inferred that the calculated value70.0 % is higher than the other two values. This implies that the level of attitude of college teachers towards the online teaching-learning process is average in nature**.**

Null Hypothesis 1

In terms of their attitudes regarding the online teaching-learning process, male and female college teachers do not differ much.

Table 2 Key Changes in the Attitude of Male and Female College Teachers Towards the Online Teaching-Learning Process

Variable	Category	N	Mean	S.D	't'- value	Remarks
Gender	Male	60	87.60	8.57	0.635	NS
	Female	240	89.40	7.30		

This table reveals, the calculated value (0.635) is smaller than the table 't' value (1.96) at the 0.05 level. This means that there is no noticeable difference in attitudes towards online teaching-learning processes between male and female college teachers.

Null Hypothesis 2

There is no significant difference between Arts &Science and B.Edcollege teachers in their attitude towards the online teaching-learning process with respect to their major discipline.

Table 3 Significant Difference between Arts & Science and B.Ed College Teachers in their Attitude Towards Online Teaching-Learning Process with Respect to their Major Discipline

Variable	Category	N	Mean	S.D	't'- value	Remarks
Major Discipline	Arts & Science	236	88.60	8.67	0.630	NS
	B.Ed	64	89.40	7.34		

Table 3 reveals, at the 0.05 level, the calculatedt value (0.630) is less than the table't' value (1.96). Consequently, there is no substantial difference in attitudes towards online teaching-learning processes between arts and science college teachers and B.Ed college teachers based on their primary discipline.

Null Hypothesis 3

There is no significant difference between college teachers in their attitude towards online teaching-learning processes having technology facilities at home and those who are not having technology facilities at home.

Table 4 Significant Difference Between College Teachers in their Attitude Towards Online Teaching-Learning Processes having Technology Facilities at Home and those Who are Not Having Technology Facilities at Home

Variable	Category	N	Mean	S.D	't'- value	Remarks
Computer facility at home	Yes	205	89.60	7.67	0.430	NS
	No	95	89.40	7.34		

Table 3 shows that the estimated't' value (0.630) is less than the table't' value (1.96) at the 0.05 level. Therefore, there is no substantial variation in attitudes towards online teaching-learning processes between arts and science and B.Ed teachers according to their primary discipline.

Conclusion

Online teaching-learning assists college teachers in acquiring 21st-century abilities such as life skill education. Consequently, education institutions in the 21st

century have a two fold challenge such as providing college instructors with the new knowledge, abilities, and attitudes required to compete in a global educational environment, as well as generating accountable college teachers. The online teaching-learning process occurred as one of the fastest-moving leanings in today's education. Teachers were unable to teach face-to-face during the Covid-19 pandemic.

During the pandemic, new technology facilitated the teaching-learning process. Nowadays, teachers in higher educational institutions receive exposure to effective utilization of the Internet in colleges and at home. It is essential to improve their computer competencies. Particularly to obtain skills in using various educational-related tools and mobile applications. Hence, in this technological outrage, computer applications such as the Internet and online teaching-learning processes support college teachers regardless of their major expertise.

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POST GRADUATE BIOLOGY TEACHERS' ATTITUDE TOWARDS USE OF 3600 VIDEOS IN CLASSROOM

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DOI: https://doi.org/10.34293/eduspectra.v5is1-may23.006

Abstract

The Large-scale diffusion of technologies offers new opportunities in education. In particular, 360⁰ videos emerged as a promising technology for enriching the teaching-learning process by offering an immersive environment when it is used in the classroom. In this present study, the attitude of postgraduate biology teachers towards the use of 360⁰ videos in the classroom is investigated. A sample of 62 post-graduate biology teachers in the Theni district served as the subjects of the study. The attitude scale towards the use of 360⁰ videos in the classroom was constructed and standardized by the investigator was used. Results show that demographic variables such as gender, Frequency of technology usage, earlier use of 360⁰ videos for teaching and ICT silks were found to exert influence on attitude. This study reveals that postgraduate biology teachers who are 44 & below years of age, who have 12 & below years of teaching experience and who holds an advanced level of technology experience have a favourable attitude towards the use of 360⁰ videos in the classroom than their counterparts. The implications of these findings are discussed.

Keywords*: Attitude, 360⁰ Videos, Usefulness of 360⁰ Videos in the Classroom.*

Introduction

In present days, Digital native learners have differential learning styles, to meet these changing and diverse learning styles as well as new educational demands and requirements, educational techniques should be modified. Information and communication technologies have been incorporated into education and technology-enhanced learning methods have been implemented to raise the quality of education to meet these new requirements and adapt to the new conditions.

Additionally, technology-enhanced learning has evolved into a crucial component of 21st-century education since it enables quick and simple access to information and services and makes the development of immersive virtual learning environments possible. It has been demonstrated that 360° video is a powerful educational tool that meets new educational demands and improves the teaching and learning environment. 360° video is a successful instructional tool that meets new academic demands and enhances the method of instruction and learning.

Need for the Study

360-degree films provide novel teaching-learning opportunities as a teaching and learning medium. They increase the benefits of traditional video technology by allowing for immersion, unique 360° panoramic visuals, multi-perspective viewing options, and interactivity opportunities. To comprehend how 360-degree video technology may be applied in the educational process, In the past, the use of high-

quality educational technology applications in education was constrained by prohibitive costs and time-consuming procedures. These obstacles can now be removed by more affordable technology suppliers and innovative video technologies. 360-degree movies in particular offer a low-cost option for video-based instruction, which expands the benefits of conventional videos through immersion and multi-perspective reflection. The use of 360-degree films in conjunction with desktop computers, smartphones, or even smartphones equipped with inexpensive head-mounted displays made of cardboard may now be adopted effectively in the classroom. Even this can act as an excellent resource for blended learning.

Terms and Definitions

Attitude- refers to the views and beliefs of the teachers towards the use of 360^0 videos in the classroom.

Postgraduate Biology Teachers- refers to a teacher who is teaching biology subject for higher secondary school students.

360^0 Video- refers to a circular view with several viewing angles and viewpoints offered by 360° video.

The Variable of the Study

Dependent Variable

Attitude towards the use of 360° videos in the classroom.

Demographic Variables

1. Gender
2. Age Group
3. Teaching Experience
4. Technology experience
5. Frequency of technology usage
6. Smart Board facility
7. Earlier use of 360^0 videos in teaching
8. ICT Skill

Objectives of the Study

1. To measure the level of attitude towards the use of 360^0 videos in the classroom among post-graduate biology teachers.
2. To find out, whether there is any significant difference among postgraduate biology teachers'attitudes in terms of selected demographic variables Viz., Gender, Age Group, Teaching Experience, Technology experience, Frequency of technology usage, Smart Board facility, Earlier use of 360^0 videos in teaching, ICT Skill.

Hypotheses of the Study

1. The postgraduate biology teachers have below average level of attitude towards the use of
2. 360^0 videos in the classroom.
3. Gender exerts a significant influence on the attitude towards the use of 360^0 videos in the classroomamong post-graduate biology teachers.
4. Age Group exerts a significant influence on the attitude towards the use of 360^0 videos in the classroom among postgraduate biology teachers.
5. Teaching Experience exerts a significant influence on the attitude towards the use of 360^0 videos in the classroom among postgraduate biology teachers.
6. Technology Experience exerts a significant influence on the attitude towards the use of 360^0 videos in the classroom among postgraduate biology teachers.
7. Frequency of technology usage exerts a significant influence on the attitude towards the use of 360^0 videos in the classroom among postgraduate biology teachers.
8. Availability of smart board facility exerts a significant influence on the attitude towards the use of 360^0 videos in the classroom among postgraduate biology teachers.
9. Earlier use of 360^0 videos in teaching exerts a significant influence on the attitude towards the use of 360^0 videos in the classroom among postgraduate biology teachers.
10. ICT Skills exerta significant influence on the attitude towards the use of 360^0 videos in the classroom among postgraduate biology teachers.

Methodology

Sample

A simple random sample of Sixty-two postgraduate biology teachers from government schools in the Uthamapalayam Education district in Theni was treated as samples for the present study.

Tool Used

1. Personal data sheet structured by the investigator.
2. Attitude scale on use of 360° videos in the classroom among postgraduate biology teachers developed and standardized by**VennilaManassadevi, S.V. (2023)**.
3. The self-developed attitude scale was used. It consists of 26 statements. Each statement was scored based on a three-point scale. The t-test value of each statement, which has 1.96 and above is selected. Out of 26 statements 20 statements were finalized. The split-half reliability was tested and content and item validity are seen.

Statistical Treatment

1. 't-test for a large independent sample is used for the data analysis.

Delimitations of the Study

- This study involves only eight variables, even though there are 'n' number of variables related to the usage of 360° videos in the classroom. This is one of the delimitations of the study
- This study involves only Postgraduate Biology teachers while there were other subject teachers. This is another delimitation of the present study.
- The number of teachers participating in the study is another drawback. The sample population is merely small in this study.

Analysis of Data

Hypothesis 1

The postgraduate biology teachers have below average level of attitude towards the use of 360^0 videos in the classroom.

The empirical average score is found to be 35 while the theoretical average is 20 only. This shows that postgraduate biology teachers have above average level of attitude towards the use of 360° videos in the classroom. In other words,postgraduate biology teachers have a more favourable attitude towards the use of 360^0 videos in the classroom.

Differential Studies onAttitude towards the Use of 360° Videos in Classroom

The details of the results of a test of significant difference between the mean scores of attitudetowards the use of 360° videos in the classroom in terms of demographic variables are presented in the following table.

Table 1 Statistical Measure and Results of Test of Significance for Difference Between the Means of Attitude towards Use of 360° videos in Classroom: Demographic Variable-Wise

Variable	Sub-Variable	N	M	SD	't'-Value	Significance At 0.05 level
Gender	Male	22	35.32	2.71	0.604	Not Significant
	Female	40	34.83	3.64		
Age Group	Up to 44	34	35.91	2.91	2.433	Significant
	45 & above	28	33.89	3.51		
Teaching Experience	Upto12 years	37	35.76	2.92	2.160	Significant
	13 & above	25	33.88	3.62		
Technology Experience	Intermediate	56	34.63	3.28	7.878	Significant
	Advanced	6	38.50	0.53		
Frequency of technology usage	Occasionally	40	34.90	3.59	0.339	Not Significant
	Always	22	35.18	2.86		

Availability of Smart Board facility	Available	49	34.55	3.35	2.415	Significant
	Not available	13	36.69	2.69		
Earlier use of 360^0 videos in teaching	Yes	37	34.73	3.19	0.761	Not Significant
	No	25	35.40	3.54		
ICT Skill	Yes	49	35.51	2.81	1.885	Not Significant
	No	13	33.08	4.42		

Hypotheses Verification

1. The postgraduate biology teachers have below average level of attitude towards the use of 360^0 videos in the classroom-Rejected
2. Gender exerts a significant influence on the attitude towards the use of 360^0 videos in the classroom among postgraduate biology teachers-Rejected
3. Age Group exerts significant influence on the attitude towards the use of 360^0 videos in the classroom among postgraduate biology teachers-Accepted
4. Teaching Experience exerts a significant influence on the attitude towards the use of 360^0 videos in the classroom among postgraduate biology teachers-Accepted
5. Technology Experience exerts a significant influence on the attitude towards the use of 360^0 videos in the classroom among postgraduate biology teachers-Accepted
6. Frequency of technology usage exerts a significant influence on the attitude towards the use of 360^0 videos in the classroom among postgraduate biology teachers-Rejected
7. Availability of smart board facility exerts a significant influence on the attitude towards the use of 360^0 videos in the classroom among postgraduate biology teachers-Accepted
8. Earlier use of 360^0 videos in teaching exerts significant influence on the attitude towards the use of 360^0 videos in the classroom among postgraduate biology teachers-Rejected
9. ICT Skills exerta significant influence on the attitude towards the use of 360^0 videos in the classroom among postgraduate biology teachers- Rejected.

