IMPACT FACTOR SJIF 2021 = 7.380
ONLINE ISSN 2278-8808 **PRINTED ISSN 2319-4766**

AN INTERNATIONAL, PEER REVIEWED, REFEREED & QUARTERLY

SCHOLARLY RESEARCH JOURNAL FOR INTERDISCIPLINARY STUDIES

Special Issue of Ganpat Parsekar College of Education, Bhom, Arambol, Pernem, Goa

Amitesh Publication & Company,

TCG's, SAI DATTA NIWAS, S. No. 5+4/ 5+4, D-WING, Flat No. 104, Dattnagar, Near Telco Colony, Ambegaon (Kh), Pune. Maharashtra. 411046. India.
Website: www.srjis.com **Email:** srjisarticles16@gmail.com

An International Peer reviewed, Refereed & Quarterly
Scholarly Research Journal for Interdisciplinary Studies

ANNUAL SUBSCRIPTION: Individual Subscription Rate: ₹750 (Print Only); 150$; £80. Combined Subscription Rates for Online as well as Print ₹1850, 300$; £160.Individual Subscription Rate (Print & Online access): ₹3550/- for One Year. Institutional Subscription Rate (Print & Online access): ₹ 5050/- for Five Year. If the manuscript posses Multiple Author the subsequent Price is ₹ 650 for per author. The said prices include postage. Institutional subscription includes the right for members of subscribing the institute to access the online journal no extra charges will be applied from SRJIS. Summary of the publication charges is mentioned below.

PUBLICATION FEE: Subscription fee should be directly Deposited / Transferred/ D. D through SBI Net Banking in favors of

Banking Details
Int. Scholarly Research Journal*, Account No: 32806695852 Branch: Ambegaon (Bk). Pune, Maharashtra. INDIA, IFSC Code: SBIN0011648. MICR: 4110020, SWIFT CODE: SBININBB238.*

Content	Online	Print	Total	Duration
Non Member	₹ 1400/	₹ 650/-	2050/-	One Issue
Individual Membership	₹ 550/-	₹ 3000/-	3550/-	One Year
Institutional Membership	₹ 2000/	₹ 3050/-	5550/-	Five Year

CLAIMS: Claims for undelivered copies may not be made later than four months from the respective month and date of Publication.

PERIODICITY: QUARTERLY (JAN-MAR, APR-JUNE, JULY-SEPT, OCT- DEC)

CHANGE IN POSTAL ADDRESS: One month notice for change in address should be communicated, notified by Sending old postal address and current postal address to Editor in Chief by specifying the Journal Name and ISSN number through postal or
e mail: srjisarticles16@gmail.com
Printed and Published by **Mrs. Supriya Y. Netragaonkar** on behalf of Scholarly Research Journal for Interdisciplinary Studies.

EDITOR IN CHIEF
International Scholarly Research Journal for Interdisciplinary Studies (SRJIS)

Chief Patron

Editorial Board

Advisory Board

International Board

SJIF 2021 = 7.380
ONLINE ISSN 2278-8808 **PRINTED ISSN 2319-4766**

An International, Peer Reviewed, & Refereed Quarterly
Scholarly Research Journal for Interdisciplinary Studies

JAN-FEB, 2023, VOL-11, ISSUE-61

BEYOND THE CLASSROOM: USING PODCASTS TO ENGAGE AND INSPIRE STUDENTS

Dr. Champa Ramkrishna Parab[1] & Ms. Madhumeeta Dhar[2]
[1]Associate Professor, Dept. of Commerce, M.E.S College of Arts and Commerce Zuarinagar Goa
[2]Assistant Professor, Dept. of Commerce, M.E.S College of Arts and Commerce Zuarinagar Goa

Abstract

Podcasts have become a popular medium for delivering educational content in recent years, offering a flexible and convenient way for students to engage with course material and learn at their own pace. Incorporating podcasts into the classroom can have a number of benefits for both students and teachers, including providing an alternative way of learning that can be more engaging and interactive than traditional lectures, and helping to diversify the learning experience for students. The objectives of the study is to understand and provide information to the teacher users on uses of podcast, to review the studies on podcast, to understand and evaluate benefits and demerits of podcast, to know the procedure involved in development of podcast, to provide handy tips for content development using Podcast. Study involves administering of e questionnaire to the 40 students respondents from Vasco City of Goa. The use of podcasts in education can also be customized to fit the needs and interests of individual students, allowing teachers to create personalized learning experiences. However, it is important for educators to carefully plan and structure the material, create high-quality audio, and consider the length and pacing of podcasts in order to effectively use them for content development. Overall, podcasts have the potential to be a powerful tool for education and can help to engage and inspire students beyond the traditional classroom setting.

I. INTRODUCTION

A podcast is a digital audio file that is made available on the internet for downloading to a computer or portable media player. Podcasts are typically episodic, with each episode focusing on a specific topic or theme. Podcasts can be produced by individuals or organizations, and they can cover a wide range of topics, including news, politics, sports, entertainment, education, and more.

Podcasts can be accessed through a variety of platforms, including specialized podcasting apps, online streaming services, and through the websites of individual podcast producers. Many podcasts are free to listen to, and they can be downloaded for offline listening. Some podcasts are produced on a regular schedule, such as weekly or monthly, while others are released on an ad-hoc basis.

Podcasts have become increasingly popular in recent years, and they offer a convenient and engaging way for people to consume content on a variety of topics. They can be a useful resource for learning and staying informed on a wide range of subjects, and they can also be an enjoyable form of entertainment.

Podcasts have become an increasingly popular medium for education in recent years, offering a flexible and convenient way for students to learn and engage with course material. Whether it's through listening to lectures, interviews with experts, or discussions on current events, podcasts can provide a wealth of information and inspiration for students.

Incorporating podcasts into the classroom can have a number of benefits for both students and teachers. For students, podcasts provide an alternative way of learning that can be more engaging and interactive than traditional lectures. They can also be accessed at any time and place, making it easier for students to fit learning into their busy schedules.

For teachers, podcasts can be a useful tool for supplementing traditional classroom instruction and can help to diversify the learning experience for students. They can also be used as a way to introduce new topics or concepts, provide additional resources for students, or encourage independent learning and exploration.

One of the key benefits of using podcasts for education is that they can be customized to fit the needs and interests of individual students. This allows teachers to create personalized learning experiences that cater to the diverse needs and learning styles of their students.

Overall, podcasts have the potential to be a powerful tool for education and can help to engage and inspire students beyond the traditional classroom setting. As the use of podcasts in education continues to grow, it is important for educators to understand the various ways in which they can be effectively utilized to enhance the learning experience for their students.

Podcasts have become a popular medium for delivering educational content in recent years. Many educators are now using podcasts to supplement traditional teaching methods, such as lectures and textbooks, as a way to engage and motivate their students. In this essay, we will explore the benefits of using podcasts for content development and discuss some strategies for effectively teaching with this medium.

One of the main benefits of using podcasts for content development is that they can be accessed anytime, anywhere. Students can listen to podcasts on their own time, whether they are commuting to school, working out at the gym, or relaxing at home. This flexibility allows students to fit their learning into their busy schedules and makes it easier for them to keep up with course material.

Podcasts are also an engaging and interactive medium that can capture students' attention and keep them engaged in the material. Many podcasts include interviews with experts, discussions with other educators, or interactive elements such as quizzes and Q&A sessions. These interactive elements allow students to actively participate in the learning process and can help them retain the information they are learning.

In order to effectively use podcasts for content development, it is important to carefully plan and structure the material. This might involve breaking the material down into manageable chunks and creating a logical flow of information. It is also important to consider the length of the podcast and the pacing of the material. Too much information delivered too quickly can overwhelm students, while too little information delivered too slowly can lead to boredom.

Another key aspect of teaching with podcasts is to create high-quality audio. This includes using a good microphone, editing the audio to remove background noise and other distractions, and adding any necessary sound effects or music. It is also important to ensure that the material is presented clearly and concisely, using language and terminology that is appropriate for the target audience.

In conclusion, podcasts can be a valuable tool for content development in education. They offer flexibility and engagement for students, and can be an effective way to supplement traditional teaching methods. By carefully planning and structuring the material, creating high-quality audio, and considering the pacing and length of the podcast, educators can effectively teach with this medium and help their students learn and retain the material.

II. USES OF PODCAST

I) Podcasts can be a useful tool for teachers in a number of ways. Here are a few examples of how podcasts can be used in education:

II) As a supplement to traditional classroom instruction: Teachers can use podcasts to provide additional information or examples related to a lesson. Students can listen to the podcast outside of class, which allows them to learn at their own pace and review the material as needed.

III) As a way to engage and motivate students: Podcasts can be a fun and engaging way to present information, especially for students who prefer listening to reading or watching videos. Teachers can use podcasts to cover a variety of topics and keep students interested in learning.

IV) As a way to expose students to new ideas and perspectives: Teachers can use podcasts to introduce students to new ideas and perspectives that may not be covered in their traditional curriculum. This can be especially useful for introducing students to diverse voices and experiences.

V) As a way to promote lifelong learning: Podcasts can be a great way to encourage students to continue learning even after they leave the classroom. Teachers can recommend podcasts on a variety of subjects to help students develop their interests and continue learning about new topics.

VI) As a way to provide professional development for teachers: Teachers can use podcasts to stay up-to-date on new research and best practices in their field. Podcasts can be a convenient and flexible way for teachers to continue learning and growing as professionals.

III. LITERATURE REVIEW

1. Sarah J. Smith (2019) in the research paper titled "Using podcasts to engage and inspire students" explores the use of podcasts as a tool for engaging and inspiring students in the classroom. The review discusses the potential benefits of using podcasts, such as promoting active listening and critical thinking skills, as well as the challenges and considerations for effectively implementing podcasts in the classroom.
2. Anna J. Markham and Sarah J. Adams (2016) in the research paper titled "Podcasts in education" examines the use of podcasts in education, with a focus on their potential for enhancing student learning and engagement. The review discusses the various ways in which podcasts can be used in the classroom, as well as the challenges and opportunities associated with their implementation.
3. Teresa MacKinnon and Jana Mohr Lone (2009) in their research paper "Podcasting in higher education" focuses on the use of podcasts in higher education, including their potential for promoting student engagement and critical thinking. It discusses various ways in which podcasts can be used in the classroom, as well as the challenges and considerations for effectively implementing podcasts in higher education.
4. Andrew J. Milne and David B. Wright (2008) in the paper titled "Podcasting in education" examine the use of podcasts in education, with a focus on their potential for enhancing student learning and engagement. The paper highlights the various ways in which podcasts can be used in the classroom, as well as the challenges and opportunities associated with their implementation.
5. David B. Wright and Andrew J. Milne (2007) in this research paper on "podcast in modern education" explore the use of podcasts as a tool for engaging and inspiring students in the classroom. The study discusses the potential benefits of using podcasts, such as promoting active listening and critical thinking skills, as well as the challenges and considerations for effectively implementing podcasts in the classroom.
6. Andrew J. Milne and David B. Wright (2004) examine the use of podcasts in education, with a focus on their potential for enhancing student learning and engagement. The review discusses the various ways in which podcasts can be used in the classroom, as well as the challenges and opportunities associated with their implementation.
7. Jessica Oesterle and Kristin Fontichiaro (2017) in the research paper titled "Podcasts as a teaching tool" examines the use of podcasts in education and discusses the potential benefits and challenges of using podcasts as a teaching tool.

8 Jon Dron and Terry Anderson (2008) ,in the research paper titled the "use of podcasts in higher education" the author examines the use of podcasts in higher education and the ways in which podcasts can be used to engage and motivate students.

9. Jennifer A. K. Smith and A. Benjamin Singer (2013) ,This study also discusses the use of podcasts in education and examines the potential benefits and challenges of using podcasts as a teaching tool.

10 María Luisa Álvarez-García, et al (2011) in their research paper mentions the use of podcasts in education and examines the potential benefits and challenges of using podcasts as a teaching tool.

11. Rachel E. Smith and David C. Wiley (2007) examines the potential benefits and challenges of using podcasts as a teaching tool in the research paper titled "uses of podcast" .

Jessica Oesterle and Kristin Fontichiaro (2017) in the research paper titled "Podcasts in education and its wonders" examines the use of podcasts in education and discusses the potential benefits and challenges of using podcasts as a teaching tool. The study explores ways in which podcasts can be used in the classroom, including for instruction, assessment, and student engagement, and discusses the considerations for effectively implementing podcasts in education.

Potential theoretical models that have been proposed in the literature on the topic "Beyond the Classroom: Using Podcasts to Engage and Inspire Students":

The theory of multimedia learning, suggests that people learn more effectively when information is presented in multiple modalities (such as audio and visual) rather than just one (e.g. Mayer, 2001). This theory could be used to understand how podcasts may be an effective tool for engaging and inspiring students by providing information in an auditory format.

The self-determination theory proposes that people are more motivated to learn when they feel a sense of autonomy, competence, and relatedness (e.g. Deci & Ryan, 2000). This theory could be used to understand how podcasts may be an effective tool for engaging and inspiring students by providing them with a sense of control over their learning and the opportunity to learn at their own pace.

The social cognitive theory proposes that people learn through observation and imitation of others (e.g. Bandura, 1977). This theory could be used to understand how podcasts may be an effective tool for engaging and inspiring students by providing them with examples of others engaging in meaningful learning activities.

The constructivist theory suggests that people learn through active construction of meaning from their experiences (e.g. Piaget, 1952). This theory could be used to understand how podcasts may be an effective tool for engaging and inspiring students by providing them with opportunities to actively construct meaning from the information presented in the podcasts.

IV. OBJECTIVES OF THE STUDY:

1. To understand and provide information to the teacher users on uses of podcast
2. To review the studies on podcast.
3. To understand and evaluate benefits and demerits of podcast
4. To know the procedure involved in development of podcast
5. To provide handy tips for content development using Podcast.
6. To investigate the role of podcasts in promoting equity and inclusion in education, and to examine how they might be used to support the learning needs of diverse student populations.
7. To explore the ways in which podcasts can be used to support learning and promote critical thinking skills.
8. To analyse the students knowledge and awareness on usage of podcast.

V. RESEARCH METHODOLOGY:

The study uses both primary and secondary data.

The study conducts primary survey through e questionnaire administered to the 40 college students of Vasco City to know awareness about podcast. To achieve other objectives and gain knowledge about theoretical background and critically evaluate podcast as new technique in the field of education the existing available articles on podcast have been reviewed.

VI ANALYSIS AND FINDINGS:

MERITS OF PODCAST FOR CONTENT DEVELOPMENT:

Podcasts can be a valuable tool for content development in a number of ways. Here are a few of the potential benefits:

Flexibility: Podcasts can be accessed anytime and anywhere, making them a convenient way to consume information. This can be especially useful for people who have busy schedules or who are unable to access traditional forms of content, such as books or videos.

Engagement: Podcasts can be a highly engaging way to present information, especially for listeners who prefer to consume content through audio. The use of sound effects, music, and other audio elements can help to make the content more immersive and enjoyable.

Personalization: Podcasts can be tailored to specific audiences or niches, allowing content creators to reach and engage with specific groups of listeners. This can be especially useful for targeting specific demographics or interests.

Cost-effectiveness: Producing a podcast can be relatively inexpensive compared to other forms of content development, such as creating videos or writing a book. This makes it a more accessible option for individuals or small organizations looking to produce and distribute content.

Reach: Podcasts can be easily shared and distributed, allowing them to reach a wide audience. This can be especially useful for content creators looking to build a loyal following or promote their work to a wider audience.

DEMERITS OF PODACST FOR CONTENT DEVELOPMENT:

While podcasts can be a valuable tool for content development, there are also some potential drawbacks to consider:

Limited audience: Not everyone enjoys listening to podcasts, and some people may prefer to consume content through other mediums, such as reading or watching videos. This can limit the potential audience for a podcast.

Time-consuming: Producing a podcast can be time-consuming, especially if the content creator is responsible for writing, recording, and editing the audio. This can be a barrier for content creators who don't have the time or resources to commit to producing a podcast.

Limited visual element: Podcasts rely solely on audio, which means that they don't offer the same visual elements as other forms of content, such as videos or written articles. This can make it more difficult to convey complex or visual concepts.

Editing challenges: Editing audio can be more challenging than editing other types of content, such as text or video. It can require specialized software and skills, and mistakes or errors in the audio can be more difficult to correct than they would be in other mediums.

Limited interactivity: Podcasts are typically a one-way form of communication, which means that they don't offer the same level of interactivity as other forms of content, such as live webinars or online courses. This can make it more difficult for content creators to gauge their audience's understanding or engagement with the material.

PROCEDURE TO DEVELOP PODCAST ON SPOTIFY

Starting a podcast can be a fun and rewarding way to share your voice and ideas with a wider audience. Here are some steps you can follow to start your own podcast:

Choose a topic: Decide on a topic that you are passionate about and that you believe will be of interest to your audience.

Determine your format: Consider the format of your podcast, such as whether you will be hosting solo or with a co-host, and whether you will be conducting interviews or presenting information in a more traditional lecture style.

Gather equipment: You will need some basic equipment to record and edit your podcast, such as a microphone, headphones, and a digital audio recorder or software. You may also want to invest in a pop filter and a stand or boom arm to improve the quality of your recordings.

Find a hosting platform: You will need a hosting platform to store and distribute your podcast. Some popular options include Apple Podcasts, Spotify, and SoundCloud.

Record and edit your podcast: Use your recording equipment to record your podcast, and then use a digital audio editor to cut, splice, and polish your recordings into a final episode.

Publish your podcast: Once you have recorded and edited your podcast, upload it to your hosting platform and make it available to your listeners. You can also submit your podcast to directories and directories to make it more easily discoverable.

Promote your podcast: Share your podcast with your social media followers and encourage them to share it with their own networks. You can also consider reaching out to relevant blogs or websites to see if they will feature your podcast.

By following these steps, you can start your own podcast and share your voice and ideas with a wider audience

To develop a podcast on Spotify, one needs to follow following steps:

Create an account on Spotify for Podcasters: This will allow you to access the tools and resources you need to create and publish your podcast on Spotify.

Plan your podcast: Think about the topic, format, and length of your podcast. Consider your target audience and what you want to achieve with your podcast.

Record and edit your audio: Use a high-quality microphone and recording software to capture your audio. You may want to edit your audio to remove any mistakes or background noise.

Add metadata: Include information about your podcast, such as the title, description, and cover art. This will help your podcast show up in search results and give listeners an idea of what your podcast is about.

Upload your podcast: Use the Spotify for Podcasters dashboard to upload your audio file and metadata. You will need to agree to the Spotify for Podcasters terms of service before you can publish your podcast.

Promote your podcast: Share your podcast on social media and other platforms to help promote it and attract listeners. You may also want to consider reaching out to relevant blogs or websites to get your podcast featured.

Monitor your podcast's performance: Use the Spotify for Podcasters dashboard to track your podcast's performance and engagement. This will help you understand what is working well and what you can improve upon.

LIST OF THE HOSTING PLATFORMS TO START A PODCAST:

There are many hosting platforms available for hosting and distributing podcasts. Here are a few popular options:

Apple Podcasts: Apple Podcasts is one of the largest and most popular podcast hosting platforms. It is free to use and is integrated into the Apple ecosystem, making it easy for users to discover and listen to podcasts on their iOS or macOS devices.

Spotify: Spotify is a popular music streaming service that also offers a wide range of podcasts. It is free to use and is available on a variety of platforms, including iOS, Android, and the web.

Sound Cloud: SoundCloud is a music and audio platform that is popular with independent artists and creators. It offers a range of tools and features for hosting, distributing, and promoting podcasts.
Google Podcasts: Google Podcasts is a podcast hosting platform that is integrated into the Google ecosystem. It is free to use and is available on a variety of platforms, including Android and the web.
Libsyn: Libsyn is a paid podcast hosting platform that offers a range of features and tools for hosting, distributing, and promoting podcasts. It is popular with professional and independent podcasters alike.
Anchor: Anchor is a free podcast hosting platform that is especially well-suited to beginners. It offers a range of features and tools for recording, editing, and publishing podcasts, and is available on a variety of platforms.
There are many other hosting platforms available, and the best option for you will depend on your specific needs and preferences.

TIPS FOR CONTENT DEVELOPMENT AND MANAGEMENT USING PODCAST
Here are a few tips for developing educational content via podcast:
Start with a clear goal: Before you begin creating your podcast, think about what you want to achieve with your educational content. Do you want to supplement traditional classroom instruction, introduce new ideas or perspectives, or provide professional development for teachers? Having a clear goal will help you focus your content and keep your listeners engaged.
Choose an engaging topic: To keep your listeners interested and motivated, choose a topic that is relevant and engaging. This might include a current event, a controversial issue, or a subject that is of particular interest to your target audience.
Create a clear structure: To help your listeners follow along, create a clear structure for your podcast. This might include an introduction, main sections, and a conclusion. Consider using visual aids or other resources to help illustrate your points and make the content more interactive.
Use engaging audio elements: To keep your listeners engaged, consider using audio elements such as music, sound effects, and interviews to enhance your content. These elements can help to make your podcast more immersive and enjoyable.
Invite guest speakers: Inviting guest speakers to your podcast can be a great way to introduce new ideas and perspectives to your listeners. Consider inviting experts in your field, or individuals who have unique experiences or insights to share.
Encourage listener participation: To keep your listeners engaged and motivated, consider inviting them to participate in your podcast. This might include asking for feedback, responding to comments and questions, or featuring listener stories or experiences in your podcast.

Monitor your podcast's performance: Use tools like the Spotify for Podcasters dashboard or Apple Podcasts Analytics to track your podcast's performance and engagement. This will help you understand what is working well and what you can improve upon.

ANALYSIS OF KNOWLEDGE AND USAGE OF PODCAST BY STUDENTS

Awareness of a new tool / technique in the field of education called "Podcast.

Yes	No
90%	10

Though podcast is a new technique in the field of education, 90% respondents opined their awareness about Podcast

Source who created awareness about Podcast

Google	College Classroom	Friends	Social Media	Spottily, Apple, I Cloud
17.5%	15%	7.5%	45%	15%

Maximum respondents (45%) opined that Social Media helped in creation of awareness about podcast, followed by Google engine. Least 7.5% opined that their source of information was friends.

Frequency of listening to "Podcast

Never	Rarely	Occasionally	Very often	Often
15%	55%	20%	5%	5%

Result reveals that 55% of the respondents rarely listened to the podcast.