Conclusion and Discussion

- The Postgraduate biology teachers have above average level ofattitude towards the use of 360^0 videos in the classroom.
- Attitude towards the use of 360^0 videos in the classroom among Postgraduate biology teachers' is found to be influenced by
    1. Gender
    2. Frequency of technology usage
    3. Earlier use of 360^0 videos in teaching
    4. ICT Skills

- Attitude towards the use of 360 ^{0} videos in the classroom among Postgraduate biology teachers' is found not to be influenced by
  1. Age group
  2. Teaching experience
  3. Technology experience
  4. Availability of smart board facility
- Attitude towards the use of 360 ^{0} videos in the classroom among Postgraduate biology teachers' is found higher among those
  1. Who are up to 44 years of age than those who are 45 and above years of age?
  2. Who hasup to 12 years of experience than those who have 13 and above years of teaching experience and
  3. Who hasan advanced level of technology experience than those who have an intermediate level of technology experience.

It is favourable that the attitude towards the use of 360 ^{0} videos in the classroom among Postgraduate biology teachers' is above the average level. In particular, this study showed that post-graduate biology teachers viewed 360-degree videos positively.

The study reveals that attitude towards the use of 360 ^{0} videos in the classroom among Postgraduate biology teachers' is found low among those who are male, those who frequently use technology for teaching, those who have not used 360^0 videos earlier for teaching and those who have poor ICT skills. Training may be given to the above-mentioned teachers to facilitate a favourable attitude.

Based on the findings, initiatives should be taken to educate the educational community on the advantages of utilising this pedagogical strategy and how to include 360^0 videos into the already-existing curriculum. Since 360-degree videos can be a great instructional tool that improves academic achievement.

The findings of the study are constructed to be contributing to the field of education, as it discovers attitudes that highlight the use of 360 ^{0} videos in the classroom. It is also hoped that the findings would be helpful for the teachers, trainers and administrators.

While teaching the biological sciences, the teacher needs to fulfil the real-time experience among the students.Provided the teaching with technology like 360° videos teacher and students understand the concepts and visual appeal of any content without distraction. For this, the institution should provide the opportunity to handle smart boards or smartphones in their classrooms. That the teachers also gain knowledge about the recently emerging technologies for their professional upliftment.

Educational Implications

This study reveals that attitude towards the use of 360 ^{0} videos in the classroom among Postgraduate biology teachers' is found low among those who are male, those who frequently use technology for teaching, those who have not used 360^0 videos earlier and those who have poor ICT skills. The following steps can be taken to foster a favourable attitude towards the use of 360 ^{0} videos in the classroom.

Training may be given to the above-mentioned teachers regardingthe usage of technology for teaching. Educational authorities take necessary steps to create awareness among teachers towards the use of such emerging technologies and other technological tools to increase learning outcomes by incorporating them in the classroom. Further research studies have to be carried out to find out other potential benefits related to the topic of this study.

Suggestion for Further Research

The followingresearch from the present study can be taken up for further investigation

- Replica of the present study among teachers at all levels of school education.
- Replica of the present study among teachers teaching other subjects.
- Replica of the present study in another district.

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A STUDY OF INTERNET LITERACY RATE IN INDIA

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DOI: https://doi.org/10.34293/eduspectra.v5is1-may23.007

Abstract

The Internet and information and communication technologies (ICT) have accelerated development in the 21st century in several industries, most notably education. The development of ICT has opened new options for residents of the twenty-first century. Therefore, to adapt to the modern age, people require a wide variety of skills, competencies, and talents. The expanding significance of ICT, its broad range of applications, and its impact on numerous aspects of people's daily lives are discussed in this paper's literature review. Additionally, the concept of digital literacy is evolving because of ICT advancements, and it helps people reach sustainable development goals. The work done in this field of digital literacy is summarized, as well as the contribution of ICT to the development of many sectors, particularly the education sector. Three novel models of digital literacy the four-gear model, the model for flexible learning, and a model illustrating how ICT affects the learning process are presented at the end of the study.

Keywords*: Internet, ICT, Literacy.*

Introduction

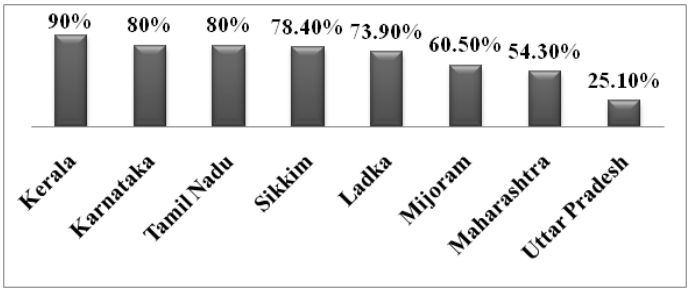
The National Statistical Organization (NSO) surveyed 2.76 Lakh households in India to find out how many people are internet literate in India. Bangalore leads in IT literacy although Karnataka third rank in computer literacy. This survey also revealed how Indian youths are backwards in learning computers.

North India vs. South India has conflicts in many fields. Southern cinema lineups super hit movies saying that we are no less than Bollywood. Even in the field of employment, there has been competition since the beginning. South India is ahead of them in terms of education, nutrition, health and economic conditions. In between these, the interesting thing is that South Indians are top in computer literacy too!

Yes. NSO has conducted a survey on computer skills and in this report; it has come to light that there is not even a minimum of computer knowledge in the states of North India.

A multi-indicator survey of 15 to 29-year-olds born before the start of Google and when the iPhone was introduced, North Indians do not even know the basics of computers compared to South India. A survey was conducted on 9 types of computer-related skills for ICT skill tests.

Internet Literacy



Among this age group in India, only 31.1% of males and 22.1% of females know how to attach documents to e-mail. Most of the population does not know about this and even more strangely, most people don't know about copying and pasting files or folders on the computer, 24.7 per cent of men and 16.8 per cent of women know about downloading and installing software. Currently, there are abundant job opportunities for those who are skilled in MS Office Excel sheets. But a very less population knows about it. The report said that entering code in an Excel sheet is also a big challenge for many.

Statement of the Problem: "A Study of Internet Literacy Rate in India"

Objective of the Study

1. To study the Internet Literacy Rate in India.
2. To study how many persons copy, paste and move the folders.
3. To study the attached images, documents, and videos by e-mail.
4. To study the searching software's download and install.
5. To study the PPT creation Skill in youngsters.

Data Collection

- Secondary Data Collected from National Statistical Office (NSO) takes the survey 2.76 lack family.
- Secondary data collected from Vijaya Karnataka Paper 02-05-2023.

Research Design

This study falls under the category of survey method of research, and data collection has been done using a purposive sampling technique. In some cases, the research has also used observation and interview methods of research.

Analysis and Interpretation of Data

After gathering the raw data, the researcher carefully examined, organized, and presented it using Ms-Excel in a graphical format for easier understanding.

Literature Review

Danhua Peng & Zhonggen Yu (2022): *A Literature Review of Digital Literacy over Two Decades*: Due to the COVID-19 epidemic, online learning has become the "new normal" during the past three years, placing a strong emphasis on pupils' increased digital literacy. The purpose of this study is to review the existing research on pupils' digital literacy. This paper focused on the definition of digital literacy, the factors influencing students' digital literacy (age, gender, family socioeconomic status, and parent's education level), the association between students' digital literacy and their self-control, technostress, and engagement, and the three methods to assess students' level of digital literacy. It was based on about twenty journal articles and other relevant publications from the Web of Science Core Collection. The report also offered politicians and educators some suggestions. The restrictions and ramifications were then presented.

Jai Laxmi Sharma & Somesh Shukla (2019): **"***Digital India: An Assessment and Overview***".** The development of technology has had a significant impact on how we are managed. We must think about appropriate administrative reforms for better governance when the government's welfare agenda fails to reach the marginalized population, when its plans and policies don't reflect reality, and when its funds are diverted from the intended beneficiaries. A significant development in the government's recent administrative changes is the "Digital India Campaign." Even though there are many valid arguments in favour of this effort, there are some disagreements over how it should be carried out. This article is undoubtedly in favour of digitization, but it also seeks to educate policymakers on a few matters that could help them implement the "Digital India" plan better and accomplish the campaign's true goals. The article notes the recent significant increase in teledensity and internet penetration in India. It will be difficult to overcome the low level of digital literacy. Our nation urgently needs to go digital so that the government's social programmes may be implemented effectively and administratively. Only when the wave reaches rural and isolated places and includes the lower class of the population will the dream of "Digital India" become a reality.

Jadhav Amardeep D. (2018): Examines how adopting cloud, social, mobile, or big data technologies is only one aspect of digitalization or digital transformation. It is about redefining ideals or altering business models using technology. Businesses that have adopted digital transformation frequently develop an ecosystem in which consumers and other market actors are active. The effort aims to increase digital literacy and connect rural communities to high-speed internet networks. The Indian economy is expanding quickly, necessitating the need for people to be financially literate to make wise decisions. After this digitalization, online transactions are required for all financial activities. Digital financial literacy is thus becoming more significant.

Gurumurthy Anita and Chami Nandini (2018): The goal of this research study is to examine Digital India from a gender perspective and assess its implications for women's empowerment and gender equality. As a word used frequently, "Digital India"

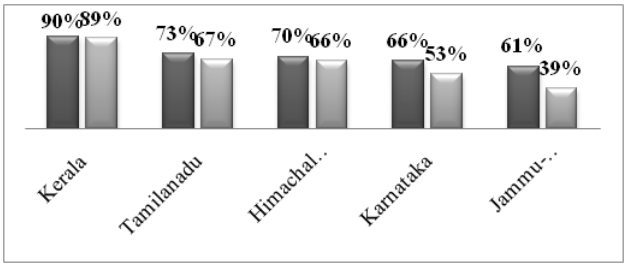
has gained the status of a boundary object: a highly malleable idea that allows for a wide range of interpretations while yet being recognizable to actors from quite varied socio-structural settings for a certain core. The concept of Digital India appears regularly in the many discursive spheres of public policy, political performance, and mainstream public discourse. It is a flagship programme for decision-makers; for the political class, it serves as a symbol of a resurgent India that is growing into a major player in the global digital economy; and for the general public, it may serve as an example of the inspirational aspiration to rise.

Result Analysis

Item No.1: To Copy and Paste in the document.

In a study of Men and Women age group 15-29, 9 out of 10 know how to copy, paste and duplicate in a document. But in Bihar, Uttar Pradesh, Madhya Pradesh, and Assam only 30% of people have information about this.

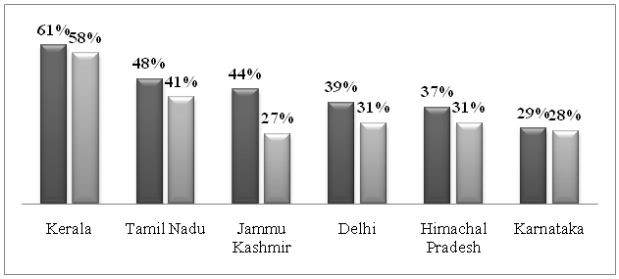
State	Male	Female
Kerala	90%	89%
Tamil Nadu	73%	67%
Himachal Pradesh	70%	66%
Karnataka	66%	53%
Jammu-Kashmir	61%	39%



Item No.2: To Install and Execute the Software.

The youth of Kerala, Tamil Nadu, Delhi, Himachal Pradesh, Jammu and Kashmir are specialized in software installation and configuration. Karnataka is in the middle order. However, only 15% of people in Rajasthan, Uttar Pradesh, Assam, Bihar and Madhya Pradesh know this skill.

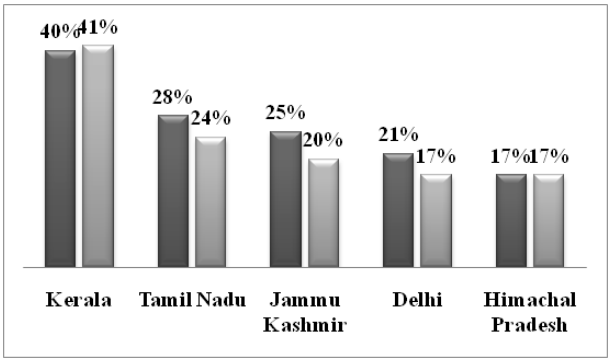
State	Male	Female
Kerala	61%	58%
Tamil Nadu	48%	41%
Jammu Kashmir	44%	27%
Delhi	39%	31%
Himachal Pradesh	37%	31%
Karnataka	29%	28%



Item No.3: How many Youngsters Know the create PPT?

Presenting PowerPoint Presentations (PPT) to share information in any meeting is the latest trend. A lot of job opportunities are also available in this. However, only one in 10 Youngsters in India have the skills to make a PPT. Regarding this Kerala, Tamil Nadu and Karnataka states are at the forefront. Jharkhand, Assam and Chhattisgarh are on the back bench.

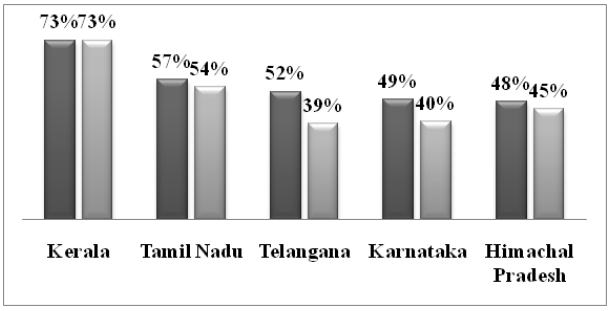
State	Male	Female
Kerala	40%	41%
Tamil Nadu	28%	24%
Jammu Kashmir	25%	20%
Delhi	21%	17%
Himachal Pradesh	17%	17%



Item No.4: How many people know the document attached to an email?

Email usage is common for everyone in this competitive era. No matter where you are in the country or abroad, you can send an email and get things done in an instant. Data management has become the latest mega-industry. The essential skill required for that is sending e-mails. However, most of the 15-29 age groups are not aware of this, only Kerala has taken the lead in this regard. 73% of them know how to attach a file to an e-mail. However, only 13% of people in Assam know this skill, along with Bihar, Madhya Pradesh, Jharkhand, and Uttar Pradesh are in the last place.

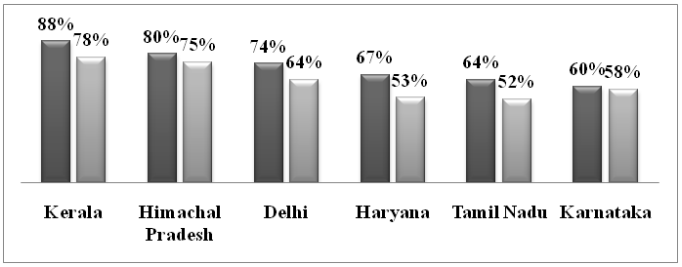
State	Male	Female
Kerala	73%	73%
Tamil Nadu	57%	54%
Telangana	52%	39%
Karnataka	49%	40%
Himachal Pradesh	48%	45%



Item No.5: How many women have their own Mobile?

Due to the growth of technology, digital business in the country has seen a huge increase. Even street vendors are resorting to QR codes. Also in this growth, only 40% of women and 50% of men do not have their mobile, In Punjab, Jharkhand and Gujarat, only 18% of women have their mobiles.

State	Male	Female
Kerala	88%	78%
Himachal Pradesh	80%	75%
Delhi	74%	64%
Haryana	67%	53%
Tamil Nadu	64%	52%
Karnataka	60%	58%



Findings:

- In which all matters are the youth behind?
- Those who are not able to make a Folder, a file cannot be copied or moved 41.7%
- Those who are not able to copy, paste or insert information elsewhere in the document file 39.4%

- Those who are not able to attach the images, documents, videos and e-mailed 20.9%
- Those who are unable to find out the software and download, install, and configure 20.9%
- Those who are unable to find and install new devices 12.7%
- Those who cannot make side sheets by using basic formulas 10%.

Conclusion: Why Internet Literacy is Necessary?

1. Today most of the work is done by computer. Students should increase their awareness about computer use at the stage of reading without knowing that it is Brahmavidya. Relevant courses must be completed.
2. Computer education is being taught in some schools. The National Education Policy has a project to teach computer education. Without knowing the computer only for marks, it is necessary to practice by constant use.
3. E-mail creation, sending e-mail, preparing auto-resume, creating ppt, updating specific software, using a Microsoft Word document - these are basic computer skills. These are necessary for any office and any work. It is essential to increase knowledge about this.

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ARTIFICIAL INTELLIGENCE IN EDUCATION

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DOI: https://doi.org/10.34293/eduspectra.v5is1-may23.008

Abstract

Education is an act of imparting information to the human brain with necessary exposures to solved methods, for example, practical as a repetitive process. Each teacher at various levels of classteachingadopts different strategies to make the students learn the concepts and expect 100% results from their students. However, few students with dedicated efforts are not able to clear the examinations on time and many students don't find any interest in learning the concepts. The reason could be they are attracted by the lectures or studentshave no interest in the courses.

Aim: *To make students show interest in learning the courses with little effort.*

Methodology: *To present the concepts in an easier way to the students and not make it a cumbersome topic. Include a video presentation for every subtopic with relevant attractive background music.*

1. *Use special and novel (artificial intelligence) techniques to bring the attention of the student's brains in the classroom lectures.*
2. *Teachers should adopt an easy way to make students remember the concepts.*

Results: *At least 95% of success in making the students learn the courses could be achieved*

Keywords: *Artificial Intelligence, Education, Learning Strategy*

Introduction

Contents of course developments for a topic involve continuous changes over some time. Especially whenever new technologies were introduced,the contents of the technology were introduced starting from the industrial technology itself. Then modifying to the needs of the student's curriculum at college levels. However, not curriculum changes are not required inpreschooling, primary schooling and higher-level schooling (beforeentering intoa college degree).

Teachers are human and they have natural intelligence. Despite that, teachers find it difficult to make students understand the concepts. This is because the evolution and learning process of students' brains are unique and are not alike with all student'sunderstanding processes. In such cases,

Figure 1 Teaching and Learning Process

Figure 1 presents a schematic diagram showing lecturing by the teacher and learning by students. Table 1 presents the percentage of students showing interest in learning a particular course.

Table 1 Interest of Students in Learning a Course
10% of students fully interested in the course
80% of students are interested in the course just to complete it
10% of students don't have any interest in the course

Section 2 presents a literature review and section 3 lists out the methodology to implement artificial intelligence into education. Section 4 gives how experimentation has to be carried out. Section 5 presents how results have to be understood. Section 6 gives the pros and cons of the new education system.

Literature Review

Please refer to the new education policy of India[1] and the new education policy [2].

Methodology

1. Preparation of the contents in detail.
2. Assumption should not be that students have prior knowledge of the course. Due to this important fundamental should not be skipped. Hence all the fundamentals required for the course should be detailed out as one unit in the content of the course.

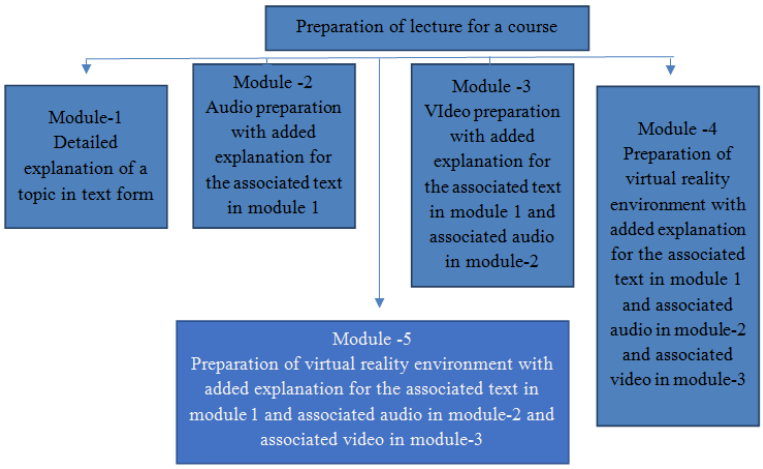

Figure 2 Preparation of Lecture

3. Various methods can be used to create a presentable and acceptable lecture of a course by any category of student who undergoes the course. Figure 2 presents how to prepare a lecture for a course.
4. Introduce expert system concepts into the preparation of the course. This will clarify a lot of doubts of the students during the lecture. The person who is involved in preparing the lecture should have sufficient expertise and knowledge about the course.

Experimentation

To understand the efficiency of the course preparation, a sample group of students have be taken into account. The sample should be group made into 3 groups as per Table 1. That is students should be picked up for the evaluation based on the previous examination results where very frequently 10% of students are fully interested in the course, 80% of students are interested in the course just to complete it, and the remaining 10% students don't have any interest in the course.

Each student should be given a prepared lecture with sufficient time to learn the course. Exams should be conducted on systematic methods. The results of the exams should be analyzed and tallied with the three categories of percentage of students. If there is less pass percentage then reasons should be identified, and the presentation of the lecture has to be modified. In this continuous process, a stage will reach where all students will be able to pass the examinations. This benefit will be reaped by the new batch of students.

Some of the questions are to be formed so that the difficulties in learning the course can be understood.

Questions

1. How is the introduction to a topic? Which topic needs improvement?
2. How is the relevance of the picture for the topic? What modification has to be done?
3. Any duplication of information in a topic that leads to superfluousness or boredom? Which portion has to be edited?
4. How is the description of steps in solving a problem? Has any additional steps to be included? Or any step is irrelevant, so it has to be removed?
5. How is the voice in the audio? Is it pleasing or rough? Is any modification required?
6. Is the expert system method adopted in the lecture? If not what additional if and else information have to be included?
7. Is the title meaningfully included in the course? Or is it randomly included?
8. How about the examples cited and solved? are they properly included?
9. What do you think of the course? How do you think it is useful?
10. Do you feel any additional intelligence through the expert system has to be included? If so, how it can be done?

Results

The results from the examination have tobe associated with the intelligence quotient of the students and linked with the material of the lecture preparation. The examination results of students from different institutions have to be compared for one course. The decisionhas to be taken on how best to additional inputs.

Conclusion

Cons: In the name of improvement in education, digital teaching and evaluation have boomed a lot. Due to this one-to-one contact education method is lost.

Pros: Due to the present computer age, lots of new ideas and new concepts sprout and are getting implemented in modern education and the industry.

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PERCEPTION TOWARDS MOBILE LEARNING AMONG ARTS AND SCIENCE COLLEGE STUDENTS IN MADURAI DISTRICT

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DOI: https://doi.org/10.34293/eduspectra.v5is1-may23.009

Abstract

The present study reports on the perception towards M- Learning among arts and science college students in the Madurai district. A sample of 350 arts and science students in the Madurai district served as the subjects of the study. The perception towards M- L earning was constructed and standardized by Ajeetha (2023) was used. This study reveals that the Who are Male and Day- Scholars, who use technology for more than 2 hours have a favourable perception towards M- Learning than their counterparts. Mobile learning tailored the scholastic performance as well as techno intelligence.Hence Mobile learning gave an intellectual perception among future generations.

Keywords: *Perception, M- Learning, Technology, Arts and Science College Students*

Introduction

Technology today is turning the old learning techniques on its head, unearthing several new dimensions of learning for students. Smart devices and mobile phones have completely taken over our lives, right from entertainment and communication to the way we learn. Mobile Learning in education is transforming learning for digital natives.

For starters, the use of mobile learning in education can be an excellent solution for students demanding increased flexibility in study options.With the easy availability of ubiquitous internet connection and incremental improvements in both the design & affordability of mobile devices, students today can leverage mobile technologies to access different course materials and activities.