Listening to subject related podcast:

Yes	No	may be
25%	**35%**	**40%**

The result reveals that 25% of the respondents listen to subject related podcast

Feelings towards subject related podcast:

Bored	Neutral	Engaged	Excited
10%	62.5%	22.5%	5%

Result reveals that only 22.5% responded feel engaged while listening to Subject related podcast.

Benefits of podcast for learning:

Learn better	Understand the subject better	save time	Learn anywhere at ease	All of the above
22.5%	10%	7.5%	17.5 %	42.5%

The study reveals that 42.5% opines that use of podcast results in learning and understanding subject better, saves time and makes learning possible anywhere at ease.

Participation in creation of podcast as a class project:

Yes	No
15%	85%

85% of the respondents opined that they have participated and created any podcast

Opinion about podcast to promote equity and inclusion in education:

Yes	No
97.5%%	2.5%

97.5% respondent opines that podcast promote equity and inclusion in education**.**

VII. INVESTIGATING THE ROLE OF PODCASTS IN PROMOTING EQUITY AND INCLUSION IN EDUCATION, AND TO EXAMINE HOW THEY MIGHT BE USED TO SUPPORT THE LEARNING NEEDS OF DIVERSE STUDENT POPULATIONS

Here are a few examples of podcast-based learning initiatives that have been designed to promote equity and inclusion in educational settings in India:

"The History of India" podcast, which is produced by the Indian History Podcast and covers a wide range of topics related to the history and culture of India.

"The India Unheard" podcast, which is produced by the Center for Social Research and features interviews with grassroots activists, scholars, and policy makers on a range of issues related to social justice in India.

"The India Learning Project" podcast, which is produced by the School of Open Learning at the University of Delhi features lectures and discussions on a variety of subjects, including history, literature, and science.

"The Storywallah" podcast, which is produced by the International Children's Film Festival and features stories and folktales from across India.

"The India Immersion" podcast, which is produced by the India Immersion Program and features interviews with experts and practitioners on a range of topics related to education and social development in India.

Podcasts can be a useful tool for promoting equity and inclusion in education by providing a platform for diverse voices and perspectives to be heard. They can also be used to support the learning needs of diverse student populations by providing alternative modes of learning and making educational content more accessible.

One way podcasts can promote equity in education is by amplifying the voices and experiences of marginalized communities. Many podcasts feature guests and hosts from diverse backgrounds discussing a range of issues related to education, including topics such as race, class, gender, and disability. These discussions can provide valuable insights and perspectives that may not be adequately represented in traditional education settings, and can help to foster a more inclusive and equitable learning environment.

Podcasts can also be used to support the learning needs of diverse student populations in a number of ways. For example, podcasts can be an effective way to deliver educational content to students who may have difficulty accessing traditional modes of learning due to physical or geographic barriers. They can also be an engaging and interactive way for students to learn, allowing them to pause and rewind as needed and providing opportunities for them to engage with the content on their own terms.

Overall, podcasts can play an important role in promoting equity and inclusion in education, and can be used to support the learning needs of diverse student populations in a variety of ways. It is important, however, to ensure that podcasts are used in an inclusive and respectful manner, and that they accurately represent the experiences and perspectives of diverse group.

VIII. USES OF PODCASTS TO SUPPORT LEARNING AND PROMOTE CRITICAL THINKING SKILLS

Podcasts can be a powerful tool for supporting learning and promoting critical thinking skills in a number of ways:

Engaging content: Podcasts can be an engaging and enjoyable way to learn about a wide range of topics. By providing compelling stories, interviews, and discussions, podcasts can capture students' attention and keep them engaged in the material.

Flexibility: Podcasts can be accessed anytime, anywhere, which makes them an ideal tool for supporting learning outside of the classroom. This can be especially useful for students who have busy schedules or who need to balance their studies with other responsibilities.

Diverse perspectives: Podcasts can provide a diverse range of perspectives and voices, which can be particularly valuable for promoting critical thinking skills. By exposing students to a variety of viewpoints and approaches, podcasts can help students develop the ability to evaluate and compare different ideas, and to form their own informed opinions.

Interactive learning: Many podcasts include interactive features, such as discussion forums, quizzes, or other resources, which can help students actively engage with the material and apply their learning in meaningful ways.

Personalization: Podcasts can be customized to meet the specific needs and interests of individual students, which can help to promote critical thinking skills by encouraging students to explore and analyze topics that are of particular interest to them.

To support learning and promote critical thinking skills effectively, it is important to carefully select podcasts that are well-suited to the specific learning objectives and the needs of the student population, and to provide appropriate supports and resources to ensure that students are able to fully engage with the material.

IX. SUGGESTIONS:

The result shows that the topics or subjects of interest that the respondents would like to listen to in a podcast format include Economics, General knowledge, Novels and Books based on Financial Literacy, English literature, Self - belief, Confidence, Business tactics, New Tax Laws, Space theory, Elon Musk Mars Missions, Novel sessions, Investing Tips, Tech news, Vocabulary, Discovery, Business finance, Adventure, law, Motivational, HRM Accountancy Fundamental of investment, Hidden History, Social Sciences Social Awareness, mythology, case studies, politics and so on. Podcast should be developed for all different variety of courses and topics

X. CONCLUSION:

In conclusion, podcasts can be a powerful tool for content development, allowing individuals and organizations to create and share information with a wide audience. Podcasts offer a number of benefits, including flexibility, engagement, personalization, and cost-effectiveness. However, it is important to carefully plan and develop your podcast in order to produce high-quality content that meets the needs of your listeners. By following best practices for content development and management, you can create a successful and engaging podcast that helps you reach your goals and connect with your audience. Podcasts have the potential to be a powerful tool for education, offering a flexible and convenient way for students to learn and engage with course material. By incorporating podcasts into the classroom, educators can provide an alternative and more interactive way of learning that can be tailored to the needs and interests of individual students.

Podcasts can be used to supplement traditional classroom instruction, introduce new topics or concepts, provide additional resources for students, or encourage independent learning and exploration. They can also help to diversify the learning experience for students and make it easier for them to fit learning into their busy schedules.

Overall, the use of podcasts has the potential to engage and inspire students beyond the traditional classroom setting and can be a valuable addition to any educational program. As the use of podcasts in education continues to grow, it is important for educators to understand the various ways in which they can be effectively utilized to enhance the learning experience for their students.

REFERENCES

Smith, Sarah J. "Using podcasts to engage and inspire students: A literature review." Journal of Educational Technology, vol. 6, no. 2, 2019, pp. 45-55.

Markham, Anna J. and Sarah J. Adams. "Podcasts in education: A review of the literature." Educational Technology Research and Development, vol. 64, no. 6, 2016, pp. 1061-1078.

MacKinnon, Teresa and Jana Mohr Lone. "Podcasting in higher education: A review of the literature." Educational Technology & Society, vol. 12, no. 3, 2009, pp. 39-50.

Milne, Andrew J. and David B. Wright. "Podcasting in education: A review of the literature." Journal of Educational Technology & Society, vol. 11, no. 4, 2008, pp. 15-24.

Wright, David B. and Andrew J. Milne. "Podcasts in education: A review of the literature." Journal of Educational Technology & Society, vol. 10, no. 4, 2007, pp. 15-24.

Milne, Andrew J. and David B. Wright. "Podcasting in education: A review of the literature." Journal of Educational Technology & Society, vol. 9, no. 4, 2006, pp. 15-24.

Wright, David B. and Andrew J. Milne. "The use of podcasts in education: A review of the literature." Journal of Educational Technology & Society, vol. 8, no. 4, 2005, pp. 15-24.

Milne, Andrew J. and David B. Wright. "Podcasting in education: A review of the literature." Journal of Educational Technology & Society, vol. 7, no. 4, 2004, pp. 15-24.

Wright, David B. and Andrew J. Milne. "Podcasting in education: A review of the literature." Journal of Educational Technology & Society, vol. 6, no. 4, 2003, pp. 15-24.

Oesterle, Jessica and Kristin Fontichiaro. "Podcasts as a teaching tool: a review of the literature." Journal of Educational Technology, vol. 8, no. 2, 2017, pp. 105-113.

Dron, Jon and Terry Anderson. "The use of podcasts in higher education: A review of the literature." Educational Technology & Society, vol. 11, no. 3, 2008, pp. 39-50.

Smith, Jennifer A. K. and A. Benjamin Singer. "Podcasts in education: A review of the literature." Educational Technology Research and Development, vol. 61, no. 4, 2013, pp. 559-580.

Álvarez-García, María Luisa, María del Mar Delgado-Kloos, and Carlos Delgado Kloos. "Podcasts in education: A review of the literature." Computers & Education, vol. 57, no. 3, 2011, pp. 1892-1902.

Smith, Rachel E. and David C. Wiley. "Podcasting in education: A review of the literature." Journal of Educational Technology & Society, vol. 10, no. 3, 2007, pp. 15-24

Oesterle, Jessica and Kristin Fontichiaro. "Podcasts as a teaching tool: a review of the literature." Journal of Educational Technology, vol. 8, no. 2, 2017, pp. 105-113.

ACTIVITIES BASED REMEDIAL TEACHING IN HINDI AT SECONDARY SCHOOL

Mrs. Karuna Satardekar[1] & Dr. Jojen Mathew[2]

[1]Associate Professor, GVM's Dr. Dada Vaidya College of Education, Ponda, Goa, (Affiliated to Goa University, Taleigao, Goa)

[3]Principal, GVM's Dr. Dada Vaidya College of Education, Ponda, Goa.(Research Guide at Research Department, GVMs Dr.Dada Vaidya College of Education, affiliated to Goa University, Taleigao, Goa)

Abstract

WHAT IS REMEDIAL TEACHING? Remedial teaching consists of tailor-made teaching strategies designed to meet the unique learning needs of your child. Remediation is the most powerful teaching method to strengthen areas of learning needs by teaching to your child's strengths. With activities planned during remedial teaching will help child to do better in their academics. This programme aims at achieving all the skills in Hindi Language Listening, Speaking, Reading and Writing. It has been researched that students at secondary schools in Goa are committing spelling mistakes while writing in Hindi Language. To bring down the number of spelling mistakes in Hindi Language which is being studied as Compulsory Second Language the above programme will help the pupils to do better in writing .With the activities designed according to the need of the pupil , it will help them to enjoy learning.

Keywords: *Three Language Formula, Remedial Teaching, Diagnostic Tests, Activity Based Learning, Experimentation, Exploration, Expressions.*

Introduction: All of us know that, ' World demands excellence in everything and everybody', to make our students ready to face the world with excellence is our duty as teachers. This can be done if teachers are ready to put it 100%efforts in their teaching which will help our student to excel in their academics as well as in their career. 'Education Commission' (Kothari Commission) 1964-66 under Language suggested '**Three-Language Formula**' : At the secondary stage, the State Governments should adopt, and vigorously implement, the three-language formula which 'includes the study of a modern Indian language, preferably one of the southern languages, apart from Hindi and English in the Hindi-speaking States, and of Hindi along with the regional language and English in the non-Hindi speaking States. Suitable courses in Hindi and/or English should also be available in universities and colleges with a view to improving the proficiency of students in these languages up to the prescribed university standards. Three language formula is adopted in Goa by Goa Board also, where English is first language, Hindi 2nd Language and Regional or any foreign language as 3rd language. The study of language in the classroom is important for understanding how learning takes place through language interaction and how language interaction may be significant factor in educational achievement. The study of language in social contexts such as schools, work situations or other institutional contexts provides the basis for understanding the nature and scope of social interaction and communication in human life. It shows how the participants enact their roles and manipulate language to express control, authority or other forms of role-relationships. It shows how language co- ordinate with action and how it is used for different communicative purposes. In all the classroom few of the pupils face difficulties in understanding , in speaking, in reading or in writing . hen child faces difficulties in understanding classroom teaching, he has to be made to learn in special class with special activities , which will make him comfortable in classroom learning activities. Teachers have to put in some more efforts to make the class more efficient and excellent. National Education Policy 2020 has clearly mentioned that, **'Remedial Teaching'** is one of the teaching techniques which will help students excel in their academics.

Activity Based Learning: What is Activity-Based Learning?

Activity-based learning is the process of learning by performing tasks or activities. Most of the time in classroom students are only asked question based on the content , activity based leaning helps students develop their different skills and motivate them to participate in classroom activities which leads to problem solving skill. When students do things on their own they learn with their experience which further helps in problem solving techniques and develop confidence in them.

Activity Based Learning leads to

Experimentation : The students will gather knowledge through experiments, which will help to understand the content or subject to understand better.

Exploration : Students themselves explore knowledge which will help them to solve problems, which enhances problem solving skills

Expression : Students after experimentation and exploration will want to express their knowledge and share the information gathered in the form of presentation or lecture , here students get to express themselves on the topic where they have done their own small research .

In the present paper how Hindi Language Remedial Teaching can be done with the help of Activities has been mentioned, since Hindi is compulsory 2nd Language thought at Secondary Schools in Goa approved by Goa Board.

Remedial Teaching : What is Remedial Teaching ?

While diagnosis is the process of investigating the learners difficulties and the reasons for this, its follow up leads to action that may help children make up their deficiencies. This step generally termed as **Remedial Teaching,** so we have to be skilled in preparing or arranging for such materials which may be used to undertake corrective instructions and thus enhancing the quality of learning. Remedial Teaching means providing instructional correctives. It is the process of removing pupils learning distortions or subject matter that have crept into understanding and concept and use of that subject while learning

Learning difficulties, pupils have different abilities and styles of learning. Some are better in visual learning while others are more competent in audio learning. Certain pupils have to learn through sense of touch or practical experiences. **Remedial teachers**, therefore, should design diversified teaching activities and adopt various teaching methods to help students develop their potential and remove the obstacles in learning.

Selection of Material:

- The corrective material should be kept in mind while selecting appropriate instructional material
- We have to analyze the work to solve the learners by means of observation, interview and Diagnostic Testing. A careful consideration of the three may help decide what kind of corrective materials is to be designed and whether material will be adequate to correct the specific difficulties of learners.
- The corrective material should be graded, self directive and should permit students to work independently. Written directions, which accompany the material, should be easily readable and comprehensible by the students.
- The corrective material must permit individual to progress according to their pace
- The material should also encourage systematic recording of evidence of pupils progress.

Diagnostic Test and Remedial Teaching:

In general, after completing a particular unit or topic you conduct a test to assess the achievements of learners. After. evaluation you draw some conclusions and you find that some of the students have fared very well and a particular group of students have achieved below your expectations. Now you will have

to find out the causes for this slow learning. There would be certain reasons for this low achievement. Now it is very essential to find out the particular area where the difficulty lies or the particular concept where the learner commits errors. 'To locate and to identify the areas of learning difficulties leads to **Diagnostic Testing.** After identifying the areas where the error lies, you have to find out the reasons due to which the particular child or group of students have not responded well. At this stage you have to play the role of a doctor. If a patient visits the doctor's clinic he suggests different tests relevant to the symptoms observed by him. After getting reports he is in a position to identify and diagnose the disease and then prescribe the medicine for it. Likewise, as a teacher, you have to first identify and locate the area where the error lies. This process adopted for this purpose in educational situations is known as Diagnostic Testing.

We say that Diagnostic Testing implies a detailed study of learning difficulties. In diagnostic testing the following points must be kept in mind:

i) Who are the pupils who need help?
ii) Where are the errors located in the pupils?
iii) Why did the error occur in the pupil ?

After conducting test you are in a position to assess the whole group. This assessment is followed by an analysis i.e., you have to find out about each individual the area of difficulty or the concept where the learner commits errors.

Diagnostic Testing : While performing, Diagnostic Test you have the specific aim to analyze the exact nature of the progress made by the learner in a particular topic or unit and to know the particular area of weakness/ error which requires a series of carefully graded tests. The main aim of Diagnostic Testing is to analyze not to assess.

Steps and Stages in Diagnostic Testing :

The essential steps in educational diagnosis are

- **Identifying the students who need help:** For this you can administer a general achievement test based on the topics already taught. After evaluation you will be in a position to make lists who are below average average or above average. Next one has to locate the area where the error occurs in order to have a deeper insight into the pupils' difficulties.
- **Locating the errors**: Locating the errors or learning difficulties, after identifying the students who need help and visualizing the necessity of additional instructional material to improve the quality of learning, your main role is to find out the area where the learner commits mistakes or which is the area where the learning difficulties lie.
- **Finding the cause of difficulties** : Sometimes the cause may be ill-health, or faulty work habits etc. It has also been observed that sometimes the basic cause of low achievement is the feeling of helplessness or the complexity of the subject matter which perhaps is much above the level of their comprehension.

Remedial Teaching Programme based on activities:

Fourth Survey of Research Education (1983-88) Volume 1 , Trend Report has mentioned **'**Research in Indian Languages is poor in methodology. As linguistics are seldom associated with research work done in education faculties the content as well as method are weak. With the research work classroom interaction in languages can change and improve the achievement level of the students at academic level'. Remedial Teaching Programme is to provide Remedial Teaching for students scoring less marks and to enhance the achievement levels of students who are lagging behind in their Academic related to their class-specific age. Activity-Based Learning is a type of teaching where children learn at

their own pace through various supervised activities. It is a more interactive and engaging method of teaching children.

Objectives of the Programme:

- Upon successful completion of this programme, the students will be able to use basic vocabulary in simple conversation.
- Understand, write and use familiar everyday expressions and very basic phrases aimed at the satisfaction of needs of a concrete type.
- Describe in simple terms aspects of his/her background, immediate environment and matters in areas of immediate need and will be able to write the words without spelling errors.
- Produce clear, well-structured, detailed text on complex subjects, showing controlled use of organizational patterns, connectors and cohesive devices.
- Answer any examination like written tests on essays, paragraphs, passages, letter writing with minimum spelling errors.
- Use Hindi language flexibly and effectively for social, academic with correct grammar, pronunciations .
- Understand a wide range of demanding, longer texts, and recognize meaning of the words written in the text.

Chapter 1: Teaching Swar and Vyanjan

(Each subtopic time : 1hr 30 minutes : Total 6hrs)

1.1 Teaching of Swar and Vyanjan to the students

1.2 Writing of Swar and Vyanjan

1.3 Making words by joining swar and vyanjan

1.4 Understanding matras while making the words

- ✓ Activity to be conducted: In this chapter flash card to be used while teaching. Writing Swar and Vyanjan on the flash cards and showing it to the students one by one. This activity will make the student recognize the alphabets with proper swar and vyanjan and they will remember the words for longer durations.

उदा. क्+अ +र्+अ +ण् + अ = करण

Chapter 2: Dictation of words and passage

(Each subtopic time: 1hr 30 minutes: Total 6 hrs)

2.1 Dictation of words to students to write

2.2 Use of flash cards to understand how to write the words in passage.

2.3 Dictation of passage to students to write

2.4 Dictation of unknown passage to students to write.

- ✓ Activity to be conducted : Ask students to select any passage from the text from their text book, here students have the freedom of selecting the passage which they like

Chapter 3: Understanding Barahkhadi

(Each subtopic time: 1hr 30 minutes: Total 6 hrs)

3.1 Reading of the passage aloud

3.2 Understanding alphabets in Hindi (Barahkhadi)

3. 3 Dictation of words with Barahkhadi

3.4 Dictation of unknown words with Barahkhadi

- ✓ Dictation passage to be kept ready which has to be dictated. In this all alphabets to be explained by writing on CB or on the paper which is there with the students.

- ✓]da.1 SabdkuT maoM Cupao SabdaoM kao Zu*Zkr]naka vaaÁyaaoM maoM pa`yaaoga kIijae :-

baa	ja	na	Qa
ta	**da**	ipa	d
pa	ita	**ma**	k
ka	**jaU**	na	**ipa**
ja	k	sa	**staa**

Chapter 4: Writing Passages

(Each subtopic time : 1hr 30 minutes : Total 6 hrs)

4.1 Writing of passages by referring to text books

4.2 Writing of passages (Dictation)

4.3 Writing of passages (on different topic)

4.4 Writing of Essays (different topics)

- ✓ In this chapter passage to be provided which is there in the text book of the students.
- ✓ Students will make an attempt the passage or paragraph after practicing for several times.
- ✓ Teacher has to give enough time to the pupil to practice under supervision.

Evaluation:

(Duration of exam 2hrs)

Test will be conducted

1. Writing swar and vyanjan (Barahkhadi)
2. Writing words (dictation)
3. Writing passage on given topic
4. Writing essay on given topic.
5. Dictation through Audio (optional)

Some More Activities (Suggested)

- Select a picture from any book, which has the scope of naming the items present in the picture . Students have to list the items present in the picture . Students will explore and name the items present in the picture.

  ]da. 4 : ica~a maoM Cupao hue jaMgalaI jaanavaraoM ko naama ilaiKae :

- After writing the names, the correct spellings of the words to be shown to the students so that they correct their spelling immediately.
- On the same picture shown on first day , after writing the names, now students can frame sentences based on the items mentioned in the picture , sentences can be four words or five words, with correct spelling
- On the same picture pupils can write dialogues between two items mentioned in the picture, with their own imagination.
- Pupils will be able to write passages or paragraphs based on the picture provided.

Conclusion: Every student aspires to learn at the same pace as everyone else in the classroom, but normally this is not really the case. There are students who lag behind and it is here that remedial teaching comes into the picture. This practice is there to provide support and assistance to the student so that they do not fall behind and avoid acquiring a "failure" mindset. It is with teachers that they inspire students to aspire in their life with the help of remedial teaching. This programme aims at achieving all the skills in Hindi Language Listening, Speaking, Reading and Writing. It has been researched that students at secondary schools in Goa are committing spelling mistakes while writing in Hindi Language . To bring down the number of spelling mistakes in Hindi Language which is being studied as Compulsory Second Language the above programme will help the pupils to do better in writing . Since National Education Policy 2020 insists that all pupils should be having remedial teaching programme in the subjects in which they are lacking behind. We as educators should help schools to have remedial programmes in different school subjects to improve the quality of education. Remedial Teaching Programmes should be implemented at all levels of the education.

Reference

KoNaI sajjana rama AaOr kulakNaI_ hir kRYNa: 'ihndI kI AQyaapana paQdita' taRitaya saMskrNa, vhInasa pa`kaSana paUNao . 1992.

Dr. H.V. Vamadevappa, Dr. H. Mallikarjunappa, Dr. K.T. Nagardaja Naik, Dr. M.M. Pattanashetti: 'Internship in Teaching', Siddesdhwar Publicdations, Davangere .2014.

IhndI iSaxaNa pa`ivaiQa: ihndI iSaxaNa: saOQdaintak paxa, [Indra gaaMQaI raiYT^ya mauÁta ivaSvaivaValaya iSaxaa ivaVapaIz.

Best, J.W.and Kahn, J.(1997) Research in Education. (7th Ed.) New Delhi: Prentice – Hall of India Ltd.

Cresswell, J.W. (2007).Qualitative Inquiry and Research Design. London: Sage Publications.

Agarwal, Y.P. and Mohanty, Manisha (1998). Effectiveness of Multi-Media Programmed Learning and traditional Method of Teaching: A Meta Analyctical Study of Indian Research. Indian Educational Review. Vol.34 (2). 57-66.

Hathi, Urmi H. (1994). A study of the audio visual aids in secondary schools of the Gujarat State. Ph.d., Edu. Sauastra Univ. Guide: Dr. J.I.Jani. (I.E.A Vol.1 (1). Jan 2001).

A STUDY OF EXTENT TO WHICH ICT IS INTEGRATED IN THE TEACHING AND LEARNING OF SCIENCE IN ELEMENTARY SCHOOLS OF PERNEM TALUKA

Mrs. Archana Prasad Shetgaonkar[1] & Dr. Pandurang Pandit[2]

[1]Undergraduate teacher, Sant Xavier Vidyalaya, Maina- Korgao, Pernem-Goa, Assistant Professor,

[2]Ganpat Parsekar College of Education, Harmal - Goa

Abstract

Information technology is the study or use of systems (especially computers and telecommunications) for storing, retrieving, and sending information. Information and Communication Technologies (ICTs) is a broader term for Information Technology (IT), which refers to all communication technologies, including the internet, wireless networks, cell phones, computers, software, middleware, video-conferencing, social networking, and other media applications and services enabling users to access, retrieve, store, transmit, and manipulate information in a digital form. In the present research the researcher did a study on the extent to which ICT is integrated in the teaching and learning of science in elementary schools of Pernem Taluka. In this study the researcher used a descriptive research design which adopts both qualitative and quantitative paradigms. Data was collected through semi-structured questionnaire for teachers designed by the researcher. Descriptive statistics was used to analyse the data in which frequencies and percentage (%) were used to describe the data.

Keywords: *ICT, Teaching and Learning, Science education, Elementary school*

INTRODUCTION:

ICT stands for "Information and Communication technologies". ICT refer to the technologies that provide access to information through telecommunications. It is similar to Information Technology (IT) but focuses primarily on communication technologies. This includes the Internet, wireless networks, cell phones and other communication mediums. ICT in education improves engagement and knowledge retention: When ICT is integrated into lessons; students become more engaged in their work.

Education is the process of acquiring and imparting knowledge crucial to the development of a learner. Technology refers to the systematic application of techniques and principles to achieve an objective.ICT in education improves engagement and knowledge retention: When ICT is integrated into lessons, students become more engaged in their work. This is because technology provides different opportunities to make it more fun and enjoyable in terms of teaching the same things in different ways.

It has been observed that using computer technology to assist teaching makes the teaching learning process more effective with student centered approach but the integration of ICT in the school is restricted due to various reasons. Also researcher while going through the various review of related literature observed that the extent to which the ICT is being integrated at elementary school level and the obstacles that prevent the integration of ICT has not been studied. Means and Ownes (1994) summarized the impact of new technologies effectively when they stated: "When technologies are used as a tool for accomplishing complex tasks, the issue of the mismatch between technology content and curriculum disappears altogether. Technological tools can be used to organize and present any kind of information. Moreover, it is not necessary for the teachers to know everything about the tools that students use; teachers and students can acquire whatever technology skills they need for specific projects."

STATEMENT OF THE PROBLEM:

"A study of extent to which ICT is integrated in the teaching and learning of science in elementary schools of Pernem Taluka."

NEED OF THE STUDY:

Researcher thought of undertaking the proposed study as while going through the review of related literature it has been observed that there is a significance of integrating ICT in teaching learning process and there is a need to carry out a research on the same in the state of Goa in Pernem Taluka.

OBJECTIVES OF THE STUDY:

1. To ascertain the extent to which ICT is integrated with teaching learning process in elementary schools.
2. To determine the obstacles that prevents the integration of ICT in teaching learning process in elementary schools.

RESEARCH QUESTIONS:

a. To what extent have science elementary schools teachers integrated ICT in classrooms?

b. What are the obstacles that prevent the integration of ICT in teaching process in elementary schools of Pernem Taluka of Goa State?

ASSUMPTIONS OF THE STUDY:

Integrating ICT into science elementary school is helpful in understanding science subject. (Gurmit 2014).

SCOPE AND DELIMITATIONS:

a. Scope

Proposed research is useful for all the stake holder of education who have positive attitude towards use of ICT in the teaching learning process.

b. Delimitations:

i. Delimited to Pernem Taluka of Goa state only

ii. Delimited to 50 teachers only.

iii. Delimited to science subject only.

RESEARCH METHODOLOGY: In the proposed study, the researcher selected the population consisting teachers teaching science at elementary schools of Pernem Taluka coming under North Goa district of Goa state. 50 Science teachers were selected by using Random Sampling Technique from different Schools. The researcher used Random sampling method and probability sampling technique. A self-designed semi-structured questionnaire was used to collect the data from the school teachers. Questionnaire was designed by using criteria‟s such as ICT access for teaching, support to teachers for ICT use, obstacles in integrating ICT etc. Descriptive statistics was used to analyse the data in which frequencies and percentage (%) were used to describe the data.

ANALYSIS OF DATA RELATED TO OBJECTIVE 1

1) Experience with ICT for teaching

	All the time		Often		Sometimes		Rarely		Never	
	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%
1.Use of computers and/or internet to search resources for preparing lessons	8	16 %	24	48 %	18	36 %	0	0%	0	0%
2.Use computers and/or internet while presenting lessons	4	8%	17	34 %	25	50 %	3	6%	1	2%

3. Use of computers and / internet applications to prepare power point presentation for lessons	4	8%	18	36 %	23	46 %	5	10 %	0	0%
4.Frequency of the use computers and/or internet in class	5	10 %	41	82 %	3	6%	1	2%	0	0%
5.Creating your own digital learning material	4	8%	0	0%	36	72 %	9	18 %	1	2%
6.Use of internet to prepare exercise as a task for students	4	8%	0	0%	34	68 %	12	24 %	0	0%
7.Use of internet for posting exercise for the students	14	28 %	0	0%	34	68 %	1	2%	1	2%
8.Use of internet to provide feedback for the students	8	16 %	0	0%	33	66 %	6	12 %	3	6%
9. Use of digital learning resources (audio,video,images,graphics etc) to evaluate the students‟ performance in your subject	10	20 %	0	0%	31	62 %	8	16 %	1	2%
10. Use of internet for downloading/uploading learning material on online platform	17	34 %	0	0%	29	58 %	3	6%	1	2%

11) Educational application used to create your digital learning material	Frequency	Percentage (%)
MS Office	31	62%
Google form	28	56%
Padlet	3	6%
Khan Academy	16	32%
All of the above	10	20%

2.Applications used to post the exercise	Frequency	Percentage (%)
Whatsapp	41	82%
Google form	21	42%
Padlet	0	0%
All of the above	7	14%

13) Applications used for evaluation Frequency Percentage (%)		
Mentimeter	9	18 %
Google form	41	82 %
Padlet	4	8 %
Others	5	10 %

14) Apps do you use for downloading the learning materials from YouTube?		Frequency Percentage (%)
Vidmate	28	56%
Snaptube	7	14%
Freemake	9	18%
Other	14	28%

II) Support to teachers for ICT use

			Frequency Percentage (%)	
	Yes	No	Yes	No
1.Provision in the school to use ICT in your teaching	44	6	88%	12%
2. The school provides facilities to encourage the use of ICT among the teachers in their classroom	43	7	86%	14%
3.Participation in ICT training compulsory for teachers in your school	30	20	60%	40%
4.Have you ever undertaken professional course/courses on the use of ICT	19	31	38%	62%
5.Have you ever attended workshops/seminars on the use of ICT in the teaching learning process	41	9	82%	18%
6.If yes, does your expectations with respect to the workshops/seminars organized for the teachers on ICT fulfilled	36	14	72%	28%
7.Do you update yourself with the latest development in the field of ICT	40	10	80%	20%

III) Pedagogical use of ICT

	None		Little		Somewhat		A lot	
	Freq	%	Freq	%	Freq	%	Freq	%
1) Extent to which teacher is confident to produce digital material using MS WORD	0	0%	7	14%	22	44%	21	42%
2) Extent to which teacher is confident to create a presentation with audio or video clip	2	4%	4	8%	21	42%	23	46%
3) Extent to which teacher is confident to create a presentation by using simple animation function	3	6%	14	28%	25	50%	8	16%
4) Extent to which teacher is confident to create and maintain learning management system like google classroom	3	6%	15	30%	26	52%	6	12%
5) Extent to which teacher is confident to create video for online classes	1	2%	13	26%	20	40%	16	32%
6) Extent to which teacher is confident to take online classes using online platform	0	0%	7	14%	16	32%	27	54%
7) Extent to which teacher is confident to prepare google quiz for assessment	1	2%	10	20%	26	52%	13	26%
8) Extent to which teacher is confident of using offline platforms in the teaching learning process	0	0%	4	8%	25	50%	21	42%
9) Extent to which teacher is confident of using online platforms for evaluating the performance of the students	0	0%	8	16%	30	60%	12	24%

10)Areas in which ICT is used while teaching		Frequency Percentage (%)
Set induction	2	4%
Development of the lesson	12	24%
Evaluation	8	16%
All of the above	34	68%

ANALYSIS OF THE DATA FOR OBJECTIVE 2

IV) Obstacles in the use of ICT in teaching and learning

	Not at all		Little		Partially		A lot	
	Freq	%	Freq	%	Freq	%	Freq	%
1) Use of ICT in teaching is time consuming	16	32%	18	36%	13	26%	3	6%
2) The band width/speed of the internet sufficient for teaching learning process	9	18%	20	40%	17	34%	4	8%
3) Knowledge of the adequate skills for using ICT in school	1	2%	15	30%	25	50%	9	18%
4) Sufficient pedagogical support (guidance, tools, resources, references) for using ICT in the school	0	0%	17	34%	22	44%	11	22%
5) Are the parents in favor of use of ICT in the teaching learning process	1	2%	15	30%	25	50%	9	18%
6) Are the other teachers in favor of use of ICT in the teaching learning process	0	0%	12	26%	20	40%	17	34%
7) Adequate technical support for using ICT in the school	1	2%	15	30%	25	50%	9	18%
8) Confidence in handling the tools of ICT in the school	2	4%	12	24%	24	48%	12	24%
9) Confidence in training others to handle the tools of ICT in the school	7	14%	15	30%	17	34%	11	22%
10) Satisfaction with the current situation of using ICT as a main tool in the teaching learning process	5	10%	13	26%	21	42%	11	22%

FINDINGS: With respect to Objective 1

1. Among all the teachers maximum number of teachers make use of computers and /or internet very often to search resources for preparing lessons , sometimes uses it for presenting lessons , for preparing power point presentations for lessons , often uses computers and /or internet in a class , and sometimes create their own digital learning material. Some teachers sometimes make use of computers and /or internet to search resources for preparing lessons , often uses them to present the lessons , for preparing power point presentations ,some teachers rarely create their own digital learning materials whereas few teachers all the time uses the computers and /or internet to prepare lessons , to present the lessons , few teachers rarely uses it to prepare power point presentations and few of them uses it all the time in a class whereas few teachers rarely create their own digital learning materials.

2. Out of total teachers maximum teachers sometimes uses internet to prepare exercise as a task for students , to post exercise for the students , to provide feedback for the students , and for downloading/uploading learning materials on online platform and make use of whatsapp to post the exercise. Some teachers uses internet rarely to prepare exercise as a task for students , some uses it all

the time for posting exercise to the students , to provide them the feedback , and for downloading /uploading learning material on online platform. Some of them uses google form for posting the exercise whereas few teachers uses internet all the time to prepare exercise , few uses it rarely to post the exercise and to provide feedback to the students , to download/upload the learning materials on online platform while few teachers uses other applications for posting the exercise.

3. Out of the total teachers, maximum teachers are somewhat confident to create a presentation by using simple animations function, to create and maintain learning management system like google classroom, to prepare google quiz for assessment , of using offline platforms in the teaching learning process , of using platforms for evaluating the performance of the students. Some are little confident to create and maintain learning management system like google classroom , somewhat confident to take online classes , create video for online classes and some are confident a lot for creating videos foe online classes , to take online classes using online platform whereas some are somewhat confident to take online classes, some are confident a lot to prepare google quiz for assessment ,of using offline platforms in the teaching learning process , in using online platforms for evaluation of the performance of the students whereas only few teachers are little confident to take online classes using online platform , to prepare google quiz for assessment , to use offline platforms in teaching learning process and for evaluating the performance of the students.

With respect to Objective 2

4. According to some teachers, use of ICT in teaching is little time consuming, according to some it is not at all time consuming , some teachers feels that it is partially time consuming whereas only few teachers feel that use of ICT in teaching is a lot time

5. Out of the total teachers half of the teachers have partial knowledge of the adequate skills for using ICT in school, some teachers have little knowledge , few have lot of knowledge of the adequate skills for using ICT in school whereas a single teacher have no knowledge of the adequate skills for using ICT in school.

6. Out of the total teachers some teachers have partially sufficient pedagogical support (guidance, tools, resources, references) for using ICT in the school , some of them have little, some have lot of pedagogical support (guidance, tools, resources, references) for using ICT in the school whereas not a single teacher have insufficient pedagogical support (guidance, tools, resources, references) for using ICT in the school .

7. Out of all the teachers, some teachers are partially confident in handling the tools of ICT in the school, some are little confident, some of them are confident a lot whereas only minimum number of teacher not at all confident in handling the tools of ICT in the school

8. Out of the total teachers, some teachers are partially satisfied with the current situation of using ICT as a main tool in the teaching learning process, some are satisfied a little, some of the teachers are satisfied a lot whereas only few teacher not at all satisfied with the current situation of using ICT as a main tool in the teaching learning process.

DISCUSSION: The purpose of the study was to find out the extent to which the ICT is integrated in the teaching and learning of science in elementary schools of Pernem Taluka. The researcher also wanted to find out the obstacles faced by the teachers while making use of ICT in the teaching learning process. While designing the tools to collect data for the research, due to the COVID pandemic situation researcher designed a questionnaire by using google form. Through the research study researcher found that most of the teachers make use of ICT in their teaching to make their teaching and learning more effective in spite of facing many obstacles in integrating ICT in their teaching. Based on the findings

References

Myrtle Joyce Shobha D,, Souza, (2012). Perspectives on ICT Integrated Approach at the Teacher Education Level. Edutracks, Jan. 2012, Vol. 11, No.5, P.11-12. 2. Bhatia R., (2011) :Enhancing Teaching: Learning with Technology, University News, Vol. 49, No. 31, August 01-07, 2011, pp 13-15

Sampath, S., (2011). Interaction among the Learner, Teacher, Curriculum and Educational Programme with ICT. University News, 49(23).

S.K. Mishra (2015), Statistics in psychology and education , Prenticce , Hall of India private limited New Delhi – 110002

Dr. Keshav W. Ingole (2014) Research Methodology in Education , Chandralok Prakasan , Kanpur – 208021(India)

N.R. Swaroop Saxena Sikha Chaturvedi-Education In Emerging Indian Society 7. Lokesh Koul(Fourth Edition) – Methodology Of Educational Research 8. https://www.kqed.org/mindshift/27765/10-ways-to-teach-innovation

https://www.useoftechnology.com/computer-technology-education-effectiveness 10.Maryam, Mousavi (2013): Feasibility and Application of ICT in Secondary Schools.. 11.Chaudhari,Pinkal(2016): Developing and implementing multimedia learning package for enhancing ICT skills of students.

Kaur,Gurmit(2014): Teachers,, attitude towards information and communication technology (ICT) in relation to gender, motivation, computer competence and computer anxiety. 13.Gupta Surya Narayan: A study of influence of various ICT based projects on education 14.Anbuchezhian, M A (2006): study of information and communication technology in colleges of education in Tamil Nadu

BRAIN ACTIVATION PARLORS: GEAR UP YOUR MASTER CONTROLLER

Smt. Mukta Ramgonda Patil
Asst. Prof. Smt. Putalaben Shah College of Education, Sangli.

Abstract

The assumption that Bed degree holders only can become teachers; is no more an assumption. In the era of job uncertainty student teachers should think and act beyond the horizon of traditional teaching job. By using the knowledge, skills and aptitude acquired in Bed course they can extend their job opportunities .This can be scaffold by the knowledge of Neuroscience of Learning. With this student teachers can open the vast arena of self reliant job opportunities. They can start Brain activation Parlors ,where they provide basic brain activation activities and information. This can be done in various forms. These parlors will become brain boosting ,activating and nurturing hotspots which helps the student teachers to be educational entrepreneur who helps in creating Atmnirbhar Bharat.

Keywords *-Neuroscience of learning, Brain Based Learning ,Brain Activation, Brain Gym.*

Introduction

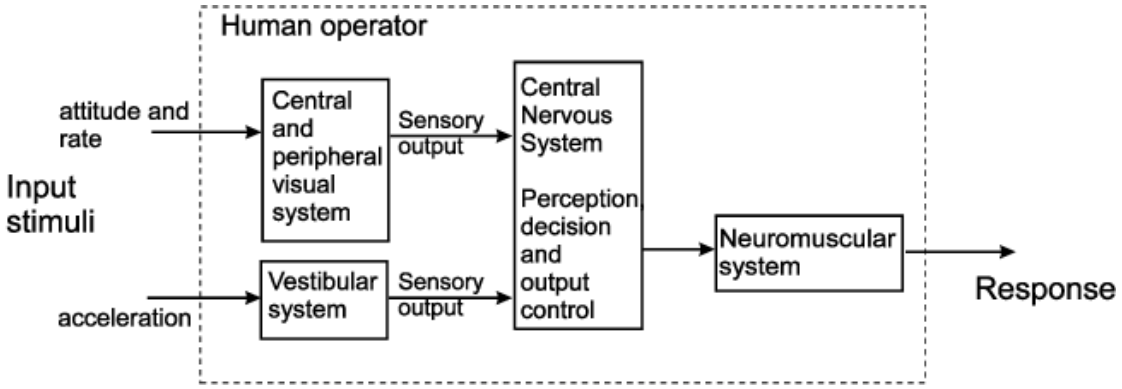
From ancient times field of education is considered pious, noble, clean, generous and it had been never compared with business. As time passes needs of society changes and the nature ,purpose ,aims and objectives of field of education also subject to change. Teaching profession has also undergone tremendous changes. In ancient times it was believed and practiced that teachers were born not made. As number of learners were increased to cope up with them number of teachers were also increased with the help of formal teacher education courses and programs. Students who complete their teacher education course usually anticipate for being recruited as teachers in government schools or private schools. Now a day's teacher occupation aspirants are more than the traditional teacher jobs. As well as social and educational scenario also is being changed .So student teachers can and should think beyond only engaging in traditional teaching job. They can start allied jobs, which can be rose up as startup in the field of education. From Mahatma Gandhi to NEP 2020 the main aim of education has been considered as to develop self reliant students ,and its connotative meaning has always perceived as making the students to start their own jobs and occupations. But the scenario is changed and the connotative meaning too ;which now consists teaching occupation.

❖ Start Ups In The Field of Teaching

Start Ups are mainly related to the field of business ,where entrepreneur with required skills start business on own self ,which is comparatively new .But in recent times none of the field is exception to startup .So the field of teaching. In the field of teaching there are many startup ideas ; among them following are some of the startups given in the blog -https://startupsavant.com/startup-ideas-for-education-entrepreneurs.

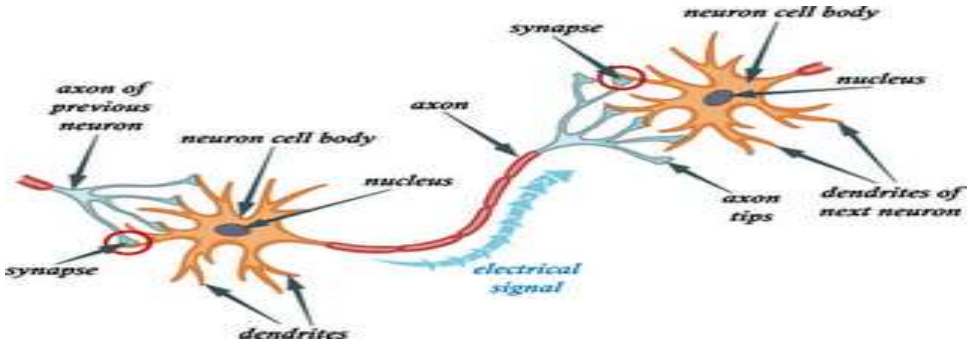
1. AI/VR Lessons
2. Online Courses
3. Blogging
4. Employee Training Software
5. Webinar Hosting
6. Educational Podcast
7. Online Coaching
8. Tutoring
9. E learning Platform
10. Educational Toys
11. Immersive AR Education
12. Educational App
13. Educational Games
14. Nutrition Startup
15. Homeschooling Products and Services
16. E book Writing
17. Language Learning Startup
18. Education Crowd funding Platform
19. Online Library
20. Bookmobile

Above given startups are already in practice. There are other startup ideas also. Educational startup ideas should be closely relevant to new researches in the field of education. There are theories of learning .As time changes with changing concept and with increased interdisciplinary nature of education new learning theories have been emerging. Up till now we are well acquainted with Behaviorism, Humanism, and constructivism. Behaviorism deals with observable behavioral changes in the students, Humanism deals with integration of students personality and self. Constructivism deals with construction of knowledge .Assumption of constructivism is every one construct his/her knowledge .Question arises that actually where does the knowledge construction takes place? Answer leads the educationalists to the neuroscience. Researches in neuroscience proves that learning takes place in the entral nervous system (brain) with the help of peripheral nervous system.



source-https://www.researchgate.net/figure/The-visual-and-vestibular-pathway-of-information-processing-in-the-control-task_fig1_269064990)

In recent times neuroscience of learning is the thrust area of research in the field of education. With this recent trend educational start up can be advanced. For this startup first basic knowledge of neuroscience of learning should be acquired. Researches in neuroscience denotes that learning takes place in Central Nervous System (mostly in Brain) with the help of peripheral nervous system (sense organs) .There are 100 billion neurons. Cells in brain are called neurons . Each neuron has many fiber like processes. Those are called dendrites. One of them is longer than others that is called Axon. Neuron receives chemical/electrical signals from other body parts/sense organs and from our thoughts . Dendrites(short processes)functions as receiver of chemical signals (information). Axon(longer processes) transmits the chemical signals(information) from one neuron to the dendrites of another neuron; connection is created , that junction point of axon and dendrites is called synapse; In following diagram synapse formation is shown .