Need for the Study

Mobile learning is a powerful pervasive learning delivery medium used by many without any Guidance or training. The use of M-Learning has fast spread across the world. Ironically, though, the field has not seen too many research-based studies measuring its educational possibilities. India, Though, not behind in owning and using portable technology for learning, lags significantly when it comes to m-learning research, more so in the important field of education. To make change visible in any field, it should therefore start with education, this is a field which has an impact on all other fields. UNESCO took the lead to exploit the potential of mobile learning for the training of teachers.

In the age of mobile, technology-enabled supervision or feedback will be of great support to teachers as well as students. It will reduce face-to-face interaction and with mobile phones, communication and supervision will also be possible in the absence of

the supervisors by sharing the video recordings of teaching sessions and feedback through mobile phones. It will help in overcoming the barriers of time and distance. This will also provide a platform for comparing the performance of students with previous performances and also with pre-determined standards. It has emerged through studies that faculty members with basic technology skills and expertise can use this technique to provide feedback. Video recording and watching it by the student will also give opportunities to improve educational performance leading to increased motivation and reflection on themselves and even without frequent high-quality performance-based feedback from supervisors. The theory of Constructionism propagates the use of technology in the construction of knowledge. Papert (1980) gave the idea of using technology to give immediate feedback to learners constructing their knowledge. Mobile devices today provide the opportunity to test and use this technology to improve Education.

The researcher, therefore, has undertaken the present study that explored the perception towards mobile learning among arts and science students.

Terms and Definitions

Perception: refers to a process of interpretation of a present stimulus based on experience.

M- learning: refers to the use of a wireless handheld device; a cell phone, personal digital assistant, Mini-computer, or iPad to engage in some form of meaningful learning.

Arts and Science College Students: refers to undergraduate and postgraduate students studying in the art and science college of Madurai District

Madurai District: refers to one of the southern district of Tamil Nadu.

Variables

Dependent Variable

Perception towards Mobile Learning

Demographic Variables

1. Gender
2. College type
3. College Locality
4. Domicile
5. Nativity
6. Technology usage

Objectives

- To find out the attitude toward M- Learning possessed by Arts and Science College students in Madurai District.

- To find out, whether there is a significant difference among Arts and Science College students, in terms of select independent variables in their M-Learning.

Hypotheses

1. Attitude toward M – Learning among Arts and Science College students is above average.
2. Gender exerts a significant influence on the M- Learning among Arts and Science College students in Madurai District
3. College Type exerts a significant influence on the M- Learning among Arts and Science College students in Madurai District
4. College Locality exerts a significant influence on the M- Learning among Arts and Science College students in Madurai District
5. Domicile exerts a significant influence on the M- Learning among Arts and Science College students in Madurai District
6. Nativity exerts a significant influence on the M- Learning among Arts and Science College students in Madurai District
7. Technology usage exerts a significant influence on the M- Learning among Arts and Science College students in Madurai District

Methodology

- **Design**: Descriptive
- **Method**: Normative
- **Technique**: Survey

Sample

A simple stratified random sample of 350 Arts and Science students from five Arts and science colleges in Madurai District was constituted with the due representation given to the variables, viz. Gender, and College type.

Tools used

- Personal information sheet
- Perception scale on M- Learning constructed and standardized by Ajeetha (2023).

The self-developed perception scale was used to determine the M-Learning. It consists of 20 statements. Each statement was scored based on a three-point scale. The t-test value of each statement, which has 1.96 and above is selected. Out of 20 statements, 15 statements were finalized. The split-half reliability was tested and content and item validity is seen.

Statistical Treatment

- t-test between the means of large independent samples was employed.

Delimitations and Scope of the Study

The study involves six population variables only. There may be many more variables associated with M- Learning among Arts and Science college students. This way, this is a delimitation of the study. There are several Arts and Science colleges in Madurai, Tamil Nadu, the study is delimited only to five Arts and Science colleges in Madurai which are affiliated to Madurai Kamaraj University only.

Yet, the scope of the present study is governed by the systematic data collection done employing a standardized multi-dimensional value from a fair stratified representative sample. It is hoped that the present study would throw light on the teachers, and students who regularly interact with the student community and deal with the students more amicably.

M- Learning Among Arts and Science Students

The empirical average score of M- Learning among arts and Science College students is found to be 16.951 while the theoretical average is 15. This shows that the M- Learning among arts and science college students is above average. In other words, possession of M- Learning is found to be higher among arts and science college students

Differential Studies in M- Learning

M- Learning and Independent Variables

The statistical measures and the results of a test of significance of the difference between the means scores of Attitude towards M- Learning among Arts and Science College Students in terms of Independent variables are present in the following table.

Table 1 Statistical Measures and Results of a Test of Significance for the Difference between the Means of M- Learning: Independent Variables- Wise

Variables	Sub-Variables	N	M	SD	't'- value	Remarks
Gender	Male	143	16.89	5.42	1.99	**Significant**
	Female	207	15.82	4.11		
College Type	Co-Education	146	16.34	4.61	.29	**Not Significant**
	Single Gender	204	16.20	4.79		
College Locality	Rural	89	16.87	4.35	1.49	**Not Significant**
	Urban	261	16.05	4.82		
Domicile	Day- Scholar	307	16.43	4.78	2.13	**Significant**
	Hosteller	43	15.00	4.04		
Nativity	Rural	150	16.15	4.59	.378	**Not Significant**
	Urban	200	16.34	4.81		
Technology usage	Less than 2 hrs.	231	15.87	4.52	2.09	**Significant**
	More than 2 hrs.	119	17.01	4.99		

Hypotheses Verification

1. M- Learning among Arts and Science College students is above the average level -- Accepted.
2. Gender exerts a significant influence on the M- Learning among Arts and Science College students in Madurai District- Accepted
3. College Type exerts a significant influence on the M- Learning among Arts and Science College students in Madurai District- Rejected
4. College Locality exerts a significant influence on the M- Learning among Arts and Science College students in Madurai District- Rejected
5. Domicile exerts a significant influence on the M- Learning among Arts and Science College students in Madurai District- Accepted
6. Nativity exerts a significant influence on the M- Learning among Arts and Science College students in Madurai District-Rejected
7. Technology usage exerts a significant influence on the M- Learning among Arts and Science College students in Madurai District- Accepted

Conclusion

- M- Learning among Arts and Science College students is above the average level
- M- Learning among Arts and Science College students in Madurai District is found dependent on
    1. Gender
    2. Domicile
    3. Technology usage
- M- Learning among Arts and Science College students in Madurai District is found independent of
    1. College type
    2. College Locality
    3. Nativity
- M- Learning among Arts and Science College students in Madurai District is found higher among those
- Who are Male
- For Day- Scholars
- Who use technology for more than 2 hours

Educational Implications

It is favourable that the perception towards M- Learning among Arts and Science College students is above average. The study reveals that M- Learning is lower among Females who are hostellers and use technology for less than 2 hours.

Based on the findings, the following proposed remedies can be implemented to increase and build their M- Learning. Hence teachers have to take opt steps to create interest among female students to learn through technology. Awareness about the

present technological world should be cultivated. Proper technology training should be facilitated to encourage the perception towards M- Learning.

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BLENDED LEARNING: INCORPORATING DIGITAL TECHNOLOGY INTO THE CLASSROOM INSTRUCTION

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DOI: https://doi.org/10.34293/eduspectra.v5is1-may23.010

Abstract

Blended learning is a contemporary teaching method that mixes face-to-face training with digital technology to produce a more flexible and personalised learning experience. This study looks at how to implement blended learning effectively, the benefits of blended learning, and how it can alter education to enhance student results. Many studies suggest that blended learning can improve the teaching experience, give opportunities for students to build 21st-century skills, level the playing field for students from varied backgrounds, and provide equal access to high-quality education. Blended learning must be implemented well to be successful and gain its benefits. Clear communication, constant assessment and evaluation, training, support, and incorporating student input are all strategies that can assist instructors in efficiently implementing blended learning in the classroom. The report finds that blended learning has the potential to alter education and improve the learning environment for all students.

Keywords: *Blended Learning, Incorporate, Digital Technology, Classroom, Teaching*

Introduction

Blended learning is a teaching style that mixes traditional face-to-face classroom education with digital technologies to improve student learning. Its capacity to provide a flexible and personalised approach to education has helped it gain appeal in recent years. Blended learning has the ability to transform how we teach and learn. As Thomas Arnett, a research fellow at the Clayton Christensen Institute for Disruptive Innovation, notes, "Blended learning has the potential to dramatically increase the effectiveness and efficiency of education." (Arnett, 2012).

Also, Clayton Christensen, a Harvard Business School professor and a pioneer in the field of disruptive innovation, believes that blended learning is critical to solving the issues that education is experiencing today. "Blended learning has the potential to transform education by making it more accessible, personalised, and cost-effective," write Christiansen, Horn, and Staker (2013).

In addition, researchers such as Barbara Means and Marianne Bakia discovered that blended learning can enhance student results, claiming that "blended learning is emerging as a promising approach to support student learning in both K-12 and higher education settings." Means and Bakia (2014).

Benefits of Blended Learning

Blended learning has been found to offer several benefits to both teachers and students. In this section, we will discuss some of the key benefits of blended learning.

Increased Flexibility and Personalization

Blended learning provides students with the ability to study at their own speed and access course materials online, resulting in a more flexible and personalised learning experience. According to research conducted by the United States Department of Education, "blended learning can be more effective than purely face-to-face instruction because it enables personalised learning and offers the flexibility needed to meet the needs of all learners" (Means et al., 2013).

Improved Student Outcomes

Several studies have demonstrated that blended learning can enhance student results, such as improved test scores and more engagement. A meta-analysis of 50 research undertaken by the Clayton Christensen Institute showed that blended learning has a favourable influence on student performance across multiple grade levels and subject areas (Horn &Staker, 2014).

Enhanced Teacher Effectiveness

Blended learning can also help instructors be more effective by giving them additional time and resources to accommodate specific student needs. The National Education Association (NEA) states that "blended learning allows teachers to leverage technology to provide personalised learning experiences that meet students' individual needs" (NEA, 2017).

Cost-Effective

Blended learning can be a more cost-effective method of delivering education since it eliminates the need for physical classroom space and textbooks. According to the International Association for K-12 Online Learning, "blended learning offers the potential to reduce costs and increase access to high-quality education" (iNACOL, 2012).

Challenges of Blended Learning

Blended learning is a cutting-edge educational technique that mixes conventional face-to-face instruction with digital tools to produce a more flexible and personalised learning experience. While blended learning offers many potential benefits, it also has a number of drawbacks.

The necessity for proper technical infrastructure and assistance is one of the problems of blended learning. Access to dependable and fast internet, gadgets for kids who may not have their own, and technical help for both students and instructors are all part of this. Blended learning may be a difficult and ineffectual experience for both students and instructors if sufficient technology infrastructure and support are not in place.

Another problem of blended learning is the requirement for good time management. Students must balance their time between face-to-face instruction and digital activities, and teachers must carefully prepare and organise their classes to

guarantee a smooth transition between the two. This may be challenging and time-consuming, especially for teachers who are new to blended learning.

Furthermore, blended learning necessitates the acquisition of new abilities by both students and teachers. Students must learn to navigate digital platforms and tools, while instructors must learn to successfully integrate these resources into their curriculum. This may be a difficult learning curve for both students and instructors, leading to dissatisfaction and resistance to change.

Effective Implementation of Blended Learning

Blended learning must be implemented well in order to be successful and gain its benefits. This section will discuss various ways for adopting blended learning effectively in the classroom.

Provide Clear Communication and Expectations

To ensure that students understand what is expected of them in a blended learning setting, clear communication and expectations are essential. Teachers must convey the course's learning objectives, expectations, and guidelines for both the online and offline components. This can assist pupils in staying on track and avoiding misunderstanding.

According to Hew and Cheung (2014), giving students clear boundaries and expectations can boost their motivation and involvement in blended learning. Similarly, LaPointe and Gunawardena (2004) discovered that strong communication between teachers and students is critical for blended learning effectiveness.