(source -https://study.com/learn/lesson/synaptic-cleft-gap-function.html)

So according to neuroscience of Learning -

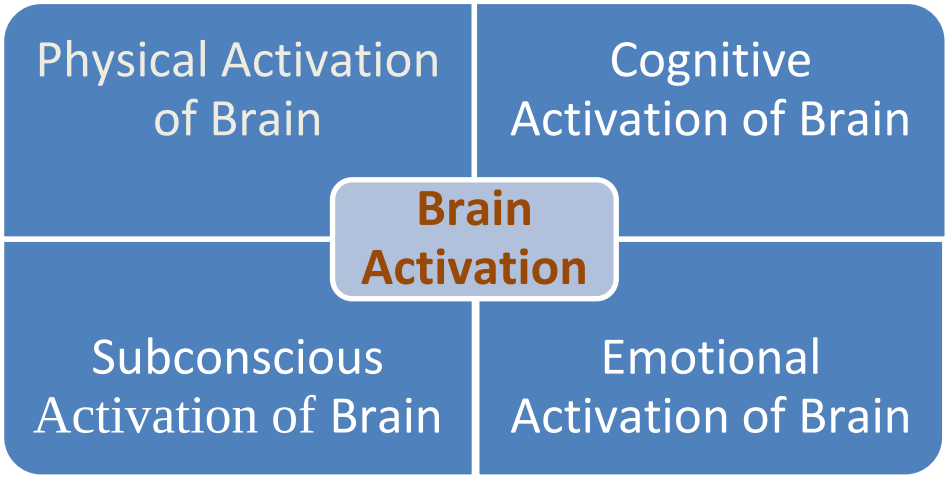
Learning means –

- Production of new neurons
- Creating, building connections /synapses among neurons (brain cells).
- Creation of neural networks ;synapses create pathways (more synapses forms neural networks)
- Strengthening and reinforcing of pathways is very important
- Process of creating schema of concepts in various subjects using memory phases.
- Creating long term memory of neural networks and neural pathways

Neuroscience proves that Brain is pivotal organ in our body .Brain is our master controller. Each and every body part, organ is under the control of Brain. Every action and reaction is guided, initiated and controlled by Brain; so the learning. For effective learning prier to learning specific content ,skill brain should be fertilized, nurtured and activated; irrespective of specific subject knowledge ,content or activity; which aids in all types of learning by activating and energizing the brain. These activities are given and one can design these activities with the help of knowledge of neuroscience of learning and these activities should be flexible according to the learners.

❖ Nature of Brain Activation Parlor

What should be in the brain activation parlor ?Following activities can be the skeleton of the brain activation parlor.



Neuroscience suggest that brain should be activated. Brain is a physical entity ,it is made of cells and has physic so it should be activated physically by providing proper nutritional food ,it should be always hydrated with enough clean water and natural energy booster drinks .It should be provided challenging cognitive activities . It should be given emotional safety ,warmth ,acceptance, recognition, acknowledgement for its emotional activation. Recent researches in neuroscience reached and fetched the existence and tremendous effect of subconscious brain on conscious brain. Conscious brain is the puppet in the hands of subconscious brain. Our all behavior , thinking ,actions ,activities, responses and reactions though are the functions of our conscious brain ;origin and control of them lie in subconscious brain. So for desired and anticipated behavior boosting and activation of subconscious brain is mandatory. To activate the brain and make it to learn some following activities are given. These are not close ended activities these are the specimens .According to the students nature ,learning style and needs .

❖ Activities for Activation of Brain

Sr no	Gross activities	Particular activities
1	General Brain Boosting activities	• Physical activities/playing games • Visiting new places and people • Learn new language/skill • Doing things differently • Doing different things • Color change activities • Listening music
2	Energizing Activities	• telling names , • writing with eyes , elbows , knees , • closing eyes for some second , • greeting differently , • one minute activity • telling or listening jokes • telling short stories , • changing the end of the story, changing character from the story • asking question.
3	Warm up Activities	• Stretching , • moving , • clapping, , • drinking water or having eatables , • smelling different aromas , • scribbling ,drawing, • changing sitting places.
	Whole Brain Activation Activities	• Eye exercise • Nose exercise • Tickle • Engage in games • Keep hobby • hand changing • Color changing • Divergent thinking • Keep pet • Make friends • Draw pictures • Change routine • Engage in challenging task • Invent new ideas n apply them • Role play • Mimes • Music and Dance • Scribbling • Dumb chedas

4	Sub conscious Brain Activation Activities	• Imagination • Visualization • Yoga, Mediation • Habit formation • Priming(association) • Positive affirmation

Above given activities help to prepare the brain for production of neurons, formation of synapses ,neural networks , neural pathways and secretion of feel god neurotransmitters. All these are mandatory for preparing the brain for learning.

A student teacher if equipped with theoretical and practical knowledge of Neuroscience of learning from educational perspective can venture the start up of BRAIN ACTIVATION PARLORS.. There are certificate courses to get proper theoretical and practical knowledge of Neuroscience of learning.

❖ Nature of the Brain Activation Parlor

After the certificate course student teacher can start Brain Activation Parlor. Main investment is proper implementation of activities that converts biological brain into social ,educational ,philosophical; fertilized and ready to learn brain .Its nature can be as follows-

- Brain activation parlor where children are welcomed and helped to get ready their brain for learning.
- On line classes of the same can be started.
- On line and off line material can be provided in the form of electronic package.
- Freelance speaking can be started for the same purpose.
- You Tub channel also can be started with all these activities.
- Camps and workshops can be also conducted for the same.
- This can be taken at large group, small group and individual level.
- Tie Up With Schools ,Educational institutions can be done.
- Guest lectures or workshops can be conducted at schools or educational institutions.
- Stage shows of the same which can be introductory of the main course -the brain activation parlor can be conducted.

❖ Special Characteristics of Brain Activation Parlor

- Strong base of theoretical and practical knowledge of brain activation activities.
- Participants should also make to know how and why aspects of the program.
- Proper central place for the parlor.(mostly in the vicinity of educational institutions)
- Timing of the parlor should be convenient (after school, on weekends or in vacations.)
- Customized Program for individuals
- Extended activities should be provided that can be performed independently or with help of parents /care takers.
- Effective implementation should be the advertisement of the parlor.

  Student teachers after completion of formal Bed course; formally and informally should acquire the knowledge and information of neuroscience of learning and start related start ups as Brain Activation Parlor ,Brain Gym, Brain energizing booths etc. It is seen that individuals from other fields are trying and venturing in this star up. But it is more useful, and fruitful if individuals from teaching field engage in it as they are already equipped with the skills, knowledge, attitude and aptitude of teaching occupation. Only they need to know and learn

labout neuroscience of learning that helps them to start such start ups and be self reliant and contribute in the Atmnirbhar Drive.

References

Alexander ,D. Jacob, Sheena, A,. Josselyn,(2020) Why Have Two When One Will Do? Comparing Task Representations across Amygdala and Prefrontal Cortex in Single Neurons and Neuronal Populations .Handbook of Behavioral NeuroscienceVolume26https://www.sciencedirect.com/science/article/pii/B9780128151341000027

Bates, T.(2019) How to Rewire Your Brain: 7 Easy Steps to Master Neuroplasticity, Mind Hacking, Think Habits & Practical Neuroscience

Bernard,S.(2010) Neuroplasticity: Learning Physically Changes the Brain.

How lessons and experiences can shape and grow your students' brains over time.https://www.edutopia.org/neuroscience-brain-based- learning-neuroplasticity

Bonnema, T.R.(2009)Enhancing Student Learning with Brain-Based Research. https://teacherofsci.com/learning-theories-in-education/

Bradley R. King, Philippe Saucier, Genevieve Albouy, Stuart M. Fogel, Jost-Julian Rumpf, Juliane Klann, Giovanni Buccino, Ferdinand Binkofski, Joseph Classen, Avi Karni, Julien Doyon, Cerebral Activation During Initial Motor Learning Forecasts Subsequent Sleep-Facilitated Memory Consolidation in Older Adults, Cerebral Cortex, Volume 27, Issue 2, February 2017, Pages 1588–1601, https://doi.org/10.1093/cercor/bhv347

Brain-Derived Neurotrophic Factor: A Key Molecule for Memory in the Healthy and the Pathological Brain

Bransford,, J., D., Ed.; Brown, Ann L., Ed.; Cocking, Rodney R., Ed(2000) How People Learn: Brain, Mind, Experience, and School. National Academy Press Washington, D.C.

Caine R, Caine, G., (1995). Reinventing schools through brain-based learning. Educational Leadership, 52, 43-43.

Caine R., Caine,G .(1994). Making Connections: Teaching and the Human Brain.Menlo Park, CA: Addison Wesley Longman.

Caine, R.,Caine ,G. (1990). Understanding a brain based approach to learning and teaching. Educational Leadership, 48(2), 66-70.

Centre for Educational Research and Innovation (CERI) - Brain and Learning

https://www.oecd.org/education/ceri/centreforeducationalresearchandinnovationceri-brainandlearning.htm

Colcombe SJ, Erickson KI, Scalf PE, Kim JS, Prakash R, McAuley E, et al. Aerobic exercise training increases brain volume in aging humans. J Gerontol A Biol Sci Med Sci.

Corballis, M.C., & Häberling, I.S. (2017). The Many Sides of Hemispheric Asymmetry: A Selective Review and Outlook. Journal of the International Neuropsychological Society, 23, 710 - 718.

Cure ,Joy.(2018) Different Types Of Brain Waves And Their Benefits

Eugene, A. R., & Masiak, J. (2015). The Neuroprotective Aspects of Sleep. MEDtube science, 3(1), 35–40.

Fahad ,B.(2018) How The Subconscious Brain Communicates With Zillions Of Microbes?: Exploration Into The Gut Brain Axis ;MBC Books;

Ferman, S., Olshtain, E., Schechtman, E., & Karni, A. (2009). The acquisition of a linguistic skill by adults: Procedural and declarative memory interact in the learning of an

Gutierrez,G., (2018), Making moves to understand cognitive function in the brain

Hanna,J.L.(2015)Dancing to Learn: The Brain's Cognition, Emotion, and

Movementhttps://www.cambridge.org/core/journals/dance-research-journal/article/dancing-to-learnhttp://www.comfsm.fm/socscie/biolearn.htm

Hart, L. A, (1983.)Human brain and human learning, Arizona, Books for Educators

Hebb, D. O. (1949). The organization of behavior; a neuropsychological theory. Wiley

Jensen,E. (2008) Brain-Based Learning Teaching the Way Students Really Learn. Sage Joyce ,S.(2012) Neuroplasticity and Positive Psychology in Clinical Practice: A Review for Combined Benefits Department of Psychiatry and Behavioral Sciences, University of Washington, Seattle,USA.https://www.sciencedirect.com/book/9780121916503/behavioral neuroscience#book-publication

Karla Gutierrez(2022). 8 Brain-Research-Discoveries-Every-Instructional-Designer-Should- Know-About. https://www.shiftelearning.com/blog/bid/324035/8-

Kempermann, G., Gage, F. H., Aigner, L., Song, H., Curtis, M. A., Thuret, S., Kuhn, H. G., Jessberger, S., Frankland, P. W., Cameron, H. A., Gould, E., Hen, R., Abrous, D. N., Toni, N., Schinder, A.

F., Zhao, X., Lucassen, P. J., & Frisén, J. (2018). Human Adult Neurogenesis: Evidence and Remaining Questions. Cell stem cell, 23(1), 25–30. https://doi.org/10.1016/j.stem.2018.04.004

Knowles, M. S. (1950) Informal Adult Education, New York: Association Press. Guide for educators based on the writer's experience as a program organizer in the YMCA

Knowles, M. S. (1984). Theory of Andragogy. https://d1wqtxts1xzle7.cloudfront.net/60934938

Konopka L. M. (2015). How exercise influences the brain: a neuroscience perspective. Croatian medical journal, 56(2), 169–171. https://doi.org/10.3325/cmj.2015.56.169

Language-Learning-Rewires-Adult-Brain/Earning Rewires Adult Brain 2020 https://www.languagemagazine.com

Mark Tennant (2017) Facilitating learning with the adult brain in mind: a conceptual and practical guide, International Journal of Lifelong Education, 36:6, 745-746, DOI: 10.1080/02601370.2017.1348583

NCF (2005) National Focus Group on work and education. Position Paper, NCERT, New Delhi.

OECD,(2003) Understanding the Brain: The Birth of a Learning Science .https://www.oecd.org/site/educeri21st/40554190.pdf

Pallavicini, F., Ferrari, A., & Mantovani, F. (2018). Video Games for Well-Being: A Systematic Review on the Application of Computer Games for Cognitive and Emotional Training in the Adult Population. Frontiers in psychology, 9, 2127. https://doi.org/10.3389/fpsyg.2018.02127

Społeczna Akademia Nauk (2018). Neoroandrogogy against exclusion. Retrieved from: http://www.neuroandragogy.eu/index.php/about-neuroandragogy/

Stiles, J., & Jernigan, T. L. (2010). The basics of brain development. Neuropsychology review, 20(4), 327–348. https://doi.org/10.1007/s11065-010-9148-4

Wilson ,C. (2006)No One Is Too Old To Learn: Neuroandragogy: A Theoretical Perspective on Adult Brain Functions and Adult Learning. iUniverse 2021Pine Lake Road 100,Lincoln ,NE68512

Wilson, C. (2011). Neuroandragogy: Making the Case for a Link with Andragogy and Brain- Based Learning.

Wong, P.C., Perrachione, T.K. and Parrish, T.B. (2007), Neural characteristics of successful and less successful speech and word learning in adults. Hum. Brain Mapp., 28: 995-1006. https://doi.org/10.1002/hbm.20330

ENHANCING TECHNOLOGY BASED TEACHING IN TEACHER EDUCATION: TRADITIONAL TEACHING BLENDED WITH TECHNOLOGY RESOURCES

Mr. Sagar M. Davari[1], Saisha Pilankar[2], Rajani Shetgaonkar[3], Vaibhavi Harmalkar[4], Sweeta Naik[5] & Utkarsha Pednekar[6]

[1]Assistant Professor, Ganpat Parsekar College of Education Harmal-Goa.

[2-6]Sudents, Ganpat Parsekar College of Education Harmal-Goa.

Abstract

New innovations are taking place the teacher Education curriculum. Educational technology has made the learning process more update with the changes taking place in education. New methods of teaching, new knowledge, new learning aids and new activities are being used in teacher education. So that in education stream new technologies are used for teaching learning. Many online and offline platforms are available to provide wide scope to work and learn with them. Here, we discussed few technology-based resources which gives new view of teaching and learning. And todays need to literate teachers and students about technology. Present time new technologies are introduced. Free Open Software's, applications are useful for learning. Power point Presentations, Online Whiteboard, Live Online Classes, Pre-Recorded Video Lectures, Flipped Classroom, Game-Based Teaching, Class Blog, Live Chatting, Google classroom these resources are gives new view of learning. The future Teacher will be the techno teacher. They should ready for future challenges in education. According to the new education policy, information technology has been included in higher education. This new educational policy seems to insist on new technology-based teaching and learning of teacher trainees.

Keyword: Traditional teaching, technology resources, technology-based teaching, blended learning.

Introduction:

In Present day technology-based learning is how much essential that everyone knows, because last two year we face many challenges in teaching learning. In pandemic time we Online learning is defined as the "use of the internet technologies to deliver a broad array of solutions that enhance knowledge and performance." (Rogenberg, 2001, p. 28) Online learning can be described as a type of resource-based learning in which the learners access learning content through learning materials rather than via teaching. "The term 'resource-based' is often used as an 'opposite' to 'taught'. In this case, the resource can be accessed through the Internet. "The learning that happens in resource-based learning usually opens up some freedom of time and pace, if not always that of place." In such a type of resource-based learning, the learners themselves have to be more responsible for their learning than in traditional teaching-learning situations (Race, 2008, p. 18).

Blended learning is defined as a mixed-mode of learning in which both face-to-face and online learning are used. According to the Sloan Consortium (Sloan-C), a leading professional organisation dedicated to promoting and supporting online education, "a blended course is one in which 30 per cent to 70 per cent of the instruction is delivered via technology". Sloan-C further defines this type of 351 course as one "that blends online and face-to-face delivery. A substantial proportion of the content is delivered online, typically uses online discussions, and typically has some face-to-face meetings" (Sloan Consortium's Definition), (Dziuban et al, 2011). Thus, online learning and blended learning can be identified separately with reference to the use and non-use of face-to-face learning. There are many changes in the demand side of an education system, influencing the quality of learning attainment. There has been much rhetoric on changing focus from exam-centric education to learner-centric education. The expanding needs of universalisation also demand inclusion of diversified learners. In this research study, online learning is described as electronically mediated learning, facilitated and supported by the

use of computers, networking and multimedia. In this perception of digital learning, use of networking (Internet or intranet) is crucial.

New innovations are taking place the teacher Education curriculum. Educational technology has made the learning process more update with the changes taking place in education. New methods of teaching, new knowledge, new learning aids and new activities are being used in teacher education. Therefore, in order to update the teacher for future education, to be aware of new technologies, to increase his approach towards education, it is felt that technology based online education and its new tools and methods should be included in teacher education curriculum.

New methods of teaching should be adopted in teacher education through computer, internet-based sources. Looking at the inclusion of technology in the future, it has become necessary to teach through technology-based experience in teacher education. Students should get used to media such as online lecture, prerecorded video, text content sharing by online, online assignment, social networking site, blog, chat group, google classroom and e- learning platform.

According to the new education policy, information technology has been included in higher education. This new educational policy seems to insist on new technology-based teaching and learning of teacher trainees. That is why online education strategies have been discussed here.

New Education Policy 2020: an overview

Teachers require suitable training and development to be effective online educators. It cannot be assumed that a good teacher in a traditional classroom will automatically be a good teacher in an online classroom. Aside from changes required in pedagogy, online assessments also require a National Education Policy 2020 different approach. There are numerous challenges to conducting online examinations at scale, including limitations on the types of questions that can be asked in an online environment, handling network and power disruptions, and preventing unethical practices. Certain types of courses/subjects, such as performing arts and science practical have limitations in the online/digital education space, which can be overcome to a partial extent with innovative measures. Further, unless online education is blended with experiential and activity-based learning, it will tend to become a screen-based education with limited focus on the social, affective and psychomotor dimensions of learning.

Technology based teaching learning resources:

Listed below are some of the most effective resources of online teaching. We have to use most of all while teaching. Those all resources are easily available offline and some of through internet connectivity. Everyone using mobile phones in present day. Everyone gets access of all resources. We have to welcome new things which enhancing teaching learning process. We have to make habitual new technology resources. Encourage trainee teacher to use and develop their learning ability via online resources. Make ready to teacher trainee became future teacher.

- Power point Presentations:
- Online Whiteboard
- Live Online Classes
- Pre-Recorded Video Lectures
- Flipped Classroom
- Game-Based Teaching
- Class Blog
- Live Chatting
- Google classroom
- Discussion Boards and Forums

Power point Presentations:

Presentations, like in the physical classroom, are one of the most common methods of online teaching. This technique helps make a more significant impact on students – most of whom are visual learners – than a teacher simply relaying information out of a textbook.

Most importantly, presentations allow you to incorporate visuals (images, GIFs, videos, etc.) which makes it easier to deliver and comprehend complex information and data while making the lesson more engaging. You can also share your presentation with the teacher trainees after the lecture for revision and studying.

Here are a few presentation tools to get started with

- Google Slides
- Microsoft PowerPoint
- Prezi
- SlideShare

Online, presentations are more effective when delivered over video conferencing with a tool like Zoom or Google Meet.

Online Whiteboard

Online whiteboards have risen as a popular choice to virtually emulate the in-person classroom experience shared between teachers and students. They offer an infinite canvas, shape libraries to create different diagrams and charts, pre-made templates, sketching, typing, image import options, etc.

Unlike the traditional whiteboards, they also let you digitize the content created, hence allowing you to re-share them and refer to them at a later time. You can also collaborate with teacher trainees on the same canvas in real-time which paves the way to

- Carry out assignments.
- Brainstorm around lessons.
- Mind mapping.
- Do interactive exercises such as quizzes.
- Review homework and leave feedback.

So that teacher trainee will be ready for future upcoming changes in classroom.

Live Online Classes

Technology has made it straightforward to deliver lectures online even if you are not in the same room as the students, replicating many of the elements of face-to-face interaction.

Using video conferencing tool's, you can connect and communicate with students across the globe to deliver lessons. Incorporating an online whiteboard, you can make the classes even more engaging.

Lectures tend to put students in a passive role. Therefore, to keep students engaged throughout the class online;

- Be prepared by outlining the content of the lesson
- Ask questions during and after the lesson and leave time for students to answer
- Carry out discussions around the topic and encourage students to participate actively.
- Make use of graphic organizers, images, posters, videos, visuals, etc.
- Break down the main topic into sub-parts which will allow you to deliver the lecture in smaller chunks making it more effective in terms of keeping the teacher trainees focused and engaged.
- Set clear guidelines for online class etiquette for teacher trainees to maintain

Pre-Recorded Video Lectures

The benefit of pre-recorded lectures, as opposed to the live ones, is that the former allows the students to learn at their own pace at any time without the presence of the teacher. It also gives them material to go over during revision.

The teacher or instructor, on the other hand, can use the videos to avoid repetitive teaching between different classes.

To create effective pre-recorded lectures;

- Start with a script. Outline the talking points and what should go on each slide.
- Practice as necessary. Unless you are confident enough to do it in one go, rehearse what you will be saying prior to recording.
- Keep it short. If the video is longer than 20 minutes, consider breaking it up into smaller videos. This will not only come in handy when uploading them online but in case you need to replace the content with new information, it'll be easier to re-do a few minutes video than an hour-long one.
- Have everything ready before recording. Make sure that you are in a place devoid of distracting noises and backgrounds, and that your script and props are in place.
- If you are recording your screen, make sure to have closed unnecessary tabs and apps that may send you notifications.
- Maintain good eye contact with the camera and a tone you would use in a normal one-on-one conversation

Flipped Classroom

The flipped classroom has become one of the most popular teaching methods in education during the past few years.

It entails a strategy opposite to the traditional class format; here the teacher trainees are required to review class material prior to the actual lesson, hence reserving actual in-class time to put what they have learned into test with teacher-guided activities such as debates, problem-solving, in-depth discussions, quizzes, etc.

Videos have become a core element in the flipped classroom model. While many teachers create videos of their own, some also use videos created by other teachers. Video-sharing platforms such as YouTube can be utilized to share these among teacher trainees.

Some of the other effective techniques for the flipped classroom include,

- Online quizzes – help teacher trainees self-regulate what they have learnt and further improve their comprehension of the subject
- Polls – help students reflect and analyse what they have learned by polling their own choices
- Infographics – increase teacher trainee's engagement and enhances memory
- Mind maps or word clouds – allow students to brainstorm around topic areas and develop their thinking skills.

Game-Based Teaching

Game-based learning is a popular technique used to improve student engagement and retain attention. This approach helps reduce student anxiety and increase their involvement, especially when teaching complex concepts. It also paves the way for weaker students to develop their competences by interacting actively with their classmates.

And in online teaching, games help close the gaps in the interaction between face-to-face learning and online learning. Depending on the game you select, here are a few tips to keep in mind when carrying it out online,

- Ensure that all teacher trainees in the virtual classroom have access to the same set of data. You can share your screen or communicate them to your audience using a video conferencing tool.
- Use the chat option to take down concerns and questions of teacher trainees and clarify and you can answer them live.

- Allow teacher trainees time to reflect their answers and discuss them with other group members by breaking down the game into subsequent periods.
- Allow teacher trainees to carry out discussions using chat platforms such as WhatsApp, Skype, Slack, Facebook, Zoom breakout rooms, etc.

Class Blog

A blog can be a great place for students to share what they have learned in the form of in-depth articles. Students can work on blog posts individually or in groups. It's a great strategy to improve students' research skills and encourage them to explore self-learning.

The teacher can also use the blog as a platform to share learning material for the lessons.

Live Chatting:

Live chatting is another great way to replicate the real-time discussions that take place in the classroom. Platforms such as Slack, WhatsApp, Facebook Messenger, Skype, etc. allow teacher trainees and teachers to communicate and brainstorm around lessons. The chat itself will provide the students with information for revising before exams or assignments.

Make sure to set clear guidelines to ensure that all students get an equal chance to communicate their ideas and pose their questions.

Google Classroom:

Google Classroom is a learning management system (LMS) that aims to simplify creating, distributing, and grading assignments and engaging students in learning online or remotely. Google Classroom is a free application designed to help students and teachers communicate, collaborate, organize and manage assignments, go paperless, and much more!

This is the only application that Google has developed specifically for students and teachers, and they want it to be your go-to assignment manager for Google Drive and beyond. Assignment creation and distribution is accomplished through Google Drive while Gmail is used to provide classroom communication. Students can be invited to classrooms through the institution's database through a private code that can then be added in the student interface or automatically imported from a School Information Management System. (Online Tools for Teaching & Learning, Designed by students in EDUC 390D, 592A, & 692D at the University of Massachusetts Amherst)

This googles classroom facilities gives massive platform to teacher and students. Here they can share their work, assessment can be done, post upcoming announcement. etc.

Discussion Boards and Forums:

These tools provide students the space to share what they have learned or what they want to know more about with others in the classroom including the teacher.

You can maintain different discussion boards for individual lesson topics, so it'll be more organized. You can create one easily with an online visual workspace like Creately and share it with all teacher trainees with one public edit link giving everyone quick access.

You can also create separate Slack channels, Facebook groups, or WhatsApp groups for forum discussions. About teaching methodologies,

Discussion and conclusion:

Teacher trainees will surely benefit from using the resources we have discussed along with our traditional teaching methods. Using educational technology resources requires teachers and teacher trainees to have the knowledge to use those resources. Teaching and learning should be done by balancing traditional and new technology-based methods rather than focusing on technology-based teaching. It will develop teacher trainee ability to use technology resources for learning. To aware them about how to use this platform for learning. This technology-based learning will help to enrich content

with availability of vast information and knowledge. Now everyone having mobile phones. So that, internet-based resources are easily accessible for all. It gives more flexibility in teaching learning. If technology-based resources are used by teacher and teacher trainees then it will automatically go to students. These resources will open new windows of knowledge and learning strategies will assimilate. Teacher will continuously update their knowledge and technical competencies. While using these resources teacher and students should aware about limitations also. But definitely technology-based teaching and learning both will be enhance teacher education.

References

Bergman, J. & Sams, A. (2012). Flip your classroom. Eugene, OR: ISTE.

El-Hussein, M. & Cronje, J.C. (2010). Defining mobile learning in the higher education landscape. Journal of Educational Technology and Society, 13(3), 12-21.

Govindasamy, T. (2001). Successful Implementation of e-learning: Pedagogical Considerations. The Internet and Higher Education. 4(3-4), 287-299.

Keefe, T. J. (2003). Using technology to enhance a course: The importance of interaction. EDUCAUSE Quarterly, 1, 24-34.

Pearson,9 strategies for effective online teaching in higher education.

Sharof, L. Creative and Innovative online teaching strategies: Facilitation for active participation.

Wisconsin Assistive Technology Initiatives. (2003). Assistive technology consideration. [Online] Available: http://www.wati.org/atconsideration.htm

Yang, K.F. Yu, S., (2006). Attitude toward web-based distance learning amongst public health nurses in Taiwan: A questionnaire survey. International Journal of Nursing Studies, 43(6), 767-74

Zhang, D. (2000). Interactive multimedia-based e-learning: A study of effectiveness. American Journal of Distance Education, 19(3).

Zhang, D. (2000). Interactive multimedia-based e-learning: A study of effectiveness. American Journal of Distance Education, 19(3).

AWARENESS AND USE OF ONLINE LEARNING PLATFORM AMONG STUDENT TEACHERS: A STUDY

Tejal Naik[1], Shanata D'Costa[2], Shreya Dessai[3] & Pritesh Patil[4]

[1]Student, Fo.Y.B.Sc.B.Ed. Ganpat Parsekar Collge of Education, Harmal, Goa.

[2]Student, Fo.Y.B.Sc.B.Ed. Ganpat Parsekar Collge of Education, Harmal, Goa.

[3]Student, Fo.Y.B.Sc.B.Ed. Ganpat Parsekar Collge of Education, Harmal, Goa.

[4]Stdent, Fo.Y.B.Sc.B.Ed. Ganpat Parsekar Collge of Edication, Harmal, Goa.

Abstract

Online learning has been gaining popularity as a method for training and instruction. It offers unparalleled convenience, flexibility, and affordability in a world that's becoming increasingly expensive and busy. Online education enables the student teachers to set their own learning pace, and there's the added flexibility of setting a schedule that fits everyone's agenda. As a result, using an online educational platform allows for a better balance of work and studies.

Due to the rapid advancement of technology students teachers are expected to integrate technology into the classroom to engage students who are considered as digital-natives. Thus, online learning platforms are widely used by student teachers in teaching and learning and planning of their lessons. The online learning platforms are also used as a supplementary tool to promote independent learning.

In the present research, the researchers tries to find out awareness, use and attitude towards online learning platform among student teachers. In the present research, survey method was used wherein questionnaire was used as a tool of Data Collection. Data Collection was analyzed by using descriptive statistics using percentage. Major findings of the study are Most of the student teachers are aware of online learning platform and believe that think learning using online learning platforms is effective over traditional method. Most of the student teachers are of the opinion that teacher training colleges should train them for use of online learning platforms.

Keywords: *Awareness, Online learning, Online learning platform, Student teachers.*

1.0 Introduction:

Online education has gained tremendous popularity in recent years in a world powered by digital technology. And it's likely here to stay for the long term. In our 2021 Global Consumer Sentiment Survey of more than 520 adults in India who planned to further their education in the next year, 84% of respondents said they believe the adoption of online education will increase soon.

The era of the 21st century has been marked by rapid changes in several areas such as global economy, technology, culture, society, as well as education. The terms "21st century education," "21st century learning," and "21st century skills" are widely known these days. Teachers and schools face big challenges in teaching their students to live and survive in the current era. Teachers have to help students to master 21st century skills so they can deal with the challenges of 21st century. Some frameworks have been proposed by education experts related to 21st century education and learning. Generally, the frameworks focus on certain core competencies including collaboration, critical thinking, technology and digital literacy, and problem solving. The framework of P21 (Partnership for 21st century Skills) is one of the frameworks that is widely used by educators who emphasize the importance of 21st century skills in learning.

One of the four aspects of skills required for students' outcomes, according to the P21 framework, is mastering information, media, and technology skills. Because students are considered digital natives and live in a technology and media-driven environment, they are expected to be familiar with information, media, and technology skills such as accessing and evaluating information, using and managing information, analysing media, creating media products, and effectively applying technology (Partnership for 21st Century Learning, 2009).

The concept of twenty-first-century education suggests that teachers develop their instruction to ensure that their students meet the requirements of twenty-first-century skills. Students are expected to develop skills for a competitive career and a good life, as well as skills for lifelong learning and creative innovation, as well as literacy, information, media, and technology (Suherdi 2012).

As a result, future student teachers should be able to focus on emphasising deep understanding and engaging students with real-world data and tools as part of the educational support system. Student teachers should be able to incorporate the use of supportive technology, problem-based approaches, and higher order thinking skills into their practise lessons in terms of learning strategies. They should create a classroom environment that promotes 21st-century teaching and learning. Technology should be integrated with content and pedagogy by student teachers. Students are engaged in collaborative work and real-world problem solving in the twenty-first century through effective information and communication utilisation (ICT).

As a result, student teachers should be able to develop the ability to use technology creatively to meet the learning needs of their students. Teachers and students can use technological devices to facilitate language learning because learning should not take place only in the classroom. Student teachers should encourage students to use their smartphones for meaningful purposes. Teachers can ask students to post photos to Instagram in the classroom. Teachers can also encourage students to express themselves and share ideas on Twitter, as well as on Edmodo or Quipper. According to Archambault, Wetzel, Foulger, and Williams (2016), the use of social networking tools facilitates feedback between instructors and students, allowing them to communicate more efficiently and effectively. Students can receive immediate response and feedback because social networking tools are more easily accessible.

The use of online learning platform such as Edmodo and Quipper has been implemented by some teachers as an attempt in integrating technology into teaching and learning process in the classroom. The online platforms promote both inquiry based learning and independent learning since the online platforms facilitate interactions between teacher and students although they are not in the same room. Edmodo and Quipper as free of charge and user-friendly social learning platforms provide learners with various features that allow learners to interact and collaborate with teacher and peers as well as to access course provided by teacher.

The teacher can assign the assignment, set the deadline for submission, and track students' progress.Furthermore, the online platforms allow parents to track their children's progress. Many studies on the implementation of these online learning platforms have been conducted by researchers. According to Kongchan (2012)'s study in Thailand, the teachers who participated in the study saw Edmodo as a wonderful and user-friendly social learning network that allowed them, as non-digital-native teachers, to explore and utilise the site so that they could run their online classes effectively. Students who took part in the study also agreed that using Edmodo was a fun activity.

So in the present research researchers tries to find out awareness, use and altitude of students teachers about online learning platform so that appropriate decisions can be taken on improvement and strengthening of use of online learning platform by student teacher.

2.0 Statement of aim:

A study of awareness and use of online learning platform among student teacher of integrated Fourth Year B.A.B.Ed. & Fourth Year B.Sc.B.Ed. programme of state of Goa.

3.0 Objectives of the study:

1. To find out the Awareness of online learning among student teacher.
2. To find out the use of online learning platform by student teachers.
3. To find out the attitude of student teacher toward on that learning platform

4.0 Research questions:

1. To what extend student teachers are aware about online learning platform?
2. To what extend other student teachers using online learning platform?
3. What is the attitude of student teacher towards learning through online learning platform?

5.0 Delimitation of the Research:

The present study is delimited.

1. Integrated B.A.B.Ed. & B.Sc.B.Ed. programme
2. The study is delimited to students of Ganpati College of Education, Harmal.
3. The study is delimited to the 60 students teachers of integrated B.A.B.Ed. & B.Sc.B.Ed. programme only.

6.0 Research methodology:

The current study is a descriptive survey research study in which data from student teachers studying in 4th year of integrated B.A.B.Ed & B.Sc.B.Ed programme in the state of Goa is gathered using survey Method. Awareness and use of online learning platform by student teachers was gathered using a Questionnaire. Data was analysed by using percentages. In the research data was collected from 54 student teachers studying in 4th year of integrated B.A.B.Ed & B.Sc.B.Ed programme in the State of Goa by suing convenient sampling technique.

6.1 Data collection tools

The data gathering instruments in this study was a questionnaire consisting of 25 questions to test awareness and use of online learning platforms of secondary school teachers.

7.0 Data analysis

7.1 Objective 01: Find out the awareness of online learning platform among student teachers

Components	Yes	No	May be	other
Are you aware of the online learning platforms?	96.3%	0%	3.7%	0%
Do you think learning using online learning platforms is effective over traditional methods?	46.3%	18.5%	31.5%	0.7%
Are you aware of edX?	7.4%	90.7%	1.9%	0%
Do you think college should train student teachers on the use of e learning platforms?	90.7%	0%	7.4%	1.9%

Which of the following are the online learning platforms?

You tube	teachmint	Google classroom	All of the above
	2%	3.55%	94.45%

Which of the following reasons do you feel online learning platforms are essential for?

Academic requirement	Building professional competencies	Novel content
33.9%	49.2%	16.9%

Which among the following online platforms are you aware of that can be used for the purpose of assessment?

Teachmint	Google classroom	Kahoot	Quizzizz
37%	50%	0%	13%

Which among the following online platforms are you aware of that can be used for the purpose of uploading learning material?

You tube	Google drive	Microsoft one drive	Pinterest	iCloud drive	All of the above	None of the above
14.8%	35.2%	0%	33.3%	0%	14.8%	1.9%

How did you come to know about online learning platforms?

Teachers	Peers	Online advertisement	Hoardings	All of the above	None of the above
14.8%	9.3%	7.4%	0%	68.5%	0%

Learning skills are well developed via:

Online platform	Offline platform	Both
3.7%	20.4%	75.9%

How can one benefit from online learning platforms?

Interaction between student and teacher	Debate	Personal learning environment	Prepare learning aids
37%	1.8%	55.6%	5.6%

How does online platform affect learning among students?

Technology issues	Additional screen time	Lack of motivation	Other
50%	31.5%	9.3%	9.3%

What is your experience from online learning app?

It is comfortable	Situational changes are not suitable	Distracted with various activities at home	Helps in solving difficulties
24.1%	9.3%	29.6%	37%

How is online learning platform helpful to students?

Increase student participation	Generates interest among students	Improves discussion quality	All of the above
11.1%	29.6%	9.35	50%

7.2 Objective 2: Find out the use of online learning platform by a student teacher

Which of the following resource do you use in order to access internet?

Laptop	phone	Tablet	None Of The Above
3.6	94.4%	0%	2

Online learning platforms can be used as

Video based	One on one learning	Group learning	All of the above	None of the above
11.1%	4.2%	5.3%	77.8%	1.6%

Which of the following have you made use of in your preparation of lessons

You tube	Mind master	Eclipse crossword	diksha	other
75.9%	5.6	0%	5.5	13%

How often do you use online learning platform in the form of videos etc in your lessons (practice teaching/ internship/ peer teaching)?

Very often	Sometimes	Not so often
42.6%	51.9%	5.6%

Which of the following tasks can be performed using Teachmint?

Uploading content	Online lectures	Attendance	quizzes	assessment
13%	68.5%	7.4%	1.8%	9.3%

7.3: Objective 03: Find out the attitude of student teachers towards online learning platform

Component	Strongly agree	Partially agree	Agree	disagree
For effective teaching learning process, use of e learning platform is very essential	38.8%	33.3%	25.9%	1.8%
IT infrastructure is available to student teachers	5.5%	42.6%	27.77%	24%
Uploading notes online helps in saving paper & time	50%	25.9%	20.37%	3.7%
Online learning platform helps you with your coursework.	20.37%	37.03%	40.74%	1.8%
Online learning platform helps students to learn new skills and capabilities	38.9%	33.3%	24.07%	3.7%
Online learning platforms builds independent learning and study habits,	35.18%	38.8%	22.22%	3.7%

Findings:

1. Most of the student teachers are aware of online learning platform and believe that think learning using online learning platforms is effective over traditional method.
   Most of the student teachers are of the opinion that teacher training colleges should train them for use of online learning platforms.
2. Most of the student teachers are of the view that online learning platform will help them in building professional competencies, many also feels that it helps them in their academic improvement.
3. Most of the students are aware about goggle classroom and many are few are aware about teachmint and very few knows about quizzes and Kahoot.
4. Few student teachers opine that they got to know about online learning platform from teachers, hoardings and peers.
5. Most of the student teacher feels that online learning platform helps in providing individual learning environment, many also feels that it is useful for interaction between teachers and students.
6. Most of the student teachers have use you tube to see videos and use them in preparing lessons whereas very few are there who have use platform like Diksha etc .
7. Many students have use teachmint online platform to take only for online classes, while very few are there who have used it for attendance purpose.

References

Suherdi, D. (2012). Towards the 21st century English teacher education: An Indonesian perspective. Bandung: Celtic Press.

Kongchan, C. (2012). How a non-digital-native teacher makes use of Edmodo. In International Conference: ICT for Language Learning, 5th Edition. Florence.

Educating Youth for Nonexistent/Not Yet Existing Professions - Scientific Figure on ResearchGate. Available from: https://www.researchgate.net/figure/Partnership-for-21st-Century-Skills-2009-Framework-for-21st-Century-Learning_fig1_327898278 [accessed 22 Jan, 2023]

Archambault, et all. (2016). Professional development 2.0. Journal of Digital Learning in Teacher Education, 2974(April), 2153–2974.

DIGITAL TECHNOLOGY TOOLS FOR IDENTIFICATION AND REMEDIATION OF STUDENTS' MISCONCEPTIONS

Rajendra L. Chavan[1] & Dr. Vidyanand S. Khandagale[2]
[1] *Assistant Professor, P.E.S's College of Education, Farmagudi, Ponda, Goa, India*
[2] *Assistant Professor, Department of Education, Shivaji University, Kolhapur (MS), India*

Abstract

Misconceptions are beliefs that contradict current scientific knowledge. They are difficult to identify and resistant to change. Misconceptions can have a negative impact on how new scientific concepts are learned, yet they are rarely measured in academic courses. Early detection of misconceptions is crucial for efficient teaching, but it is a tough task for teachers since they either overestimate or underestimate pupils' previous knowledge. Use of Digital Technology tools in the classroom enhances the conceptual understanding of the students. In the present paper researchers tried to analyse and suggest different Digital Technology Tools e.g. mindmeister, miro, lucidspark, mindmup, Socrative etc to identify and remediate the students' misconceptions. The present paper is solely based on secondary source of data.

Keywords: *Digital Technology Tool, Misconception Identification, Misconception Remediation etc,*

Introduction

Students from various disciplines enters in the class with a variety of misconceptions or incorrect pieces of prior knowledge. These can include concepts, interpretations, and beliefs about the world around us. Misconceptions in the natural sciences are frequently the consequence of human experience and encounters with the actual world. Misconceptions are significant because all new knowledge is evaluated, examined, and stored in relation to prior knowledge. When existing knowledge is faulty, new knowledge can be stored incompletely, incorrectly, or independently, resulting in an even larger inaccurate and disconnected knowledge base. Proper and incorrect ideas might coexist for years before the correct information takes over. Evidence reveals that if misconceptions are not addressed immediately, consistently, and aggressively, they do not alter. Misconceptions are exceedingly ubiquitous, and they can be particularly resistant to training. There are numerous ways in which knowledge might be incorrect, as well as numerous explanations for why it can be so persistent. There are several ways that instructors might employ to overcome students' misconceptions. Detecting misconceptions at an early stage may assist the student in gaining interest and confidence. During class presentations, digital technology tools are used to communicate, scaffold, and clarify course topics and content while engaging students with information. Also, outside of class, digital technology tools are employed as a collaboration tool in mediating and negotiating learning between the teacher and students, as well as between students. Use of Digital Technology tools in the teaching-learning process enhances the conceptual understanding of the students and will helpful to rectify and remediate students misconceptions.

Objective:

The main objective of the present paper is to analyse and suggest different digital technology tools for identification and remediation of students' misconceptions

Meaning of Misconceptions

A misconception is a belief, view, or opinion, which is incorrect. Misconception means "false or mistaken view, opinion or attitude" (Collins Concise English Dictionary 1988). Literal meaning of misconception is a mistaken notion. Misconception, inaccurate view, false opinion, incorrect and premature understanding exist in all age groups of students as well as people throughout the world. Misconceptions are erroneous beliefs that pupils developed which may differ from scientifically recognised concepts (Kose, 2008).

In literature, Different researchers have been used various terms to describe misconception as spontaneous conceptions (Mestre & Touger,1989), naive beliefs (Caramazza, McCloskey & Green, 1981), alternative ideas (Haslam & Treagust, 1987), erroneous ideas (Fisher, 1985), preconceptions (Posner et al, 1985), multiple private versions of science (McClelland, 1984), underlying sources of error (Fisher & Lipson, 1986), personal models of reality (Champagne, Gunstone & Klopfer, 1983), spontaneous reasoning (Viennot, 1979), misconceptions (Amir, Frankel & Tamir, 1987), persistent pitfalls (Meyer, 1987), common sense concepts (Halloun & Hestenes, 1985), spontaneous knowledge (Pines & West, 1986), misunderstanding (Perkins & Simons, 1987), alternative conceptions (Gilbert and Swift,1985), alternative frameworks (Driver & Easley, 1978), conceptual stumbling blocks (Narode,1987), prescientific conceptions (Good, 1991), and children science (Gilbert, Watt& Osborne, 1982), naïve theories of alternative conception (Trowbridge & Mintzes, 1985). Although the term misconception is still dominant in the literature.