Ongoing Assessment and Evaluation

Ongoing assessment and evaluation can assist teachers in monitoring student development and making necessary adjustments to their curriculum. Teachers should employ a range of evaluation tools to monitor student learning and highlight areas for growth, such as formative assessments, quizzes, and surveys.

According to Garrison and Kanuka (2004), a continuous evaluation is essential for effective blended learning. Similarly, Means et al. (2010) discovered that regular evaluation and feedback are required for effective online learning.

Provide Adequate Training and Support

Teachers should be adequately trained and supported in order to successfully utilise blended learning in the classroom. This might involve technological training, instructional design, and pedagogical methodologies for blended learning. Teachers should also have access to technical help to address any problems that may emerge.

Graham (2006) discovered that proper training and support for instructors is critical for the effective implementation of blended learning. Similarly, Picciano and Seaman (2007) discovered that technical assistance is crucial to the effectiveness of online learning.

Incorporate Student Feedback

Incorporating student feedback can assist teachers in improving their students' blended learning experiences. Teachers should solicit input from their students on a regular basis, whether through surveys, focus groups, or other means. This can assist teachers in identifying areas for improvement and making changes to their instruction.

According to Dziuban et al. (2006), including student feedback is critical for online learning effectiveness. Similarly, Cook et al. (2008) discovered that adding student feedback can improve the efficacy of blended learning.

Conclusion

Blended learning is a cutting-edge educational technique that mixes conventional face-to-face instruction with digital tools to produce a more flexible and personalised learning experience. Over the years, the use of technology in education has risen significantly, and blended learning has become an increasingly common method of instruction. According to research, blended learning has the ability to improve student outcomes, improve the teaching experience, and offer students with the opportunity to build the skills required for success in the twenty-first century. Blended learning may also help students from varied backgrounds by levelling the playing field and providing equitable access to high-quality education.

Blended learning must be implemented well in order to be successful and gain its benefits. Clear communication and expectations, continuing assessment and evaluation, proper training and support, and the inclusion of student input are all strategies that can assist instructors in effectively implementing blended learning in the classroom.

Blended learning has the potential to revolutionise education and increase student results. Blended learning, which combines conventional face-to-face education with digital tools, may give students a more personalised and interesting learning experience while simultaneously providing teachers with new chances to improve their teaching practice. To establish a better learning environment for all students, educators must embrace and efficiently employ blended learning.

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TRANSFORMING AUTODIDACTIC EXPERIENCES WITH CHATGPT - NEW CHALLENGES IN TEACHING-LEARNING

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DOI: https://doi.org/10.34293/eduspectra.v5is1-may23.011

Abstract

Chat GPT, fueled by the high-level GPT-3 language model from OpenAI, has arrived at 1 million clients just in 5 days. Twitter, Facebook, Netflix, and Instagram could reach this number in 300, 1200, 75, and 720 days, respectively. GPT-3 could produce writing that closely resembles human language with 175 billion parameters. GPT-4, which was first made public on March 13, is much more creative, reliable, and nuanced. Chat GPT, backed by the GPT-4 model, can have multiple on going conversations, comprehend and respond to input in natural language, and provide personalized and interactive assistance. Because of this, ChatGPT is a promising tool for open education because it can increase autodidactic learners' independence and adaptability while also being practical. Chat GPT has the potential to boost autodidactic learners' motivation and engagement by providing tailored guidance, support, and feedback.

Keywords*: ChatGPT, GPT-3, GPT-4, OpenAI, Autodidactic Experiences.*

Introduction

The computerized world requires a specific sort of "self-teaching" profile, described by a strong motivation to learn, the capacity to find and successfully utilize advanced assets, and an eagerness to take responsibility for own way of learning. Managers are progressively looking for candidates with these characteristics as they are better prepared to explore the ever-changing landscape of the advanced world (Monitoring et al. 2022).

The process of learning on one's own, without the assistance of a teacher or instructor, is referred to as autodidactic learning or self-directed learning (Candy, 1991; Post, 1997). Autodidactic learning is characterized by the use of open educational resources (OER) and other open educational practices and relies on the learner's autonomy and independence to direct their learning process (Caswell et al., 2007) .2008).

Learners can take charge of their development and learn through autodidactic learning, which enables them to learn at their own pace and in a manner that is tailoredto their specific needs and objectives (Gureckis & Markant, 2012; OERs and other open educational practices are becoming more accessible, making it easier for any one to acquire high-quality learning resources and materials (Schweder & Raufelder, 2022). Education has become more affordable and accessible as a result of this (Caswell etal.). 2008), Chat GPT, a brand-new AI innovation developed by Open AI that attracted one million users in just five days (Haque et al. 2022), looks sufficiently optimistic to add this help.

There are numerous reasons why research in to Chat GPT's capacity to improve autodidactic learning is essential. It might guide the future of education and the application of technology to learning, as well as the methods and best practices for utilizing chatbots and other artificial intelligence (AI) tools in education. By understanding how Chat GPT can support the independence and independent study of autodidactic learners, educators and students can use these technologies to help and enhance their learning and development more effectively. Policy makers might be able to use the results of this study to come up with strategies for incorporating these technologies in to educational environments and procedures.

ChatGPT and Its Capabilities

ChatGPT, a chatbot, responds to user input by employing the GPT-3 language model (OpenAI, 2023). OpenAI's Generative Pre-trained Transformer 3, or GPT-3, is a large-scale language model with 175 billion parameters that can produce text. It has been prepared with an immense amount of information (Brown et al., 2020). One of ChatGPT's primary characteristics is its ability to comprehend and respond to input in natural language (OpenAI, 2023). ChatGPT takes advantage of the capabilities of GT-3 to respond to user input conversationally and naturally. Normal language handling (NLP) is utilized by Talk GPT to analyze client input and produce appropriate responses (LeCun et al., 2015). According to OpenAI, 2023, this makes it possible for users to converse with ChatGPT in a manner that resembles human conversation and is easy to understand. Another important feature of Chat GPT is its ability to provide customers with individualized and interactive assistance. With the utilization of clientinput, Visit GPT can change its answers and offer specific guidance and help. Chat GPT can be used to tailor recommendations for educational websites and products based on a user's preferences and learning goals.

Concerning specialized data, ChatGPT is frequently carried outasa chatbot that is got to through various stages, including a site, a cell phone application, ora messaging administration (OpenAI, 2023). ChatGPT can be contacted viavoice or text, and it will respond immediately. Chat GPT is frequently constructed to be able to manage multiple concurrent chats with various users to accommodate multiple users simultaneously. Chat GPT, a powerful chatbot, makes use of the GT-3 language model to provide users with personalized, interactive, and conversational assistance. Due to its capacity to comprehend and respond to natural language input, as well as itsability to provide individualized recommendations and assistance, it is a useful tool for encouraging the independence and independent study of autodidactic learners.

How the ChatGpt can Transform Autodidactic Experiences

The creation of artificial intelligence (AI) tools like ChatGPT has the potential to completely transform students' approaches to education and academics. The application of AI technology to learning has been demonstrated in related literature

(Patil and Abraham, 2010; 2022, Pham and Sampson). Man-made intelligence-based coaching projects can upgrade students' performance and inspiration in learning conditions (Srinivasa, Kurni and Saritha, 2022).

AI technologies like chatbots have the potential to enhance the learning experience and increase student participation in online courses by providing students with individualized and interactive assistance. Autodidactic learners can benefit from ChatGPT's ability to promote independence and independent study by providing individualized and interactive assistance.

ChatGPT may not only enhance learning experiences but also promote learners' autonomy by providing interactive, individualized assistance tailored to each learner's specific requirements and preferences. For instance, Chat GPT can be used to provide students with individualized recommendations for books and other resources or interactive tasks and activities tailored to their specific needs and learning goals. ChatGPT currently has several applications for self-directed learners. The five ways that ChatGPT could change interactions with self-directed learning areas follows:

1. **Customized help**: ChatGPT may be able to provide self-directed students with individualized, interactive assistance by adapting its suggestions and responses to the choices and objectives of each learner. This could be very helpful for students who might not have access to more conventional support networks like teachers or mentors.
2. **Guidance and feedback in real-time**: Self-teaching students can get on going feedback and bearing from Visit GPT as they progress through the course materials and resources. Students may find this helpful in staying on task and resolving any issues they encounter
3. **Expanded openness**: Because it can be accessed through a variety of platforms, including a website, a smartphone app, or a messaging service, learners who may not have access to conventional educational materials will find ChatGPT to be more accessible.
4. **Flexible and convenient education:** Because they can communicate with the chatbot when ever it is most convenient for them, autodidactic learners can study with ChatGPT at their own pace and on their terms.
5. **Utilizing open educational resources more effectively**: Self-directed students can use ChatGPT to find and use open educational materials because it can provide individualized suggestions and advice on how to use these resources effectively. Students may find this helpful inutilizing the numerous online learning resources and tools.
6. **Reflection and self-evaluation**: Students might use Talk GPT to ponder their progress and learning, as well as to pinpoint any regions where they could need further assistance or course.

Chat GPT can be used to provide personalized recommendations for learning materials and resources based on a learner's requirements and goals in addition to providing interactive games and exercises tailored to the learner's specific learning needs. Learning can been hanced, engagement and motivation can be boosted, and this

interactive and individualized support can help. The use of VisitGPT as a coach or tutor is another contemporary ChatGPT use for self-educated students.

Chat GPT may be utilized to encourage and provide students with feedback as they progress through learning materials and resources. Chat GPT can also be used to give students advice and support as they create their learning objectives and strategies to help them take control of their education. At last, the ChatGPT might be used as a self-assessment and reflection instrument. Learners can use Chat GPT to reflecton their learning and progress, as well as to identify any areas in which they mayrequire additional guidance or assistance. Students can benefit from this process ofself-evaluationand reflection by developing the skills and strategies they need to succeed as self-directed learners and by taking responsibility for their education and development.

Challenges of using ChatGpt in the Teaching-Learning

Lack of Expertise Assessment

ChatGPT may not have the ability to accurately assess the proficiency or understanding of students. It primarily generates responses based on patterns and examples in the training data, without deep comprehension or evaluation of the student's knowledge. This can make it difficult o identify and address gaps in learning.

Misinformation and Biased Responses

Asan AI language model, ChatGPT generates responses based on patterns in the data it was trained on. If the training data contains biases or in correct information, ChatGPT may in advertently produce inaccurate or biased responses. This can be problematic, particularly in educational settings where the goal is to provide accurate and reliable information to students.

Lack of Adaptability

ChatGPT may struggle with adapting to different teaching styles or individual student needs. It cannot understand theunique requirements of each student or modify its responses accordingly. This limitation can hinder the effectiveness of personalized instruction, which is often crucial in educational settings.

Limited Context Awareness

ChatGPT's responses are influenced by the preceding conversation or prompt, but it may not have a comprehensive understanding of the broader context. It can sometimes misinterpret or overlook important details, leading to irrelevant or inaccurate responses. This can be particularly problematic in complex educational discussions that requirenuanced understanding and accurate contextual information.

Limited Emotional Intelligence

ChatGPT lacks emotional Intelligence and empathy. It may struggle to provide appropriate emotional support or engage insensitive conversations with students. Understanding and addressing students' emotional needs are essential aspects of teaching that require human sensitivity and judgment, which may not be adequately replicated by an AI language model.

Over Reliance on Technology

Relying heavily on ChatGPT for teaching can lead to a reduced emphasison human-to-human interaction, which is a vital component of effective education. Students benefit from direct interactions with knowledgeable instructors, engaging in discussions, and receiving personalized feedback. Over reliance on AI in teaching may hinder the development of important social and communication skills.

To overcome these challenges, it is important to use ChatGPT as a complementary toolrather than a substitute for human instruction. Teachers should critically evaluate andverify the information provided by ChatGPT, provide additional guidance and context,and ensure that students' individual needs and emotional well-being are adequately addressed.

Conclusion

AI technologies like ChatGPT may also pave the way for education's future. As ameans of making education more accessible and more affordable, open learning, also known as the use of OER and other open educational practices, is gaining popularity. The incorporation of AI tools in to open learning environments such as ChatGPT has the potential to further enhance learning and enhance learner autonomy. More research is needed because ChatGPT may have significant future effects on autodidactic learning. With regards to self-teaching learning, it is pivotal to remember that Visit GPT is still a moderate innovation, and more review is expected to get a handle on its potential and restrictions appropriately. Watching how ChatGPT and other AI technologies evolve and how they affect education will be fascinating.

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OUTCOME-BASED EDUCATION PYRAMID: A COMPREHENSIVE FRAMEWORK FOR ENHANCING EDUCATIONAL OUTCOMES

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Abstract
Outcome-Based Education (OBE) is a student-centered approach that focuses on defining clear and measurable learning outcomes. It provides a structured framework to design curricula, deliver instruction, and assess student performance based on these outcomes. This research article aims to explore the concept of the Outcome-Based Education Pyramid, a comprehensive framework that supports the implementation of OBE. The article discusses the key components of the pyramid, including learning outcomes, instructional strategies, assessment methods, and continuous improvement. Furthermore, it examines the benefits and challenges of implementing the Outcome-Based Education Pyramid in educational institutions.
Keywords*: Outcome-Based Education, Pyramid, Education etc.*

Introduction
American Association of school administrators said that *WHAT and WHETHER students learn successfully is more important than WHEN and HOW they learn it.*

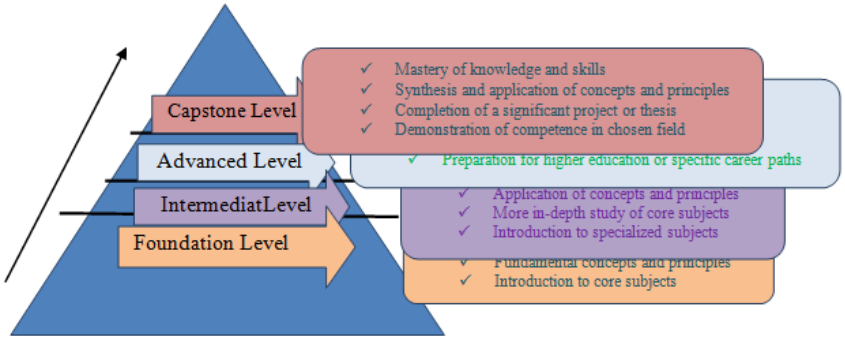
(Spady,W.G.,1994)

Outcome-Based Education (OBE) is an educational philosophy that emphasizes defining specific learning outcomes and aligning teaching methods and assessment practices to achieve those outcomes. OBE aims to shift the focus from traditional content-centered education to student-centered education, emphasizing the practical application of knowledge and skills in real-world contexts. focuses on defining and measuring specific learning outcomes or competencies that students should achieve by the end of their educational journey.

The Outcome-Based Education Pyramid serves as a comprehensive framework for implementing OBE effectively. It consists of several interconnected components, including learning outcomes, instructional strategies, assessment methods, and continuous improvement. The OBE pyramid is a visual representation of this approach, illustrating the hierarchical relationship between different levels of outcomes and the progressive development of knowledge and skills.

The OBE pyramid consists of four main levels: foundational, intermediate, advanced and capstone outcomes. Each level builds upon the previous one, guiding students towards higher levels of learning and mastery. The OBE pyramid provides a framework for understanding the hierarchical structure of outcomes and how they relate to each other.This article aims to provide an in-depth analysis of each component and highlight the benefits and challenges associated with adopting the Outcome-Based Education Pyramid in educational institutions.

Four Stages of Outcome-Based Education



OBE Pyramid

Foundational Outcomes

At the base of the pyramid are the foundational outcomes, which represent the basic knowledge and skills that students need to acquire as a prerequisite for higher-level learning. These outcomes lay the groundwork for subsequent levels. Examples of foundational outcomes may include basic literacy, numeracy, critical thinking, and problem-solving skills. They provide students with the fundamental tools necessary for their educational journey. Learning outcomes should be specific, measurable, attainable, relevant, and time-bound (SMART). They provide a clear roadmap for educators and students, ensuring that the educational process is purposeful and aligned with desired outcomes. Learning outcomes also enable effective assessment, as they serve as benchmarks against which student performance can be evaluated.

Intermediate Outcomes

Moving up the pyramid, the intermediate outcomes represent the next level of learning that builds upon the foundational outcomes. Intermediate outcomes are more specific and complex, focusing on the application and integration of foundational knowledge and skills. These outcomes involve a deeper understanding of the subject matter and the ability to analyze, synthesize, and evaluate information. Intermediate outcomes enable students to bridge the gap between foundational knowledge and advanced concepts.

This second level of the Outcome-Based Education Pyramid focuses on instructional strategies. These strategies encompass the teaching methods, activities, and resources employed to facilitate the achievement of learning outcomes. Instructional strategies should be designed to engage students actively, promote critical thinking, and encourage independent learning. They may include lectures, group discussions, problem-solving exercises, hands-on experiments, and technology-enhanced learning approaches. By aligning instructional strategies with learning outcomes, educators can create a supportive and stimulating learning environment.

Advanced Outcomes

The advanced outcomes represent the higher-level learning objectives that require a mastery of the intermediate outcomes. At this level, students engage in more sophisticated cognitive processes, such as critical thinking, problem-solving, and creativity. Advanced outcomes involve the application of knowledge and skills to complex real-world situations, promoting independent thinking and decision-making. Students develop a deeper understanding of concepts and demonstrate competence in their chosen field.

At this level, Assessment plays a crucial role in Outcome-Based Education. It helps determine the extent to which students have achieved the desired learning outcomes. Assessment methods should be aligned with the specific learning outcomes and be diverse in nature to capture different aspects of student performance. They can include tests, projects, presentations, portfolios, and performance-based assessments. The use of rubrics and clear criteria facilitates consistent and fair evaluation of student work. By collecting and analyzing assessment data, educators can identify areas of strength and weakness in student performance and make informed instructional decisions.

Capstone Outcomes

The pinnacle of the OBE pyramid is the capstone outcomes, which represent the highest level of achievement and integration of knowledge and skills. Capstone outcomes often take the form of projects, research, or comprehensive assessments that require students to demonstrate mastery across multiple disciplines and apply their learning to real-world scenarios. These outcomes showcase students' ability to think critically, solve complex problems, and communicate effectively. Capstone projects serve as a culmination of the educational experience, preparing students for future endeavours.

The topmost level of the Outcome-Based Education Pyramid focuses on continuous improvement. OBE emphasizes a cyclical process of continuous improvement, where feedback from assessments and evaluations is used to enhance instructional strategies and learning outcomes. This feedback loop allows educators to refine their teaching approaches, modify learning outcomes if necessary, and implement targeted interventions to support struggling students. Continuous improvement promotes a culture of reflective practice and encourages educators to engage in ongoing professional development. The teacher keeps in mind the endpoint means outcomes when they design lesson plans, assignments, assessments, lecturing and other activities (Risheth, 2018)

Benefits of Outcome-Based Education Pyramid

The Outcome-Based Education Pyramid Offers Several Benefits

Alignment of Teaching, Learning, and Assessment

One of the key benefits of the Outcome-Based Education Pyramid is the alignment of teaching, learning, and assessment. By defining specific learning outcomes, educators can design instructional strategies and assessment methods that are directly linked to those outcomes. This alignment ensures that the educational process is purposeful and coherent, with all components working together towards achieving the desired learning outcomes (Biggs & Tang, 2011). When teaching, learning, and assessment are aligned, students gain a clearer understanding of what is expected of them and can better focus their efforts on achieving the desired outcomes.

Clarity and Transparency

The Outcome-Based Education Pyramid promotes clarity and transparency in the educational process. Learning outcomes provide explicit statements of what students are expected to know, understand, and be able to do. This clarity helps students understand the purpose of their education and provides a roadmap for their learning journey. Additionally, clear and measurable learning outcomes provide educators with specific criteria for assessment, ensuring fairness and consistency in evaluating student performance (Davis, 2003). Clarity and transparency in education contribute to increased student engagement and motivation.

Meaningful and Relevant Learning

By incorporating the Outcome-Based Education Pyramid, educators can make the learning process more meaningful and relevant to student's lives and future careers. Learning outcomes are designed to be specific and relevant, ensuring that students acquire knowledge, skills, and attitudes that are applicable in real-world contexts (Trilling & Fadel, 2009). Instructional strategies can be tailored to promote active learning, critical thinking, and problem-solving, engaging students in authentic tasks and experiences. When students can see the relevance and applicability of their education, they become more motivated and invested in their learning.

Enhanced Student Engagement

Outcome-Based Education, supported by the pyramid framework, fosters increased student engagement. By clearly defining learning outcomes, students gain a sense of ownership and direction in their education. They understand what is expected of them and can actively participate in their learning process. Furthermore, the use of diverse instructional strategies that align with the learning outcomes promotes active engagement and involvement in the classroom. Students are more likely to be motivated and enthusiastic when they are actively engaged in meaningful learning experiences (Biggs & Tang, 2011).

Collaboration among Educators

The Outcome-Based Education Pyramid encourages collaboration among educators within an institution. The process of designing curricula, defining learning outcomes, and developing assessment methods requires the collective expertise and input of educators from various disciplines. By working together, educators can share best practices, exchange ideas, and create a cohesive and comprehensive educational experience for students. Collaborative efforts also foster a culture of continuous improvement, where educators can learn from each other and collectively enhance their instructional strategies (Wiggins, 1998).

Continuous Improvement

The topmost level of the Outcome-Based Education Pyramid emphasizes continuous improvement. OBE recognizes that education is an ongoing process and encourages educators to continuously reflect on their practice, evaluate student performance, and make necessary adjustments to enhance learning outcomes. The feedback loop created through continuous improvement allows educators to refine instructional strategies, modify learning outcomes, and provide targeted support to students who may be struggling (Spady, 1994). This focus on continuous improvement fosters a culture of reflective practice and professional development among educators.

Challenges of the Outcome-Based Education Pyramid

Implementing the Outcome-Based Education Pyramid is not without challenges.

Clear and Measurable Learning Outcomes

The foundation of OBE lies in the establishment of clear and measurable learning outcomes. However, defining precise and measurable outcomes that adequately capture the complexity and diversity of educational goals can be challenging. In some disciplines, such as the arts or humanities, it may be difficult to express outcomes in quantifiable terms, making assessment and evaluation a daunting task.

Alignment and Integration

The OBE pyramid emphasizes the alignment and integration of various educational components, including curriculum, instructional strategies, and assessment methods. Achieving alignment across different courses, departments, or institutions can be challenging due to varying interpretations of learning outcomes and differences in teaching philosophies. Lack of collaboration and communication among stakeholders can hinder effective integration, leading to fragmented educational experiences.

Faculty Development and Resistance

Implementing OBE requires faculty to adapt their instructional practices and assessment methods to align with the desired outcomes. However, faculty members may encounter resistance due to a lack of understanding, fear of change, or perceived

workload increase. Providing comprehensive faculty development programs and addressing concerns effectively is crucial to ensuring successful implementation.

Assessment and Evaluation

Accurately assessing and evaluating student learning in OBE is essential to measure the attainment of outcomes. However, designing valid and reliable assessment tools that align with the intended outcomes can be challenging. Traditional assessment methods, such as exams and quizzes, may not fully capture higher-order thinking skills or holistic learning. Incorporating authentic assessment strategies, such as portfolios or projects, requires careful design, implementation, and evaluation.

Resource Constraints

Implementing OBE often demands additional resources, including time, infrastructure, technology, and training. Limited availability of these resources can hinder the effective implementation of OBE initiatives, especially in resource-constrained educational institutions. Adequate resource allocation and institutional support are critical to overcoming these challenges.