Types of Misconceptions

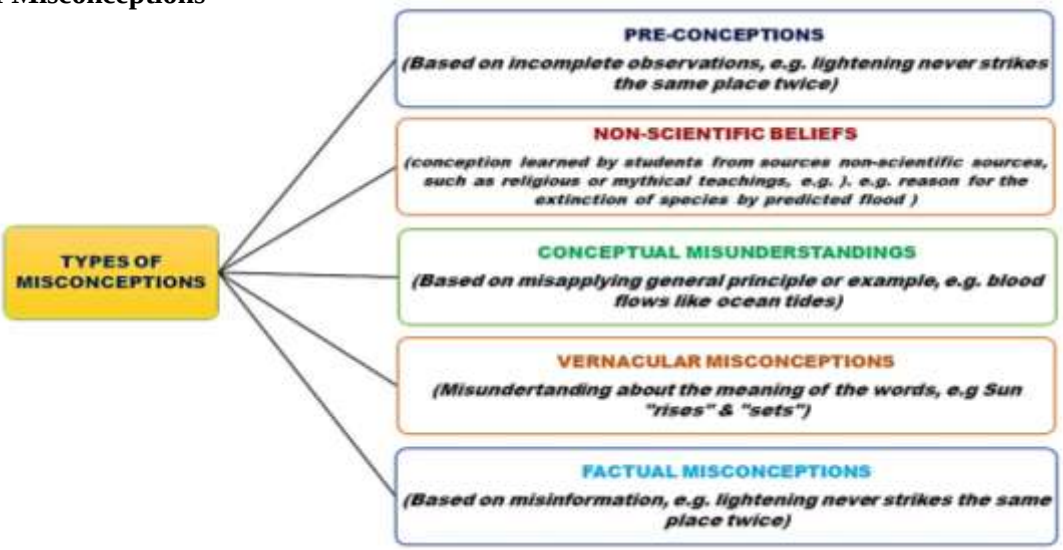


Fig.1: Types of Misconceptions

Science Teaching Considered: A Handbook (NRC, 1997) stated five types of misconceptions among students i.e. Factual misconceptions, vernacular misconceptions, conceptual misunderstanding, non-scientific beliefs and pre-conceptions.

Common Sources of Misconceptions

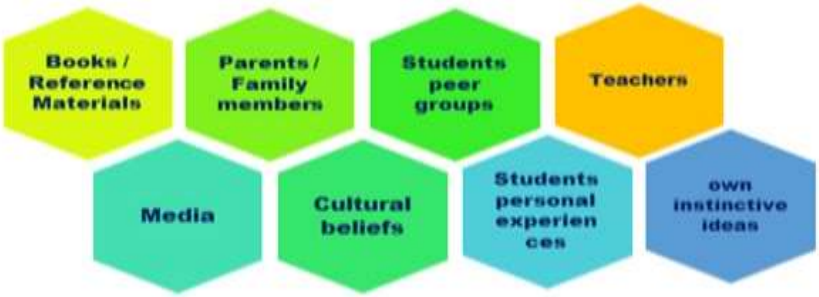


Fig. 2: Common sources of misconceptions

When students attend a science classroom, they all bring some misconceptions with them from their previous experiences. Common sources of student's misconceptions are, books or reference materials, parents or and family members, students peer groups, teachers, media, cultural beliefs, students' personal experiences and students own instinctive ideas.

General Tools and Techniques for Identification of Misconceptions

According to a review of the linked literature, a variety of methodologies and procedures have been utilised to discover students' misconceptions in the science area. The majority of the general tools, techniques, methods and approaches were Multiple choice tests, Word association tests, Two and Three Tier Diagnostic tests, Drawings, Conceptual change text, Concept inventories, Clinical Interviews for Individual /Group, online diagnostics tests and open-ended questionnaires, Concept Maps, Observation, Mind Maps, Role Playing, Card Sort, Structured Communication Grid , Scientific apparatus, Models etc. used for identify and remediate students' misconceptions.

Digital Technology Tools:

NEP-2020 given emphasis on the use of digital platforms and ICT-based educational initiatives in teaching learning process. Many apps, software, and platforms support communication, collaboration, engagement, and curriculum creation for learners in any context. Social media, online games, multimedia, and mobile apps are tools that both students and teachers can use to interact. In the context of nature, types and sources of students misconceptions suggested some Digital technology tools to identify, diagnose and remediate students' misconceptions.

Following are some proposed tools for identification and remediation of students' misconceptions

MindMeister	MindMeister is a knowledge-based collaborative mind mapping application that students can use to grasp and connect concepts, ideas, and information. Mind maps assist users in gathering ideas and knowledge about a specific topic. Mindmeister has various applications beyond from mind mapping, such as to-do lists, project planning, schedule design, and brainstorming. It will be useful in determining the students' misconceptions regarding the core subject.
Miro	Miro is excellent concept mapping tool that allows for real-time collaboration. Teachers can start to construct concept map with a predefined template and then edit it. Miro's key features include built-in video chat and comments, presentation mode to show concepts to students, colourful sticky notes and emoticons in the maps, and the ability to add other information to the same board. Miro tool may be useful to diagnose students' misconceptions and also may be used in the remedial programme.
Lucidspark	Lucidspark is an excellent concept mapping application that gives you with an easy-to-use canvas on which you may visually describe and share your ideas and concepts. Begin with a pre-made concept map template and fill in the blanks with your own thoughts. Insert sticky notes and shapes, do freehand drawing, add text, link multiple nodes, and more. Lucidspark tool may be effective for identifying student misconceptions.
MindMum	MindMup is another mind mapping programme that allows you to create an unlimited number of mind maps. Everything you produce on MindMup is saved online for you to view at any time, from any device. More crucially, 'Maps saved to MindMup Cloud support continuous editing for teams and classes, allowing you to see improvements made to your map by other users instantly'. Mindmups can help with concept map conceptualization and also teacher may use it as remedial programme.

Kahoot	Kahoot! is a question-and-answer-based educational platform. Teachers can use this tool to generate quizzes, conversations, and surveys to supplement academic teaching. The information is shown in the classroom, and students answer questions while playing and learning. Kahoot! encourages game-based learning, which boosts student engagement and fosters a dynamic, sociable, and enjoyable learning environment. Kahoot tool will be useful for preparing misconception diagnostic test.
Socrative	Socrative purports to be "your classroom software for entertaining, effective classroom interaction". In a word, it is a cloud-based student response system that allows teachers to rapidly test student understanding through mini-quizzes administered on class laptops or tablets. Multiple choice, graded short answer, true-false, and open-ended short response quizzes are all options. The strength of Socrative is its "on the fly" assessment mechanism (identification and diagnosis), which provides teachers with useful and quick feedback (useful in the remedial programme).
Interviewstream	Interviewstream is a video interviewing platform with a slew of useful features for its users. These features range from one-on-one video chats to panel-style interviews with up to 20 participants. Another intriguing feature of this application is that it includes a platform for preparing your prospects for interviews. In this way, we can use interviewstream to create a remedial programme for students' misconceptions. Also we can use Interviewstream to diagnose students individual misconceptions.
Chemix	Chemix is a free **online** editor for drawing science lab diagrams and school experiment **apparatus**. Designed for both students and school teachers, making diagrams of laboratory equipment and science experiments is easy and intuitive. Based on the drawing tool Chemix will be helpful for teachers to construct drawing misconception test for students. Definitely Chemix tool will be useful for conceptual change remedial programme for students
Analogy Quiz	Analogy quiz can be very useful in problem-solving because they give you the ability to project the underlying logic from one thing to another. This can be an exceptionally powerful tool to have in your arsenal. Teachers can use analogy quiz tool for identify and diagnose common misconceptions of the students.
Prezi	Prezi is a digital software for creating interactive presentations. Prezi helps you make presentations – by zooming, leads to more effective, more persuasive, more effective, and more engaging presentations than presentations made with PowerPoint. Prezi is interesting digital tools for classroom that would help you keep the attention of the kids and useful for misconception remediation programme.
Auto Draw	Auto Draw provides almost everything a drawing editor has to offer, including a beautiful broad canvas to draw on. Use the Draw tool to draw whatever you want, then select colours from the colour picker. You can also use the Type tool to add text and/or the Shape tool to create various shapes. You can move, rotate, and resize things as you see fit, and when you're finished, you can save your work in PNG format to share with others. Auto draw tool will be useful for teachers to construct misconceptions achievement test for their students.
Google Classroom	It is one of the popular and free educational apps for students, it can be used for conducting online classes, holding debates, assessment of essays and their grading. It can be used to elicit feedback, exchanging ideas and other educational materials and resources. It provides improved communication experience and a rapid grading system. It will be helpful with many ways to diagnose and remediate students' misconceptions.

Summary

Misconceptions are impediments to successful teaching and learning. It causes difficulty and may lead to a lack of interest in conceptual understanding. Early detection of student misunderstandings may assist teachers in developing remedial programmes and increasing student interest in the subject. Teachers should be well informed and equipped with resources for identifying misconceptions, tactics, strategies, and abilities, so that students can learn more effectively. According to the nature, types and sources of the students misconceptions different traditional tools, techniques, methods are used to diagnose and remediate students misconceptions. Based on the principles and implementation of the traditional tools-techniques and the rigorous use of the proposed digital technology tools would be useful for teachers to identify and remediate students' misconceptions as well as making cognitive comprehension relevant.

References:

Abimbola, I. O. (1988). The problem of terminology in the study of student conceptions in science. Science Education, 72, 175-184. Retrieved Jan. 9th, 2023, From: https://onlinelibrary.wiley.com/doi/10.1002/sce.3730720206

Amir, R., Frankl, D. R., & Tamir, P. (1987). Justifications of answers to multiple choice items as a means for identifying misconceptions. Proceedings of the Second International Seminar: Misconceptions and Educational Strategies in Science and Mathematics, 1, 15–25.

Bahar, M.(2003). Misconceptions in Biology Education and Conceptual Change Strategies. Educational Sciences: Theory & Practice, 3, (1), 27-64. Retrieved Jan 8th, 2023. From https://www.researchgate.net/publication/285749401_Misconceptions_in_biology_education_and_conceptual_change_strategies

Caramazza, A., McCloskey, M., & Green, B. (1981). Naive beliefs in "sophisticated" subjects: misconceptions about trajectories of objects. Cognition, 9(2), 117-123.Retrived, Jan 7th, 2023. From https://doi.org/10.1016/0010-0277(81)90007-X

Champagne, A. B., Gunstone, R. F., & Klopfer, L. E. (1983). Naive knowledge and science learning. Research in Science & Technological Education, 1(2), 173–183. Retrieved, Jan 4th, 2023. From, https://doi.org/10.1080/0263514830010205

Chavan, R. L. & Patankar, P. S. (2016). Constructivist Strategies for Minimization of Science Misconceptions among School Students, National conference Proceeding in Aayushi International Interdisciplinary Research Journal (AIIRJ), Special Issue, pp.1-7. Retrived, Jan 2nd, 2023. From, http://www.aiirjournal.com/uploads/Articles/1477746888merged_document_7.pdf

Chavan, R. L. & Patankar, P. S.(2015). Conceptual Change Strategies for Minimizing the Science Misconceptions, National Conference Research Paper Journal, Special Issue, pp.127-130

Driver, R., Leach, R., & Millar, P. S. (1996). Young people's images of science. Buckingham: Open University Press. Retrived, Jan. 1st, 2023. From, https://files.eric.ed.gov/fulltext/ED393679.pdf

Edwards, S., & Cooper, N. (2010). Mind mapping as a teaching resource. The clinical teacher, 7(4), 236-239.

Fisher, K. M. (1985). A misconception in biology: Amino acids and translation. Journal of Research in Science Teaching, 22 (1), 53-62. Retrived, Dec. 25th, 2022. From, https://doi.org/10.1002/tea.3660220105

Gilbert, J., & Swift, D. (1985). Towards a Lakatosian analysis of the Piagetian and alternative conceptions research programs. Science Education, 69, 681-696

Good, R. (1991). Editorial. Journal of Research in Science Teaching , 28 , 387.

Haloun, I. A., & Hestenes, D. (1985). The initial knowledge state of college students. American Journal of Physics, 53, 1043-1055

Haluk Özmen (2007).The effectiveness of conceptual change texts in remediating high school students' alternative conceptions concerning chemical equilibrium, Asia Pacific Education Review, 8(3):413-425 DOI: 10.1007/BF03026470

Haslam, F., Treagust, D.F. (1987). Diagnosing secondary students' misconceptions of photosynthesis and respiration in plants using a two-tier multiple choice instrument. Journal of Biological Education, 21:203-211.

Khandagale, V. S. & Chavan, R. L. (2017). Identification of Misconceptions for Gravity, Motion and Inertia among Secondary School Students, Aayushi International Interdisciplinary Research Journal (AIIRJ), 4 (11), pp.197-205.

Kieran, Egan. (1972). Structural Communication-a New Contribution to Pedagogy, Programmed Learning and Educational Technology, 9:2, 63-78, Retrived, Dec. 20th, 2022. From, https://doi.org/10.1080/1355800720090203

McClelland, J. (1984). Alternative frameworks: Interpretation of evidence. International Journal of Science Education, 6, 1-6.

Mestre, J., & Touger, J. (1989). Cognitive research--What's in it for physics teachers? Physics Teacher, 27 , 447-56.

Novak, J.D. Gowin, D.B. (1984). Learning How to Learn. New York: Cambridge University Press

Pines, A., & West, L. (1986). Conceptual understanding and science learning: An interpretation of research within a source of knowledge framework. Science Education, 70(5), 583-604.

Posner, G. J., Strike, K. A., Hewson, P. W., & Gertzog, W. A. (1982). Accommodation of a scientific conception: Towards a theory of a conceptual change, Science Education, 66(2), 211-227.

Ross, Pauline M.; Tronson, Deidre A.; Ritchie, Raymond J.(2008). Increasing Conceptual Understanding of Glycolysis & the Krebs Cycle Using Role-Play, American Biology Teacher, v70.n3 p163-168.

Sacit Köse (2008).Diagnosing Student Misconceptions: Using Drawings as a Research Method, World Applied Sciences Journal, 3 (2): 283-293.

Smith, J. I., Combs, E. D., Nagami, P. H., Alto, V. M., Goh, H. G., Gourdet, M. A., Hough, C. M., Nickell, A. E., Peer, A. G., Coley, J. D., ... Tanner, K. D. (2013). Development of the biology card sorting task to measure conceptual expertise in biology. CBE life sciences education, 12(4), 628-44.

Tamir, P. (1989). Some issues related to the use of justifications to multiple-choice answers. Journal of Biological Education, 23, 285-292.

Tekkaya, C. (2003). Remediating high school students' misconceptions concerning diffusion and osmosis through concept mapping and conceptual change text, Research in Science & Technological Education, 21(1), 5 -16

Trowbridge, J. E., & Mintzes, J. J. (1985). Students's alternative conceptions of animals and classifi cation: A cross-age study. Journal of Research in Science Teaching, 25 (7), 547-571.

Viennot, L. (1979). Spontaneous reasoning in elementary dynamics. European Journal of Science Education, 1, 205- 221

Wandersee, J. H. Mintzes, J. J., Novak, J. D. (1994). Research on alternative conceptions in science. In D. Gabel (Ed.), Handbook of Research on Science Teaching and Learning: A Project of the National Science Teachers Association, 177-210, New York: Macmillan.

Web Resources:

https://www.socrative.com/

https://www.controlaltachieve.com/2017/04/google-autodraw.html

https://edu.google.com/intl/ALL_in/for-educators/product-guides/classroom/?modal_active=none

https://chemix.org/

https://interviewstream.com/

https://www.mindmup.com/

https://kahoot.com/

A CHANNEL TO UPGRADE TEACHER EDUCATION IN THE DIGITALIZED ERA: AUGMENTED REALITY

Siena Fernandes[1] & Shruti U. Sawant[2], Jane Gomes[3] & Manisha N. Marathe[4]
[1]Assistant Professor
[2-4]F.Y B.S.C B.Ed, Ganpat Parsekar College of Education, Harmal- Goa
Affiliated to Goa University, Goa, India

Abstract

The global educational landscape has undergone a significant transformation thanks to digitization. In the area of education, many web 2.0 and web 3.0 solutions are becoming more and more popular. Augmented Reality (AR) is adding three dimensions to the user experience of the internet, which is gaining attention in the educational system.AR is becoming a potent tool for improving the efficiency of teaching and learning. The incorporation of these technologies in pre-service instruction could be a stepping stone in the evolving nature of the teaching-learning process in the age of digitization. This study aims at understanding the teachers' viewpoints on integrating AR into teacher education. The objective of the study was to have a deep understanding of the usefulness of AR in a teacher education institution. For the study, pre-service teachers and teacher educators from Ganpat Parsekar College of Education, Harmal - Goa were selected. A questionnaire was designed and used to collect the data from the participants through Google forms. According to the study, teacher training institutions can benefit greatly from AR. It is extremely beneficial to the teaching community in this digital age as it aids in the dissemination of useful knowledge to the students. Most educators favour using augmented reality (AR) in the classroom because they believe it benefits kids more. Teachers are also prepared to use AR technology if they have the necessary resources -training, infrastructure, internet access, and administrative and parental support and are well-equipped to do so.

Keywords: *Augmented Reality, Teacher Education, Digitalised Era.*

Introduction

In today's world, technology is taking a front seat in every field. It has brought tremendous change in the life of the people. The Education sector also technology plays a very important role. In the Vedic period, the teacher used to transact lessons using the traditional method of teaching. Nowadays education system has undergone a drastic change. At every step, we see the use of technology in the education system. Advanced teachers should be proficient and compatible with their content knowledge and also in the delivery of instructions to make learning fascinating and meaningful. They should bring novelty to their teaching by incorporating various techniques, strategies, and technology in the teaching-learning process to develop the cognitive, affective, and psychomotor domains of the children. With the rapid use of technologies in the field of education today's teachers should know as well as be well-equipped to use such types of technologies to give a real-life experience to the students for better learning. Augmented learning is such a type of technology that gives an immersive learning experience to people. Augmented Reality has a great impact in the context of education.

Augmented Reality and Education

An enhanced version of reality created by the use of technology to overlay digital information on an image of something being viewed through a device (Merriam-webster dictionary). AR technology in the classroom has the potential to improve and promote learning abilities, motivation, problem-solving abilities, and learning achievement among students (Vuta, 2020;Lafargue, 2018). Various advantages of AR in the educational field were, it improves academic gain, the retention of learning extended for a longer period, and students feel motivated to learn through AR applications (Garzon et al. 2019).

This paper, therefore, has investigated the views of the teacher's educators and pre-service teachers of Ganpat Parsekar College of Education on Augmented Reality. Their views are thought to give the readers an idea that whether they are aware of AR technology and their views about incorporating AR

in Teacher Education. Since the teacher is a vital component of the education system and they should be aware of all the technologies used in the education sector. This paper is thought to light how AR can be implemented in education and discusses the challenges of the same.

Research questions

1.As a Future Teacher would you prefer
(a) Traditional method of teaching
(b) Digital based teaching
(c) Digital based teaching blended with traditional method of teaching
2. Are you aware about the concept of Augmented Reality?
3. According to you, which among the following do you think is an example of Augmented Reality used in daily life?
4.Do you think integration of Augmented Reality in classroom teaching can make the lessons interactive?
5.Do you think use of Augmented Reality should be a part of B.Ed curriculum? If yes, How?
6.What are the benefits of using Augmented Reality in teacher education?
7.According to you what challenges can be faced if we implement Augmented Reality in teacher education?
8.Suggest some remedial solution in your opinion
9.Are there resources available in teacher education institution for successful implementation of Augmented Reality?

Objective of the Study:

1.To study the attitude of the teaching educators and pre-service teacher towards Augmented Reality in education.
2.To study the effectiveness of Augmented reality in teacher education
3.To study the concerns of the teacher educators and Pre-service teachers towards augmented reality in teacher education.

Method

A survey method was used to conduct the present study.

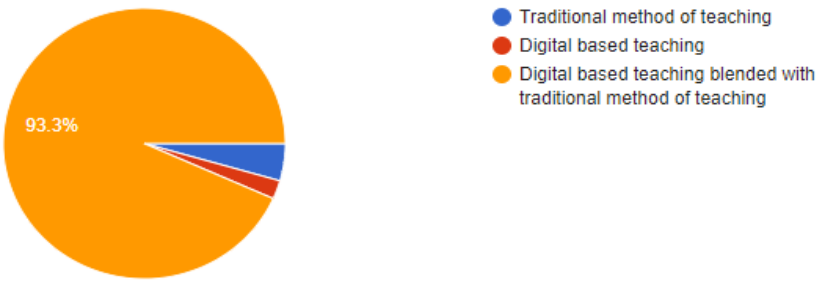
Participants

The sample of the study consists of 50 participants which includes teacher educators and pre-service teachers from GPCOE.

Data Analysis and Interpretation

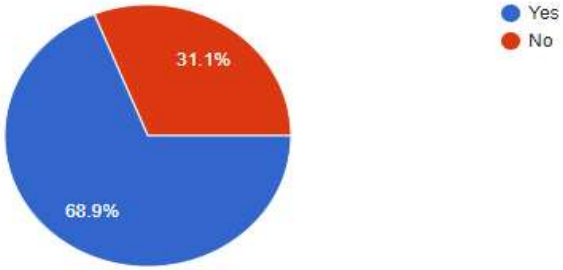
The data collected from the Primary source using the questionnaire were analysed and the findings are discussed below.

As a Future Teacher would you prefer (a) traditional method of teaching (b) Digital based teaching (c) Digital based teaching blended with traditional method of teaching?



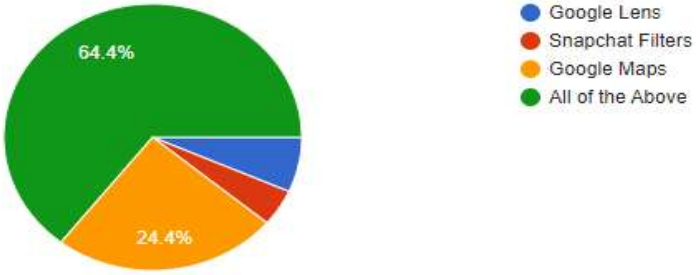
Out of the responses collected 93.3% of participants preferred the digital based teaching blended with traditional method of teaching.

Are you aware about the concept of Augmented Reality?



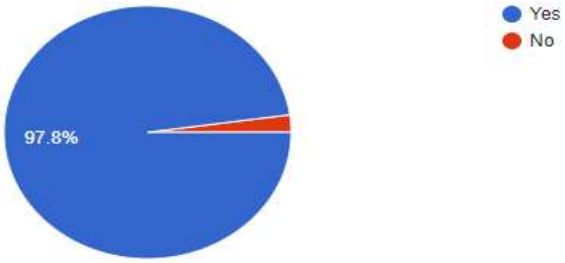
The evidence from the collected data shows that 68.9% were aware about the concept of augmented reality. While the rest 31.1% were unaware of the concept of augmented reality.

According to you, which among the following do you think is an example of Augmented Reality used in daily life?



64.4% of the participants were aware about the examples of augmented reality which are used in day today life.

Do you think integration of Augmented Reality in classroom teaching can make the lessons interactive?



97.8% are of the opinion that integration of augmented reality in classroom teaching can make the lesson interactive. Very few were in the opposition of using augmented reality to make lessons interactive.

Do you think use of Augmented Reality should be a part of B.Ed. curriculum? If yes, How?

Most number of the people was of the opinion that the use of augmented reality should be a part of B. Ed curriculum giving valid reasons and strategies as follows:

Augmented reality can bring a concept to life ,thus increasing students' clarity. It will create interest among students and help them to understand the concept better. A future teacher should be equipped with all the skills required to transact lessons. They should know how to use digital technologies in their classroom. Making use of various technologies like 3D models in the classroom and demonstrating them in front of the students. Conducting projects/ assignments based on AR. The lessons can be

modified in such a way that the child feels he's a part of it. Sessions with hands-on experience for each student on various approaches and methods of AR. It would help the teachers to execute their lessons in a well-graded manner and doing so will also help the students as they would get a live experience in the classroom. It can help the B.Ed. teachers to learn about the effective use of augmented reality and apply it in their future teaching. The use of animation and graphics helps to understand more. It can give students a 3D understanding of required concepts. The teacher can use it to show the different phenomena to students. Some Apps can be created where the chapters can be seen in interactive content.

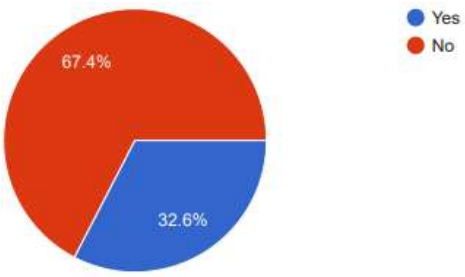
What are the benefits of using Augmented Reality in teacher education?

The Participants were of the view that augmented reality help to ease the teaching-learning process. It can grab the interest of the students. Better learning and more understanding take place when you incorporate augmented reality in education as it gives real experiences to the students. Proper Classroom management takes place. It will give students an imaginative way of learning as for them imagination is fun. It will make the teaching-learning process interesting. Augmented reality includes higher pupil engagement and unique pupil experience. It will make abstract concepts real. The teacher's explanation can be understood better if it is blended with augmented reality. It gives conceptual clarity to the students. It reduces verbosity as the use of augmented reality is self-explanatory. Students get an actual perception of the concept and this reduces the risk of misconceptions and misinterpretation. It inspires student minds, motivates students to learn, arouses curiosity, develops an interest in learning, teaches new skills, and enhances classroom experiences. It enhances creative thinking among students. Exposure to visuals students remembers what they see more than what they hear. Difficult lessons can be taught through AR.

According to you what challenges can be faced if we implement Augmented Reality in teacher education?

The study reveals that Technological problems and Technological issues are the major issues to implement augmented reality. Time constraints and the digital divide were other concerns. Availability of the resource, proper practice in technological aspect, presentation, and cost. Maintenance would be difficult. It is expensive. Proper training for teachers.Proper knowledge or training, not enough facilities. Students could be distracted and could get addicted more to technology. The availability of enough resources for each student. The teachers should be well trained and should have better knowledge and understanding otherwise it might create a problem. It would be a readymade kind of stuff wherein, not many efforts are shown by future teachers. Shortage of equipment or unskilled teachers. Internet Connectivity issues. Implementation will be a little difficult. Difficult to cope with in the beginning for students as well as teachers. Several problems may be faced due to internet connectivity and poor network. Lack of resources to implement AR.

Are there resources available in teacher education institution for successful implementation of Augmented Reality?



67.4% think that sufficient resources are available in the teacher education institution for successful implementation of Augmented Reality. While the rest 32.6% were unaware of the resources used for Augmented Reality

Suggest some remedial solution in your opinion

Participants were of opinion that awareness should be created and proper training should be given to teachers to use AR in their classrooms through the workshop. If it's funded by the government but managed and controlled by the Institute it could be used in the best way. The teacher must make sure that she understands how to make use of such tools effectively before implementing them. The school must have a good internet connection. Awareness amongst all stakeholders for AR should be done. Schools should be equipped with proper infrastructure.

Discussion

It revealed that the present study strengthens the result of the previous researches . Saidin, N & Abd halim, N., & Yahaya, N. (2015)revealed that AR technologies have a positive potential and advantages that can be adapted in education. MacCallum, K., & Parsons, D., (2019). revealed that the evolving nature of AR tools is leading to new ideas about how they may be applied in education. Almenara, J.C, et.al (2019) found a strong relationship between the motivation of the students when using the enriched notes and the increase of performance in the academic subject where it was used. it was proved that the use of Augmented Reality benefited the learning process . Oleksiuk,V.P,& Olesia, O.R.(2020) revealed that the use of augmented reality provides an opportunity to increase the realism of research; provides emotional and cognitive experience. This all contributes to engaging students in systematic learning; creates new opportunities for collaborative learning, develops new representations of real objects.

Figueroa Flores, J & Huffman, L. (2020) found that pre-service teachers believe in the potential of both technologies for the teaching and learning process and at the same time recognize the need to confront the lack of access and digital divide that students might face. It also showcases the need for more training, resources and research of these technologies in teacher education. Anuar,S.,Nizar, N.& Ismail , M.A.(2021) examined the impact of using augmented reality as teaching material on students' motivation. It was found that he use of Augmented Reality learning materials has a positive effect on student motivation based on the significant difference test results, and the percentage value of each motivational construct increased. Panda, B & Tripathy, M. K. (2021). revealed that the teacher education institutes of Odisha and the TEs & PSTs have adequate resources to use augmented reality in the classroom but the awareness level among them found to be very low.

Conclusion

The field of education is very dynamic in nature, so it cannot be unvarying. It needs to be changed, as per the need of the learner and the co-learner. They need to adjust themselves equally.

The study reveals that most teachers prefer digital teaching blended with the traditional method of teaching and feel that it is more beneficial to the students. The teachers are ready to incorporate AR technology provided they are well equipped with the training, infrastructure, internet connectivity, and parental and administrative support. Teacher education institutions should render proper pre-service training so that future teachers are well-furnished to accept this mode of the teaching-learning process. All in all Augmented reality is an innovative technology in the 21st century. All the teachers should know the same as it gas many advantages. If they are well equipped to use this technology they can help the learner in this digitalized era .

Bibliography

Anuar, S., Nizar, N., & Ismail, M. A. (2021). The Impact of Using Augmented Reality as Teaching Material on Students' Motivation. Asian Journal of Vocational Education And Humanities, 2(1), 1-8. https://doi.org/10.53797/ajvah.v2i1.1.2021

Figueroa Flores, J & Huffman, L. (2020). Integrating AR and VR in Teacher Education: What Pre-service Teachers Perceive. Frontiers in Education Technology. 10.22158/fet.v3n4p5.

Garzón, J., Pavón, J. and Baldiris, S. 2019. Systematic review and meta-analysis of augmented reality in educational settings. Virtual Reality, 23: 447–459. https://doi.org/10.1007/s10055-019-00379-9

Lafargue, D. (2018). The Infuence of Mixed Reality Learning Environments in Higher Education STEM Programs:A Study of Student Perceptions of Mixed Reality Self-Efficacy, Engagement, and Motivation Using Augmented and Virtual Reality.[Dissertation, University of Louisiana, Lafayette], 2018. ProQuest 10932912

MacCallum, K., & Parsons, D., (2019). Teacher Perspectives on Mobile Augmented Reality: The Potential of Metaverse for Learning.

Merriam- Webster. (n.d.). Augmented Realityl. In Merriam- Webster Dictionary. Retrieved January 06, 2023, from https://www.merriam-webster.com/dictionary/augmented%20reality

Oleksiuk, Vasyl and Oleksiuk, Olesia (2020) Exploring the potential of augmented reality for teaching school computer science Proceedings of the 3rd International Workshop on Augmented Reality in Education (2731). ISSN 1613-0073

Panda, B & Tripathy, M. K. (2021). Adaptability and Awareness of Augmented Reality in Teacher Education. Educational Quest- An International Journal of Education and Applied Social Sciences. 12. 107-114. 10.30954/2230-7311.2.2021.7.

Saidin, N & Abd halim, N., & Yahaya, N. (2015). A Review of Research on Augmented Reality in Education: Advantages and Applications. International Education Studies. 8. 10.5539/ies.v8n13p1.

Vuț ă, D.R. 2020. Augmented reality technologies in education - a literature review. Bulletin of the Transilvania University of Braşov, Series V: Economic Sciences, 13(62).

INSTILLING HUMANITY IN SOCIETY BY STUDENT-TEACHERS

Astrilita L. Fernandes[1], Savia M. M. de Sousa[2]
[1]*Fourth year B.Sc. B.Ed., Ganpat Parsekar College of Education, Arambol, Goa*
[2]*Assistant Professor in Education, Ganpat Parsekar College of Education, Arambol, Goa*

Abstract

The qualities and abilities of the teacher, the foundation of education, are absolutely necessary for the educational process to be successful. In addition to academic growth, moral instillation must be prioritized for both academic institutions and society. Currently, teachers are facilitators rather than just information transmitters in the path of society's desire for more knowledge. In order for teachers to respond to the various demands of the student community, the existing teacher training institutions still have a lot of work to do in order to articulate innovations in terms of approach and pedagogy for the qualitative improvement of both students and society. We should instil these qualities in our students in addition to academic excellence to build a better society and an ethically rich society. Students here include both the teacher trainees as well as school students. The title of the paper is "Instilling Humanity in Society by Student-Teachers." In this context, society refers to the environment in which a student-teacher or teacher walks. Peers, co-workers, students, parents, and other nearby individuals are all included. This paper is an experiential one based on lived experience from student-teachers and teachers' point of view. It covers the change seen in the moral values of students in academic aspects. As educators, our primary concern along with academics is to foster or cultivate these human characters to build a humane society in the future. Additionally, it discusses the importance of teaching humanity to society as a teacher's concern and how it can be taught to teachers through the teacher trainee program and in future as a teacher, how to pass it on to their students in order to create a very humane society.

Keywords: *Humanity, Humanity in Education, Society, Teacher-Trainee Institute, Student-Teacher, B.Ed. Curriculum, etc.*

INTRODUCTION

"It is the calling of the humanities to make us truly human
in the best sense of the word." — J. Irwin Miller

It's time to rethink the aims and objectives of the nature of the learning and teaching process. Are we fulfilling the desires of what our society needs to learn or has the learning-teaching process just turned into a hustle in completing our daily tasks?

The world moves at a faster pace than curriculum and schools, which then tends to resist the changes that their contexts place upon them. Education has not yet been able to understand nor proactively respond to the shifts that are occurring in public and private life. For education, its objectives have changed over the period of time.

Suzanne Collins, (Mockingjay) says, "We're fickle, stupid beings with poor memories and a great gift for self-destruction". Likewise, education stresses more on academic aims and basic education has been completely neglected in recent years which has led to undesirable humanism.

"Humanitas" means the development of human virtue, in all its forms, to its fullest extent. The term thus implied not only such qualities as are associated with the modern word humanity-understanding, benevolence, compassion and mercy but also much more assertive characteristics such as fortitude, judgment, prudence, eloquence, and even love of honour. We should instil these qualities in our students in addition to academic excellence to build a better society and an ethically rich society. As a result, the title of this research is "Instilling Humanity in Society by Student-Teachers."

Military force has been used to protect humanity especially in times of chaos. However, it is not the military that can save humanity; rather, each individual human needs to build humanity. Educational institutes play a vital role in instilling humanity in society.

We are aware that teaching and learning are not new activities. In the field of anthropology, the study of human ancestry and evolution is covered. The humanity ideology was also not developed overnight. It has been passed down through generations, but a glitch has caused changes that have changed the world's course completely. However, have these educational programs which include the teacher training institutes as well as our schools, also developed humanism-related qualitative characteristics?

HAS THE EDUCATION SYSTEM FAILED US IN BEING HUMANE?

The history of Indian teacher education can be broken down into two parts. The first section examines teacher education in India prior to independence, beginning with the traditional educational system before India became independent. The second section examines teacher education in post-independence India, from independence to the present day. Because a nation's progress is dependent on the quality of its teachers, teaching is the noblest profession. Teachers' roles, responsibilities, competence, and preparation have changed dramatically over time, but there has always been a need for teachers.

"All formal and informal activities and experiences that help to qualify a person to assume the responsibility as a member of the educational profession or to discharge his responsibility most effectively", is the definition of teacher education in Good's dictionary of education. Indian teacher education has been around for as long as Indian education itself.

Ancient and Medieval Period (2500 B.C. to 500 B.C.) At the beginning of Hindu civilization, teaching was concerned with the teaching of "Vedas". In Vedic India, the teacher enjoyed a special status and position. He was held in high esteem by society and this was due not only to learning and scholarship but also to qualities of head, heart and hand. The Guru or the teacher was an embodiment of good qualities, a fountain of knowledge and an abode of spirituality.

An advanced educational system was incorporated. In Madras, Dr. Andrew Bell started the experiment of the Monitorial System which formed the basis of a teacher training programme. Andhra University started a new degree the B. Ed. in 1932. The teachers should be trained in the art of teaching. How education can strengthen its contributions to reducing global poverty, fostering greater social stability and equity, and ensuring the development of individual capability and well-being is a major set of questions confronting national governments and education providers.

Petrarch is often referred to as the "Father of Humanism," and he once said that people should use their vast intellectual and creative potential to the fullest. "If you educate a boy, you educate one individual, but if you educate a girl, you educate the entire family. Similarly, if you educate a teacher, you educate the entire family and the entire community", has been said with great aplomb. It is to kindle his initiative, to keep it alive, to minimize the evils of the "hit and miss" process and to save time, energy, money and trouble of the teacher and taught. Teacher education is needed for developing a purpose and for the formation of a positive attitude toward the profession not only in students but also the society. The qualities and abilities of the teacher, the foundation of education, are absolutely necessary for the educational process to be successful. In addition to academic growth, moral instillation must be prioritized for both academic institutions and society. Currently, teachers are facilitators rather than just information transmitters in the path of society's desire for more knowledge. In order for teachers to respond to the various demands of the student community, the existing teacher training institutions still have a lot of work to do in order to articulate innovations in terms of approach and pedagogy for the qualitative improvement of both students and society.

For Frankl, the essence of human existence is "responsibleness". We are human because we have responsibilities to others, and more importantly, to life itself. Life demands that each of us find a way to make our time on Earth meaningful. A humanities education preserves the great accomplishments of the past, provides insight into and understanding of the world we live in, and provides the tools to imagine the future. It is through a humanities education that students are empowered to make moral, spiritual, and intellectual sense of the world.

OBSERVATIONS

In recent scholarship on higher education, the novel coronavirus pandemic (COVID-19) has been a popular topic over the past three years. The initial and emerging responses will continue to inspire critical reflection and subsequent research. From pre-covid to post-covid, a great deal of change occurred.

In 2019, I began my teacher preparation program as a trainee. I was exposed to a new and different environment after finishing high school. I had the unique opportunity to learn and gain experience in my chosen field. I still vividly recall the first day I met the principal when he asked me a straightforward question: "Why would you like to be a teacher?" And my response was straightforward: "The reason why I chose this profession is students themselves," I said. "The majority of students at the school level are in the age group of 10 to 16 years, and these years are very crucial to me". I think that students in this age group are like the young roots of a juvenile tree, which need to be fed all the nutrients they need, have the right scaffolding, and grow in the direction of the sun rather than being stunted. And the principal exclaimed, "That's something new!" "That's something new!" in astonishment. What I meant by the right nutrients and scaffolding was moral values alone.

A year after I joined as a trainee, the pandemic struck. It was hard to accept the restrictions. Starting with the use of technology in education, which, for someone like me who has never liked phones or screens, puts a lot of pressure on our eyes by making us stare at screens for a long time.

I propose splitting the covid era into three periods: periods prior to, during, and following covid. During these three time periods, I've noticed some changes. From the pre-pandemic period through the post-pandemic period, my experience as a student teacher provided me and my classmates with numerous opportunities to reflect on our own and our future students' circumstances. I've decided to use these experiences, observations, and reflections as the foundation for my points of discussion and advocacy in this paper.

- **Pre Pandemic**

  I was a trainee teacher, so I had to be around students. When we were sent to schools for observation or internships, I noticed that students and teachers shared a bond similar to mine with my high school teacher. Before the pandemic, things were normal. As a result, the teacher had a lot of interpersonal skills. Although I wouldn't say that we are all born with these abilities, being a teacher necessitates them. If we lack these abilities, we must acquire them. Teachers served as our compass; we formed close bonds with them through which we shared our challenges and sought advice. They would instruct us, provide us with advice, or introduce the counsellor to the students. Not only did teachers teach us academics, but they also taught us morals, and they cared about their students as if they were their own. We relied more on humans than technology. Due to our shared humanity, students relied more on experienced individuals than on Wikipedia.

- **During Pandemic**

  Things were alarming and frightening during the pandemic. People had just lost sight of what it meant to be human. While many people were in pain and in need of comfort but had no one to turn to, everyone was only concerned about themselves and their families. and taking into account

the educational establishments, teachers were in a precarious position. They didn't have enough training, and we all didn't have enough training to deal with situations where people don't care about other people or what should be done.

The new generation, also known as the covid generation, had lost touch with their teachers and relied more on technology and Wikipedia for answers since the introduction of technology into education. The student, in fact, the entire world, had the impression for a brief moment that there was no need for teachers because we could learn on our own. This created a barrier between the student and the teachers. Between each individual and humanity was a barrier. We all developed selfishness and other unpleasant traits or cruel characteristics.

- **Post Pandemic**

Even though the world was open once more following the pandemic, not everything remained the same. We, humans, have evolved. Additionally, when it came to education, students were left in a brand-new world that had just emerged from a battle, whether it was a global or an individual one. Students are confused and in need of direction; they also require assistance from an individual who can support them, comprehend their situation, and provide them with life direction.

However, as adults, we teachers failed to empathize. After seeing the true colours of humans, we felt that the entire world was mature enough. We have another situation in which, in addition to students, teachers have become addicted to technology because we were more dependent on it for two years and now find it difficult to move away from it. We teachers, thought it was a simple way to finish our section by sending notes and other study materials to it, but communication is still lacking.

WHAT NEEDS TO BE FIXED AND PUT INTO PRACTICE AS EDUCATORS?

As we observe that we have lost many moral virtues in this era, as educators, our primary concern along with academics is to foster or cultivate these human characters to build a humane society in the future. We must instruct because freedom comes with responsibilities. Being responsible is the beginning and the end of one's freedom, as you and the other person are both accountable for your actions.

We live in an emotionally wounded generation that is able to simply flip their humanity switch at any time and make the situation even worse. As future educators, we must improve our empathy. We need to develop our capacity for comprehending and calming not only our students but also the people around them, including their parents.

As teachers, we must participate in community service; exposure to lived experience and demonstrate empathy. If we possess such virtues of kindness, we can serve as role models for society. In teacher training programs, pragmatism, idealism, and naturalism must be presented as a single concept, not as three distinct ones. As teachers, we cannot just possess one of these; we must possess all of these isms. We are not just teachers who teach in schools; rather, we are educators, which means that our role extends beyond the classroom. As trainees, we must be taught how to communicate with the teacher. a paper on ways to mentor students or provide counselling is part of the curriculum. In order to get a good understanding of what exactly needs to be focused on, our training must include internships with special education organizations in addition to those in schools.

Mentoring sessions from counsellors with classmates with specialized speakers should be available at teacher training institutes for us to attend. This cannot be a one-way communication session and must include interaction. This may assist trainee teachers in the future in calming any of their students and improving their surroundings. Additionally, teachers must be able to solve problems, because making the right choice requires prior exposure to a variety of aspects of life. Because she is observed by the society and the society learns from her, a teacher must also make wise decisions. A teacher who attends

these sessions will gain moral wisdom. This session. This session must also produce a teacher who is courageous, tough, and not cowardly. Additionally, it will instil confidence in a teacher to advocate for justice and equity not only within the confines of the classroom but also throughout society.

CONCLUSION

The impact of COVID will not only be felt by those who have gone through it but it will also be felt for the next ten years—that is, the next ten generations. if we are properly prepared in this area of specialization, this would not only result in teachers of higher quality in the field of education, but it would also serve as a link of humanism between education and society.

As I had mentioned the reason behind why I chose this profession, I had said that "it's the students themselves". "The majority of students in the school level are in the age group of 10 to 16 years and the best time to feed them with all these virtues right from the start we will have a". I think that students in this age range are like the young roots of a juvenile tree, which need to be fed all the nutrients they need, have the right scaffolding, and grow in the direction of the sun rather than being stunted.

We need to structure our educational system in a way that emphasizes more than just passing a test; instead, it should include activities, quality time, and opportunities to learn about other people's points of view. This will allow us to meet people whose perspectives are different from our own, and it will also allow us to examine each person's life and the steps they need to take to become more compassionate people.

My conceptual theory will not only keep humanity alive, but it will also help make the world a better place. This was related to the subject of future teacher education programmes that extend beyond the classroom.

"The future of a B.Ed. trainee goes far beyond the four walls of the classroom.
A teacher's is foundation is to be humane, with freedom followed by responsibility"

- **A. Fernandes**

BIBLIOGRAPHY

Cameron, K. N. (1973). Humanity and Society: A World History (Monthly Review Press Classic Titles, 39) (Paperback). Monthly Review Press.

Freire, A. M. A. (2002). PAULO FREIRE AND THE UNTESTED FEASIBILITY. Counterpoints, 209, 7–14. http://www.jstor.org/stable/42979482

Paulo Freire (1921–1997) - Conceptual Tools, Philosophy of Education, Criticism. (n.d.). Students, World, Social, and Process - StateUniversity.com. https://education.stateuniversity.com/pages/1998/Freire-Paulo-1921-1997.html

Slater, J. J., Fain, S. M., & Rossatto, C. A. (2002). The Freirean Legacy Educating for Social Justice. Published in < B>2002 in New York by P Lang</i>.

Walker, M. M. M. (2013, October 1). Professional Education, Capabilities and the Public Good | The role of. Taylor & Francis. https://www.taylorfrancis.com/books/mono/10.4324/9780203083895/professional-education-capabilities-public-good-melanie-walker-monica-mclean

Walker, M., & McLean, M. (2015). Professional Education, Capabilities and the Public Good: The role of universities in promoting human development (Education, Poverty and International Development) (1st ed.). Routledge.