Stakeholder Engagement and Support

Engaging various stakeholders, including students, faculty, administrators, employers, and accrediting bodies, is crucial for successful OBE implementation. Lack of stakeholder engagement, support, and understanding can impede progress. Building a shared vision, creating a culture of continuous improvement, and involving stakeholders in the decision-making process is essential for effective OBE implementation.

Conclusion

The Outcome-Based Education Pyramid offers a comprehensive framework for implementing Outcome-Based Education. Focusing on learning outcomes, instructional strategies, assessment methods, and continuous improvement, it supports the design of purposeful and effective educational experiences. While challenges exist, the benefits of adopting this framework outweigh the difficulties. Educational institutions can benefit from embracing the Outcome-Based Education Pyramid to enhance student learning outcomes and prepare them for success in a rapidly changing world. Adopting the Outcome-Based Education Pyramid can lead to improved student outcomes and a more student-centered approach to education.

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TECHNOLOGICAL PEDAGOGICAL AND CONTENT KNOWLEDGE (TPACK) AMONG PROSPECTIVE TEACHERS

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DOI: https://doi.org/10.34293/eduspectra.v5is1-may23.013

Abstract

Prospective teachers have an important role in the educational system, they are going to handle the future generations, therefore,their quality is an essential factor to be monitored so that the future pillars of the nation will be properly facilitated and guided to become an efficient contributor for the development of a nation. Future teachers should possess the knowledge of technology along with pedagogical and content knowledgeto manage the digital native students. This study aims to analyse the Technological Pedagogical and Content Knowledge among the Prospective teachers in Dindigul District. Samples of 100 Prospective teachers were selected randomly for this study. TPACK survey questionnaire developed by Özkan Akman & Cemal Güven (2015) has been used to collect the data.

Keywords: *Prospective Teachers, TPACK, Digital Natives, ICT, Pre-Service Teachers*

Introduction

Teachers in the twenty-first century live in a period of rapid technological development in all aspects of life.The teaching profession has also become one of the professions that need to keep up with this change. From this point it is very necessary to trainqualified teachers to achieve the goals set in the education system and to reach international standards (Tafli, 2021) A teacher must be skilled in the use of technology in the classroom in addition to knowing the learning material that must be mastered. Teachers with technological knowledge in addition to PCK are needed in the information and communication age, and they must be able to integrate this into the teaching process (Tafli, 2021).Technology in education makes teaching activities easier for both teachers and students(BAŞARAN, 2020). Technological Pedagogical Content Knowledge (TPACK) is a framework that describes the complex and dynamic nature of teaching with technology and has become an important concept in the field of educational technology.The Technological Pedagogical Content Knowledge (TPACK) framework is widely used for comprehending, learning, and describing various types of knowledge required by professors or teachers (Mishra & Koehler, 2006).The Technological Pedagogical Content Knowledge (TPACK) framework provides a theoretical perspective of showing whether a teacher can effectively design and conduct technology-enhanced instruction (Dikmen & Demirer, 2022).

TPACK emphasizes the importance of understanding how technology can be used to enhance the teaching and learning of specific subject matter, and how effective

teaching with technology requires a unique combination of content knowledge, pedagogical knowledge, and technological knowledge.Therefore, the prospective teachers who were going to deal with the future generations should possess the skill of integrating technology along with pedagogical and content knowledge for engaging the digital natives properly and efficiently.

Need for the Study

It is the need of the hour that the education system blends with technology during the COVID-19 pandemic for providing continue and quality education to the students. Integrating technology into teaching is crucial for teachers to prepare students for a digitalized future in the face of digitalization. As a result, it is commonly argued that pre-service teachers should acquire subject-specific professional knowledge regarding technology integration to support the learning of their future students. (Lachner et al., 2021)

Most of the school provides ICT resources like computers, smart boards, etc but does the future teachers were ready to blend with it is a question mark.Teachers should know how to integrate recent technological developments into their classrooms(Adalar, 2021). Competencies and active participation should be there among the teachers to effectively and efficiently use the technology available in learning environments for the purpose. (Akturk & Ozturk, 2019).Currently, one of the most prominent models of teacher knowledge for the effective use of digital technologies in teaching is the TPACK model (Schmid et al., 2020).This study aims to assess the TPACK among Prospective teachers who were going to be future teachers. Hence the present study "Technological Pedagogical And Content Knowledge among Prospective Teachers".

Teachers should know how to integrate recent technological developments-comments into their classrooms.

Methodology

- **Sample:** A sample of 100 prospective teachers from the Dindigul district was selected using a simple random sampling technique
- **Tool:** TPACK survey questionnaire developed and standardized by Ozkan Akman & Cemal Guven (2015) has been used to collect the data

Objectives of the Study

The present study aims to measure the level of TPACK among prospective teachers. Based on the aim of the study following objectives are framed

- To measure the level of TPACK among the Prospective teachers.
- To find out the significant difference between the Prospective teachers in TPACK based on their selected Independent variables like gender and location of residence.

Hypothesis

- The Prospective teachers have above average level of TPACK.
- There is no significant difference in TPACK and its dimensions between the male and female Prospective teachers.
- There is no significant difference in TPACK and its dimensions between the Prospective teachers from rural and urban area.

Hypothesis 1

The Prospective teachers have above-average level of the different dimensions of TPACK

Table 1 Empirical Average Scores of TPACK and its Dimensions

TPACK Dimension	N	(EMPIRICAL) Average	Theoretical average
TK	100	25.84	24
PK	100	19.73	18
CK	100	18.48	12
TPK	100	13.05	12
TCK	100	17.39	16
PCK	100	18.54	14
TPACK	100	12.42	14

The above table shows that the Theoretical average of Technological Knowledge (TK) is 24 whereas theempirical value is 25.84, this shows that the prospective teachers have an average level of Technology Knowledge (TK) – **The hypothesisis accepted.**

The theoretical average of Pedagogy knowledge (PK) is 18, whereas the empirical value is 19.73 which shows that prospective teachers have a high level of PK. – **Hypothesis Accepted**

The theoretical average of Content Knowledge (CK) is 12, whereas the empirical value is 18.48, this shows that prospective teachers have above average level of CK. – **Hypothesis Accepted**

The theoretical value of Technological Pedagogical Knowledge (TPK) is 12 whereas the empirical value is 13.05, therefore the prospective teachers have above average level of TPK – **Hypothesis accepted**

The theoretical value of Technological Content Knowledge (TCK) is 16, whereas the empirical value is 17.39. this shows that the prospective teachers have above average level of TCK – **Hypothesis accepted**

The theoretical value of Pedagogical content Knowledge is 14, whereas the empirical value is 18.54. this shows that the prospective teachers have above-average level of PCK. – **Hypothesis Accepted**

The theoretical value of Technological Pedagogical Content Knowledge (TPACK) is 14, but the empirical value is 12.42. this shows that the prospective teachers have below-average level of TPACK – **Hypothesis Rejected.**

Hypothesis 2

There is no significant difference in TPACK and its dimensions between the male and female Prospective teachers.

Table 2 Statistical Measures and Results of a Test of Significance of the Difference Between the Mean scoRes of TPACK and Dimensions among Prospective Teachers: Gender–Wise

TPACK Dimension	Variable	Sub-Variable	N	Mean	SD	t-value	Significance at 0.05 level
TK	Gender	Male	33	24.2424	5.12366	2.11	Significant
		Female	67	26.6269	5.65105		
PK	Gender	Male	33	20.3030	3.64422	1.23	Not Significant
		Female	67	19.4478	2.31126		
CK	Gender	Male	33	18.2424	1.87133	0.90	Not Significant
		Female	67	18.5970	1.78427		
TPK	Gender	Male	33	12.8182	3.69505	0.44	Not Significant
		Female	67	13.1642	3.60386		
TCK	Gender	Male	33	18.6970	6.16687	1.57	Not Significant
		Female	67	16.7463	5.05528		
PCK	Gender	Male	33	18.7576	3.52695	0.45	Not Significant
		Female	67	18.4328	3.09067		
TPACK	Gender	Male	33	12.1212	1.89996	1.09	Not Significant
		Female	67	12.5672	1.95575		

The above table shows that the t-values 1.23, 0.90, 0.44, 1.57, 0.45, and 1.09 were less than the table value 1.96 at a 0.05 level of significance. Therefore there is no significant difference in PK, CK, TPK, TCK, PCK and TPACK among the prospective teachers – **Hypothesis Accepted**

The above table shows that the t-value of 2.11 is higher than the table value of 1.96 at a 0.05 level of significance. This shows that there is a significant difference in TK among the prospective teachers. Further, it shows that female prospective teachers have a high level of Technological knowledge than male prospective teachers – **Hypothesis Rejected**

Hypothesis 3

There is no significant difference in TPACK and its dimensions between the Prospective teachers from rural and urban area.

Table 3 Statistical Measures and Results of a Test of Significance of the Difference Between the Mean Scores of TPACK and its Dimensions among Prospective Teachers: Residence – Wise

Dimension	Variable	Sub-Variable	N	Mean	SD	t-value	Significance at 0.05 level
TK	Residence	Urban	33	25.1818	6.38090	0.77	Not Significant
		Rural	67	26.1642	5.14810		
PK	Residence	Urban	33	19.8485	2.99083	0.28	Not Significant
		Rural	67	19.6716	2.77100		
CK	Residence	Urban	33	18.3636	1.31857	0.51	Not Significant
		Rural	67	18.5373	2.01756		
TPK	Residence	Urban	33	12.6364	3.52507	0.81	Not Significant
		Rural	67	13.2537	3.67359		
TCK	Residence	Urban	33	18.4545	7.10234	1.17	Not Significant
		Rural	67	16.8657	4.46839		
PCK	Residence	Urban	33	19.4242	2.76168	2.08	Significant
		Rural	67	18.1045	3.36711		
TPACK	Residence	Urban	33	12.2424	1.62077	0.69	Not Significant
		Rural	67	12.5075	2.08438		

The above table shows that the t-values 0.77, 0.28, 0.51, 0.81, 1.17, and 0.69 were less than the table value 1.96 at a 0.05 level of significance. Therefore there is no significant difference in TK, PK, CK, TPK, PCK and TPACK among the prospective teachers – **Hypothesis Accepted**

The above table shows that the t-value of 2.08 is higher than the table value of 1.96 at a 0.05 level of significance. This shows that there is a significant difference in PCK among prospective teachers. Further, it shows that prospective teachers from the urban area have a high level of Pedagogical Content knowledge than prospective teachers from a rural area – **Hypothesis Rejected**

Conclusion

Technology became a part and partial of the education system, and having enough knowledge and skill in integrating technology into the teaching and learning process is very much essential for teachers and future teachers. The findings of the studyshow that the prospective teachers have above-average level of Technological Knowledge, Pedagogical Knowledge, Content Knowledge, Technological Pedagogical

Knowledge, Technological Content Knowledge, and Pedagogical Content Knowledge, but they are struggling toproperly blend all three. Knowing Technology will be more effective only when the prospective teachers know how to integrate it efficiently along with pedagogy and content. The finding reveals that Prospective teacher's Technological Pedagogical and Content Knowledge (TPACK), is below average level. Therefore Proper hands-on training Programmes and workshops should be provided for the prospective teachers so that they can get a clear idea and skill in blending technology along with pedagogy and Content knowledgethus in future as a teacher they can make the teaching-learning process efficiently and effectively among digital natives and prepare them for the future world.

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EXPANDING ACCESS TO MINDFULNESS EDUCATION IN ADAPTIVE LEARNING: ENHANCING STUDENT WELL-BEING AND ACADEMIC SUCCESS

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DOI: https://doi.org/10.34293/eduspectra.v5is1-may23.014

Abstract

This article explores the benefits of expanding access to mindfulness education in adaptive learning environments for enhancing student well-being and academic success. It discusses the synergistic relationship between adaptive education and mindfulness education, highlighting how mindfulness practices support attention, focus, and cognitive flexibility. The article emphasizes the positive impact of mindfulness education on academic performance, well-being, self-awareness, emotional intelligence, metacognitive skills, and self-care practices. It also suggests strategies for implementing mindfulness in adaptive learning environments, including teacher training, creating a mindful school culture, and tailoring mindfulness practices to meet diverse student needs. By combining personalized instruction with self-regulation skills, educators can create inclusive learning environments where students can thrive academically and personally.

Keywords: *Mindfulness Education, Adaptive Learning, Student Well-Being, Academic Success, Cognitive Performance, Self-Awareness, Metacognitive Skills, Self-care Practices*

Introduction

Adaptive learning and mindfulness education are two powerful approaches that contribute to student well-being and academic success. Adaptive education focuses on tailoring instruction to meet the unique needs and abilities of individual students, while mindfulness education cultivates self-awareness, emotional regulation, and present-moment awareness. By expanding access to mindfulness education within adaptive learning environments, educators can create inclusive and supportive settings that promote holistic development and maximize student potential.

Understanding Adaptive Education

Adaptive education is an approach that recognizes the diverse learning styles, abilities, and interests of students. It involves adapting instructional strategies, materials, and assessments to meet the specific needs of individual learners. Through the use of technology, data-driven insights, and personalized learning plans, adaptive education empowers students to progress at their own pace, receive targeted support, and engage in meaningful learning experiences that resonate with their strengths and areas for growth.

Understanding Mindfulness Education

Mindfulness education involves cultivating a state of conscious awareness and paying attention to the present moment without judgment. It encompasses practices such as deep breathing, meditation, and reflective exercises. Mindfulness education helps students develop self-awareness, emotional regulation, and a sense of connectedness to themselves and others. By fostering a non-judgmental and compassionate attitude, mindfulness equips students with valuable tools to navigate challenges, reduce stress, and enhance overall well-being.

The Synergy Between Adaptive Education and Mindfulness Education

The expansion of mindfulness education into adaptive learning environments enhances the effectiveness of both approaches. Mindfulness practices support adaptive education by fostering attention, focus, and cognitive flexibility. By promoting self-awareness and emotional regulation, mindfulness education helps students develop the mindset and self-regulation skills necessary for effective engagement in adaptive learning. In turn, adaptive education provides the personalized and tailored instruction necessary for students to apply mindfulness practices in their learning journeys.

Benefits of Expanding Access to Mindfulness Education in Adaptive Learning

Improved Academic Performance

Research studies have shown that mindfulness interventions in schools significantly enhance students' attention, focus, and engagement in learning activities (Semple, Droutman, & Reid, 2017). By expanding access to mindfulness education within adaptive learning, students can experience improved academic performance and achievement.

Enhanced Well-Being and Stress Reduction

Mindfulness education equips students with strategies to manage stress, anxiety, and other emotional challenges. By incorporating mindfulness practices into adaptive learning, students can develop resilience, reduce stress levels, and foster a positive mental state, leading to improved overall well-being.

Increased Self-Awareness and Emotional Intelligence

Mindfulness education promotes self-reflection and self-awareness, allowing students to better understand their thoughts, emotions, and behaviours. By expanding mindfulness into adaptive learning, students can develop emotional intelligence, empathy, and effective communication skills, contributing to positive social interactions and relationships.

Cultivating Metacognitive Skills

The expansion of mindfulness education within adaptive learning environments also offers students the opportunity to cultivate metacognitive skills. By practising self-

reflection and being present in the learning process, students become more aware of their own thinking, learning strategies, and areas of improvement. This heightened self-awareness allows them to monitor their progress, set goals, and make informed decisions about their learning journey, leading to increased academic success.

Empowering Students through Self-Care Practices

Expanding access to mindfulness education in adaptive learning environments not only enhances academic performance but also empowers students with essential self-care practices. Mindfulness education teaches students to prioritize their well-being and develop habits of self-care. By incorporating mindfulness practices into their daily routines, students learn to listen to their bodies, identify their needs, and engage in activities that promote self-care and self-compassion. This emphasis on self-care fosters resilience reduces burnout, and equips students with lifelong skills for managing stress and maintaining their overall well-being.

Enhanced Focus and Concentration

Expanding access to mindfulness education in adaptive learning environments can significantly enhance students' focus and concentration. Mindfulness practices, such as meditation and deep breathing exercises, have been shown to improve attention and cognitive performance (Keng, Smoski, & Robins, 2011). By incorporating mindfulness techniques into adaptive learning, students can develop the ability to sustain attention, resist distractions, and engage more deeply in their learning experiences. This heightened focus and concentration positively impact their comprehension, retention, and overall academic performance.

Implementing Mindfulness in Adaptive Learning Environments

Teacher Training and Professional Development

Providing teachers with adequate training in mindfulness practices enhances their ability to effectively deliver mindfulness education in adaptive learning environments (Jennings, Snowberg, Coccia, & Greenberg, 2011).

Creating A Mindful School Culture

Creating a mindful school culture that fosters the expansion of mindfulness practices is essential. This includes allocating dedicated time for mindfulness exercises, incorporating them into the daily schedule, and providing supportive spaces for meditation or reflection (Roeser, Skinner, Beers, & Jennings, 2012).

Tailoring Mindfulness Practices

Tailoring mindfulness practices to meet the diverse needs of students in adaptive learning environments ensures inclusivity and maximum benefit for all learners (Felver et al., 2016).

Conclusion

Expanding access to mindfulness education within adaptive learning environments holds tremendous potential for enhancing student well-being and academic success. By combining the personalized instruction of adaptive education with the self-regulation skills fostered by mindfulness practices, educators can create inclusive and supportive learning environments. Through increased self-awareness, improved emotional regulation, and enhanced engagement, students can thrive academically and personally. By expanding mindfulness education into adaptive learning, we can empower students to reach their full potential and lead fulfilling lives.

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STRATEGIES TO ENHANCE SOCIAL MEDIA IN THE MODERN EDUCATION

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DOI: https://doi.org/10.34293/eduspectra.v5is1-may23.015

Abstract
This article explores strategies to enhance social media presence in education. It emphasizes the benefits of social media for educators, including establishing a personal brand, building a professional network, staying updated with educational trends, and promoting work and achievements. The article provides practical strategies, such as selecting appropriate platforms, developing a consistent content strategy, engaging with followers and peers, utilizing hashtags, and leveraging social media analytics. It also discusses expanding the influence of social media in education, including enhanced communication and networking, sharing educational resources, engaging students and parents, showcasing student work, and leveraging live streaming and webinars. The abstract concludes by acknowledging the challenges and concerns associated with social media and strategies to enhance social media.
Keywords: *Social Media Presence, Education, Educators, Strategies*

Introduction

Social media has become an indispensable part of our lives, and its significance in education cannot be underestimated. Educators and educational institutions can leverage social media platforms to communicate, collaborate, and promote their work effectively. This article explores the importance of a strong social media presence in education and provides practical strategies to boost engagement and visibility.

Social media and technology are integral parts of daily life, and integrating the use of these into the classroom is more natural than before, given how acclimated many students are to them. Each social media platform offers many different ways to be used in the classroom, from sharing announcements to holding live lectures, and so much more.

First, social media provides a smoother, more direct communication tool between students, teachers and parents, who can check in and ask or respond to questions. Social media allows for more e-learning opportunities as well. As remote jobs and online classes are becoming more popular, training students to work from a distance is an important lesson, and social media can help with that.

It's important to understand the impact of social media in education before using it, but we're of the firm belief that it will help advance students in technology.

Social Media in the Classroom

Many social media tools for education can be taken advantage of for students of any age, from elementary through college.

Use a Facebook Page to Broadcast Updates and Alerts

Facebook can be the perfect social media platform to incorporate into the classroom. Instead of putting instructors and students alike through a new learning curve when dealing with a traditional online classroom dashboard, stick to something everyone already knows.

Use Twitter as a Class Message Board

Twitter can be great as a discussion board or message board for a class. Teachers can create a single Twitter handle per class and reuse it every year, or they can create a new handle each school year. The 280-character limit makes students think critically about communicating concisely and effectively, a beneficial skill to develop.

Use Instagram for Graphics

In a visual-heavy class, students can use Instagram to present a series of photos or graphics in a visually appealing manner. Instagram allows students to practice digital storytelling in ways that other social media platforms may fall short of.

Create a Class Blog for Discussions

Writing blog posts gives students another outlet for digital content that they can then easily link back to class social channels. There are many different platforms available, such as WordPress, Squarespace, Wix, Blogger, Tumblr or Medium, where teachers can create a class blog. Students can create their user accounts to make discussion posts or add comments on class prompts.

Social Media for Educators

Establishing a Personal Brand

Social media enables educators to create a personal brand, showcasing their expertise, skills, and teaching philosophy. This branding distinguishes educators in a competitive job market and enhances professional recognition.

Building a Professional Network

Educators can leverage social media platforms to build a robust professional network, connecting with peers and experts in their field. These networks foster collaboration, facilitate learning opportunities, and promote professional development.

Staying Updated with Educational Trends

Social media keeps educators informed about the latest educational trends and best practices. By following educational leaders and organizations, educators gain valuable insights and access to resources that enhance their teaching methods.

Promoting Work and Achievements

Educators can utilize social media to promote their work, research, publications, and presentations. This exposure increases recognition and credibility within the education community.

Strategies to Enhance Social Media

Select the Appropriate Platforms

Choose social media platforms that align with your goals and target audience. LinkedIn is ideal for professional networking, while Twitter and Instagram are effective for sharing information and engaging in conversations.

Develop a Consistent and Engaging Content Strategy

Create a content strategy that is informative, engaging, and relevant to your audience. Regularly post content such as articles, videos, images, and infographics to maintain engagement and interest.

Engage with Followers and Peers

Active engagement is vital on social media. Respond to comments and messages, participate in discussions, and build relationships with your followers and fellow educators. This interaction establishes credibility and fosters a sense of community.

Harness the Power of Hashtags

Utilize relevant hashtags to increase visibility and reach. Research and use popular hashtags in your field or educational community to expand your audience and promote your content effectively.

Utilize Social Media Analytics

Leverage social media analytics tools to measure the success of your strategies. Analyze reach, engagement metrics, and audience demographics to refine your approach and maximize impact.

Expanding the Influence of Social Media in Education

Enhanced Communication and Networking

Engage in educational Twitter chats, join relevant Facebook groups, and participate in LinkedIn discussions to connect with like-minded professionals, share ideas, and stay updated on educational trends.

Sharing Educational Resources and Content

Create and curate valuable content such as blog posts, videos, podcasts, and infographics. Share these resources on platforms like YouTube, Instagram, or Pinterest to establish credibility and attract followers.

Engaging Students and Parents

Use social media platforms to foster communication and engagement among educators, students, and parents. Create dedicated class or school pages to share updates, assignments, and announcements, fostering a sense of community and parental involvement.

Showcasing Student Work and Achievements

Highlight exemplary student projects, accomplishments, and success stories on social media. This recognition boosts student confidence and showcases the positive impact of your teaching and the educational institution.

Leveraging Live Streaming and Webinars

Utilize live streaming platforms like Facebook Live, Instagram Live, or YouTube Live for virtual classrooms, guest lectures, and interactive webinars. This expands the reach of your educational content and allows real-time engagement with a broader audience.

Encouraging Professional Development

Actively participate in educational Twitter chats, LinkedIn discussions, and webinars to enhance professional development. Stay informed about the latest research, pedagogical approaches, and technological advancements in education.

Addressing Challenges and Concerns

Educators should be mindful of challenges associated with social media, such as maintaining a balance between personal and professional use, addressing privacy concerns and online harassment, and presenting a positive and professional image. Establishing clear guidelines, updating privacy settings, and seeking support from colleagues and professional organizations can help navigate these challenges effectively.

Conclusion

A strong social media presence is crucial for educators and educational institutions to communicate, collaborate, and promote their work. By implementing the strategies outlined in this article, educators can enhance their social media presence, establish a professional brand, and create a positive impact on students' learning experiences. While challenges exist, being mindful and adopting responsible practices will maximize the benefits of social media in education.

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