LEARNING AND GAMES IN LEARNING: A PERSPECTIVE TO IMPROVE STUDENT'S INVOLVEMENT

Dr. Kranti Shailesh Tol
Headmistress, Shantiniketan School, Kolhapur

Abstract

Teaching and learning processes in today's world have significant impact of tools that use advanced technology. Including artificial intelligence-based tools, gamification in learning processes have shown significant improvement in cognitive abilities of the students. The understanding depth is seen increased due to additional methods adopted over conventional methods. This paper discusses the significance of gamification in learning processes executed in classrooms and various analysis conducted by researchers in the field.

Keywords: *Gamification, Learning, Classroom tools, Analysis, Survey.*

I. Introduction

It seems that both the status of technology and how teachers use games are advancing swiftly. Tablet usage is expanding even though it is still not the main gaming device used in classrooms [1]. Although DGBL (digital game-based learning) and gamification use gaming elements in the classroom, they are very different educational approaches. Such a system strikes a careful mix between in-class instruction and instructional gaming. Teachers explain new ideas to their students and demonstrate how they operate. Students then put these ideas into practice by playing online games.

Gamification is the process of incorporating game aspects into lessons, such as leaderboards, levels, or points. This is done to increase pupils' engagement in lessons that may not be entertaining. Both of these approaches incorporate activities that many kids like performing outside of the classroom into their academic work. This increases students' general comprehension of key ideas and helps them pay attention in class. Figure 1 and 2 provide a perspective of learning process due to incorporation of gamification.

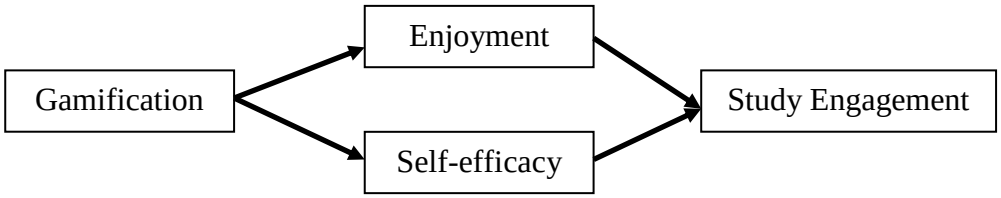


Figure 1: Gamification in learning: multi-impact system

Figure 2: Gamification and its perspective

Clearly, there are more and more digital games being used in the classroom. Teachers are aware that games provide a unique teaching tool that is both entertaining and simulates a hands-on or contextualised learning experience. The survey also confirms what one can see every day: committed

educators are willing to transform their classrooms through creative 'edtech' tool use, but they lack the funding and support needed to do so.

Children with varied cognitive profiles are exposed to the same learning method through the traditional school system. The chance to suggest cognitive stimulation techniques to boost cognitive development and improve the learning capacity of children with some learning disabilities is made possible by the variation between subjects in the same classroom [2] [3]. Moreover, due to the usual neuroplasticity traits of this stage of nervous system development, cognitive stimulation in elementary school students may be more successful than in adults [4].

The majority of research on the benefits of gaming for improving cognitive function do not employ real scholar routines; instead, the cognitive training is done in a lab setting [5], a child's home [6], or a quiet area at school [7]. Despite the fact that all studies found a significant increase in cognitive abilities for the experimental group (EG) compared to the control group (CG) after training, it is challenging to apply these findings to a real-world classroom setting because there are more distractions during the daily routine, training sessions will be held in groups, and there is only one teacher to oversee all students. Although there are few studies that have examined the impact of cognitive training on digital games in the school routine, the features of digital gaming, such as challenges, dynamic decisions, and fun [8], make them a suitable choice for cognitive stimulation in the school environment.

Tablets are being used in classrooms all around the world by schools as a novel approach to provide lesson material. In this instance, the technological gadget merely digitally copies the material covered in class. The Digital Education Project, which is being carried out in Brazil by the Ministry of Education, distributes tablets to federal public-school teachers and pupils. Therefore, the goal of this study is to determine if cognitive training through tablet-based electronic games enhances primary school children' performance in the area of attention. Although there is evidence from other studies that playing digital games regularly can improve cognitive development, the goal of our study is to determine whether results from an experimental setting can be applied to a typical school day in order to assess the viability of this investment in developing nations with limited educational resources.

II. Literature Survey

The attentional span reflects the ability to focus on relevant information and maintain the relevant information processing, while ignoring irrelevant distractors [9]. This ability is influenced by motivation, previous experience on task, time on 9task effect, and source of distraction, being related to efficiency on learning process [10]. Some researchers suggest that attention network is under strong genetic control, but can be improved by interventions during the development [11]. The longer periods of teachers' information exposition during the visual and noisy classroom common distractions make the proper attentional span an essential cognitive ability for effective learning. In addition, the selection of relevant information is very important since human brain does not have the capacity to store all the perceptual stimuli that it receives constantly [12]. The attention span is essential to executive functions because the performance of relevant information control to high-order cognitive processes (e.g., planning or decision making), making it an association with general learning capabilities [14]. Thus, training attention skills can be beneficent to the improvement of academic skills, like attention is related to general learning capacity. Studies that investigated the effects of digital games on cognitive performance are focused on ex post facto or quasi-experimental research design. The former method compares gamers 'and non-gamers' groups to evaluate the long-term effects of playing videogame across gamer's life. Several studies using this research design reported significant improvement in gamers cognitive abilities [15], but there is an important limitation to be noted, since there are no previous cognitive participants' assessments to evaluate whether the observed effect is due to individual

characteristics or was something actually developed by digital games. To minimize the effects of individual characteristics, the other experimental design (quasi experimental) performs the cognitive training using digital games and compares the cognitive assessment scores with CG (between scores obtained before and after for both groups).

Cognitive improvement by digital gaming training routine is observed by Shin et al. (2006) wherein the daily practice (15 min) of mathematics games during 5 weeks improved children's' math score on the regular academic test. Similarly, results are reported by Miller and Robertson [16] showing that 10 weeks' training (20 min daily) improved students' accuracy and speed of calculations. As observed in academic skills [17], some researchers reported that digital cognitive training by means of ''brain training'' software [18] and commercial games [19] can be applied to assess cognitive abilities which, after daily practice (15-30 min) for 5-8 weeks, can help improve inhibitory control, cognitive flexibility, or working memory. The wide variety of games and cognitive abilities investigated by researchers provide an opportunity to test the effects of other games on new cognitive processes (e.g., attention) to know the limits of the game-based cognitive training. Digital game elements such as coordinated activities connected to game tasks, which react to pertinent stimuli and track performance to achieve long-term goals, can serve as an effective training ground for attention span. In addition to these characteristics, examining the gaming routine in a classroom can serve as a useful model to assess the effectiveness of this technique for cognitive stimulation in a real-world educational setting.

The recent study suggests that routinely playing video games in class can lengthen children's attention spans. On the final exam, both groups improved their overall score, although the digital game TG had a larger improvement than the CG. The results of the D2 examination before and after treatment showed a correlation between time and the improvement of attention. Numerous studies examined the effect of digital games on cognitive function and came to conclusions that are comparable to ours [14]. The bulk of these studies use individual training, according to [6]. After four weeks of practice, fifteen minutes a day of digital gaming improved executive function, working memory, and processing speed. Alternatively, [16] found that ten weeks of twenty minutes a day of gaming improved cognitive performance on the Number Challenge Task. [19] reported similar findings, finding that daily (20 minute) training with digital games improved cognitive flexibility and selective attention in 82 students over the course of 6 weeks.

Study engagement is the term used to describe the enjoyable and gratifying aspects of learning, such as the enthusiasm, concentration, and immersion in academics [20]. Energy in the learning process displays a high level of mental energy. The ability to identify with learning and maintain a commitment to it is referred to as concentration. The term "absorption" refers to the sensation of comprehension and defines a student's focus on the subject matter and appreciation of the educational process [21].

Students who are self-sufficient will have high levels of self-assurance, constant confidence in their ability to perform tasks, and a willingness to exert effort to do so. With the task's successful completion, the pupils' confidence also qualitatively rises [22]. Additionally, students may be naturally motivated by gamification and have favorable attitudes toward its utilization in education [23]. In order to improve their academic performance and school performance, students can continuously modify their learning progress and learning techniques in accordance with the game components of the e-learning system, such as rankings, levels, challenges, and tasks.

To be more precise, gamification design education makes use of a variety of gamification components, which increases students' initiative and excitement for learning and concentrates on their actual requirements during the learning process [24]. Second, gamification design instruction can assist instructors in thoroughly comprehending and exploring the interactions between different elements of

the teaching process and their varied modes of expression, which not only aids instructors in understanding the fundamentals and laws of instruction but also aids learners in improving the effectiveness of their learning [25].

Teaching gamification design is helpful for enhancing teaching quality [26] [27]. In-depth, the transition from passive to active learning affects how pupils acquire knowledge. Additionally, gamification design instruction aids students in resolving their learning difficulties, piques their interest in the subject, and significantly enhances their academic achievement.

III. Conclusion

The impact of gamification compared to conventional learning process is discussed in this paper. The respective studies conducted by various researchers are also addressed. Based on survey, it can be concluded that, the gamification has significant impact on learning ability of the students. The performance scores analyzed by various researchers due to inclusion of games-based practices and learning methodologies, have shown significant improvement and enhanced cognitive abilities of the students. Various aspect considered here focuses on current trends of technology that make gamification possible in classrooms. The tools required for such aspects of teaching and learning process may require significant balance of funding to keep up the track of learning skills with that of state-of-the-art skill set requirements and overall performance improvement of students.

References

"Teachers Surveyed on Using Digital Games in Class | Games and Learning." https://www.gamesandlearning.org/2014/06/09/teachers-on-using-games-in-class/ (accessed Jan. 08, 2023).

Lee, J., & Jones, J. (2008). A brain education guide for successful aging. Sedona, AZ: Best Life Media.

McGonigal, J. (2011). Reality is broken: Why games make us better and how they can change the world. New York: Penguin Books.

Courage, M. L., & Richards, J. E. (2008). Attention. In Encyclopedia of infant and early childhood development. https://doi.org/10.1016/b978-012370877-9.00013-x.

Feng, J., Spence, I., & Pratt, J. (2007). Playing an action video game reduces gender differences in spatial cognition. Psychological Science, 18(10), 850–855. https://doi.org/10.1111/j.1467-9280.2007. 01990.x.

Nouchi, R., Taki, Y., Takeuchi, H., Hashizume, H., Nozawa, T., Kambara, T., et al. (2013). Brain training game boosts executive functions, working memory and processing speed in the young adults: A randomized controlled trial. PLoS ONE. https://doi.org/10.1371/journal.pone.0055518.

Halperin, J. M., Marks, D. J., Bedard, A.-C. V., Chacko, A., Curchack, J. T., Yoon, C. A., et al. (2013). Training executive, attention, and motor skills. Journal of Attention Disorders, 17(8), 711–721. https://doi.org/10.1177/1087054711435681.

Chen, M.-H., Tseng, W.-T., & Hsiao, T.-Y. (2018). The effectiveness of digital game-based vocabulary learning: A framework-based view of meta-analysis. British Journal of Educational Technology, 49(1), 69–77. https://doi.org/10.1111/bjet.12526.

Buschman, T. J., & Miller, E. K. (2007). Top-down versus bottom-up control of attention in the prefrontal and posterior parietal cortices. Science, 315, 1860–1862. https://doi.org/10.1126/science.1138071.

Burns, N. R., Nettelbeck, T., & McPherson, J. (2009). Attention and intelligence. Journal of Individual Differences, 30(1), 44–57. https://doi.org/10.1027/1614-0001.30.1.44.

Rueda, M. R., Rothbart, M. K., McCandliss, B. D., Saccomanno, L., & Posner, M. I. (2005). From The Cover: Training, maturation, and genetic influences on the development of executive attention. Proceedings of the National Academy of Sciences of USA, 102(41), 14931–14936. https://doi.org/10.1073/pnas.0506897102.

Matlin, M. W. (2004). Psicologia Cognitiva (4th ed.). Rio de Janeiro, RJ: TLC.

Diamond, A. (2013). Executive functions. The Annual Review of Psychology, 64, 135–168. https://doi.org/10.1146/annurev-psych-113011-143750.

Baniqued, P. L., Lee, H., Voss, M. W., Basak, C., Cosman, J. D., DeSouza, S., et al. (2013). Selling points: What cognitive abilities are tapped by casual video games? Acta Psychologica, 142(1), 74–86. https://doi.org/10.1016/j.actpsy.2012.11.009.

Boot, W. R., Kramer, A. F., Simons, D. J., Fabiani, M., & Gratton, G. (2008). The effects of video game playing on attention, memory, and executive control. Acta Psychologica, 129(3), 387–398. https://doi.org/10.1016/j.actpsy.2008.09.005.

Miller, D. J., & Robertson, D. P. (2010). Using a games console in the primary classroom: Effects of 'Brain Training' programme on computation and self esteem. British Journal of Educational Technology, 41(2), 242–255.

Rosas, R., Nussbaum, M., Cumsille, P., Marianov, V., Correa, M., Flores, P., et al. (2003). Beyond Nintendo: Design and assessment of educational video games for first and second grade students. Computers and Education, 40(1), 71–94. https://doi.org/10.1016/s0360-1315(02)00099-4.

Thorell, L. B., Lindqvist, S., Nutley, S. B., Bohlin, G., & Klingberg, T. (2009). Training and transfer effects of executive functions in preschool children. Developmental Science, 12(1), 106–113. https://doi.org/10.1111/j.1467-7687.2008.00745.x.

Homer, B. D., Plass, J. L., Raffaele, C., Ober, T. M., & Ali, A. (2018). Improving high school students' executive functions through digital game play. Computers and Education, 117, 50–58. https://doi.org/10.1016/j.compedu.2017.09.011.

Zhang, F., Feng, S., and Li, J. (2021). How does future focus promote study engagement? a moderated mediation model of self-esteem and dispositional awe. Psychol. Sch. 58, 203–216. doi: 10.1002/pits.22439

Siu, O. L., Bakker, A. B., and Jiang, X. (2014). Psychological capital among university students: relationships with study engagement and intrinsic motivation. J. Happiness Stud. 15, 979–994. doi: 10.1007/s10902-013-9459-2

Chiang, F. K., Zhang, Y., Zhu, D., Shang, X., and Jiang, Z. (2022). The influence of online STEM education camps on students' self-efficacy, computational thinking, and task value. J. Sci. Educ. Technol. 31, 461–472. doi: 10.1007/10.1007/s10956-022-09967-y

Yu, J., Huang, C., He, T., Wang, X., and Zhang, L. (2022). Investigating students' emotional self-efficacy profiles and their relations to self-regulation, motivation, and academic performance in online learning contexts: a person-centered approach. Educ. Inf. Technol., 1–26. doi: 10.1007/s10639-022-11099-0

Kim, E., Rothrock, L., and Freivalds, A. (2020). The impact of gamification on the motivation and performance of engineering students through the lens of self-determination theory. Int. J. Eng. Educ. 36, 1117–1131.

Prieto-Andreu, J. M., Gómez-Escalonilla-Torrijos, J. D., and Said-Hung, E. (2022). Gamification, motivation, and performance in education: a systematic review. Rev. Electrón. Educare 26, 251–273.

Hernández-Fernández, A., Olmedo-Torre, N., and Peña, M. (2020). Is classroom gamification opposed to performance? Sustainability 12:9958. doi: 10.3390/su12239958

Arufe Giráldez, V., Sanmiguel-Rodríguez, A., Ramos Álvarez, O., and Navarro-Patón, R. (2022). Can gamification influence the academic performance of students? Sustainability 14:5115. doi: 10.3390/su14095115

ONLINE FREE E-LEARNING PLATFORMS BY GOVERNMENT OF INDIA

Shri Chandrahas Laxman Hipparkar[1] & Prof. (Dr.) Vinay Dattatray Dhondge[2]
[1]District Institute of Education and Training, Kolhapur
[2]Azad College of Education, Satara, District – Satara

Abstract

Recently, the whole world has faced the deadliest and dangerous consequences due to the transmission of infectious novel coronavirus (nCov). In these circumstances, Electronic learning (E-learning), Online learning, and the use of Information and Communications Technology (ICT) tools came in handy. The initiatives at the forefront of this noble battle launched by the Department of School Education and Literacy, Ministry of Human Resources Development (MHRD) includes Shagun (SE Shagun), Diksha, Swayam, E-Pathshala, National Repository of Open Educational Resources, National Programme on Technology Enhanced Learning (NPTEL), Curriculum classes, E - Skill India, National Digital Library of India (NDLI), E - PG Pathshala. This research online free e - learning platforms by government of india a detailed information of most of the relevant initiatives.

Keywords: *Online, e-Learning, Digital, Education, Platform*

Introduction

An online learning platform is a webspace or portal for educational content and resources that offers a student everything they need in one place: lectures, resources, opportunities to meet and chat with other students, and more. It is also an excellent way for the student and the teacher to monitor student progress. Digital technology has unshackled learning, providing learners a wealth of opportunities to learn what they want to learn, how they want to learn, and where they want to learn with just a few clicks of the mouse.

The Government of India has developed several free e-Learning platforms for the learners across various branches. The aim of free e-Learning platforms is to keep the learning and the teaching system uninterrupted and ongoing. To overcome the prevailing COVID 19 crisis, the Government of India has taken several initiatives through the Ministry of Education and UGC. Not one but many free e-Learning platforms have been developed and launched by the Government of India in due course. following free e-Learning platforms developed by the Government of India.

1. Shagun –

School Education Shagun (SE Shagun) is an over-reaching initiative to improve the school education system. The initiative involves creating a junction in the form of a platform for all portals and websites of the Department of School Education in the Government of India and all States and Union Territories (UTs). The word 'Shagun' is coined from two different words – 'Shala', meaning Schools and 'Gunvatta' meaning Quality.

Shagun provides information on the following schemes of MHRD.

1. **Samagra Shiksha -** the largest intervention that covers all components of school education from classes 1 to 12 across all States and Union Territories.
2. **Mid-Day Meal -** the second largest scheme and caters to the nutritional aspects of the school going child.
3. **Other schemes**
    1. Adult Education Scheme
    2. Education Scheme for Madrasas and Minorities
    3. National Means cum Merit Scholarship Scheme
    4. Scheme for National Scheme of Incentive to Girls for Secondary Education
    5. National Awards to Teachers Scheme are also implemented by this Department.

Shagun provides information on the following institutions.

The Autonomous Bodies play an important role in implementing and regulating the policies of the Government. Each of these institutions,

1. Kendriya Vidyalaya Sangathan (KVS
2. Navodaya Vidyalaya Samiti (NVS)
3. Central Board of Secondary Education (CBSE)
4. National Council of Educational Research and Training (NCERT)
5. National Council for Teacher Education (NCTE)
6. National Institute of Open Schooling (NIOS)
7. National Bal Bhavan (NBB) and
8. Central Tibetan Schools Administration (CTSA)

Three E – Learning modes of platforms under Shagun portal.

1. e - Pathshala
2. National Repository of Open Educational Resources (NROER)
3. Digital Infrastructure for Knowledge Sharing (DIKSHA)

2. **DIKSHA- Digital Infrastructure for Knowledge Sharing (DIKSHA)**

DIKSHA is a national platform for school education, an initiative of National Council for Educational Research and Training (NCERT), under the aegis of the Ministry of Education (MoE). DIKSHA has been adopted by almost all the States, Union Territories, central autonomous bodies/boards including CBSE. DIKSHA can be accessed by learners and teachers across the country and currently supports 36 Indian languages. DIKSHA policies and tools make it possible for the education ecosystem (educationist, experts, organisations, institutions - government, autonomous institutions, non-govt and private organisations) to participate, contribute and leverage a common platform to achieve learning goals at scale for the country. DIKSHA is built on open source technology, made in India and made for India, which incorporates internet scale technologies and enables several use-cases and solutions for teaching and learning. Students having access to DIKSHA app will be able to understand concepts in an easy and interactive manner. There are features through which lessons can be revised. The app also facilitates the students to test his/her learning through self-assessment practice exercises.

You can download the DIKSHA Mobile Application to explore its out-of-box functionality and features. Use the mobile app to consume content created and maintained by your organization. The content is maintained and stored in the DIKSHA repository. You can consume all the content in the Library section and the Courses in the Course section of the app. You can view and edit your profile and change the basic settings of the app such as display language, ways of backing up data.

During the pandemic, the massive teacher's professional development programme NISHTHA 1.0 (National Initiatives for School Heads and Teacher's Holistic Advancement) for Elementary grades was launched online through DIKSHA. NISHTHA 2.0 & 3.0 focus on Secondary and Foundational Literacy and Numeracy. Apart from NISHTHA, several States/UTs have designed their own capacity building programs.

3. SWAYAM –

SWAYAM is a progamme initiated by government of india and designed to achieve the three cardinal principles of Education Policy viz., Access, Equity and Quality. The objective of this effort is to take the best teaching lerning resources to all, including the most disadvantaged. SWAYAM seeks to bridge the digital divide for students who have hitherto remained untouched by the digital revolution and have not been able to join the mainstream of the knowledge economy.

This is done through a platform that facilitates hosting of all the courses, taught in classrooms from Class 9 till post-graduation to be accessed by anyone, anywhere at any time. All the courses are interactive, prepared by the best teachers in the country and are available, free of cost to any learner.

The courses hosted on SWAYAM are in 4 quadrants –

1. Video lecture
2. Specially prepared reading material that can be downloaded/printed
3. Self-assessment tests through tests and quizzes and
4. An online discussion forum for clearing the doubts.

Steps have been taken to enrich the learning experience by using audio-video and multi-media and state of the art pedagogy / technology.

Nine National Coordinators :- In order to ensure that best quality content is produced and delivered, nine National Coordinators have been appointed. They are:

1. AICTE – (All India Council for Technical Education) for self-paced and international Courses
2. NPTEL - (National Programme on Technology Enhanced Learning) for Engineering
3. UGC - (University Grants Commission) for non technical post-graduation education
4. CEC - (Consortium for Educational Communication) for under-graduate education
5. NCERT - (National Council of Educational Research and Training) for school education 6. NIOS - (National Institute of Open Schooling) for school education
7. IGNOU - (Indira Gandhi National Open University) for out-of-school students
8. IIMB - (Indian Institute of Management, Bangalore) for management studies
9. NITTTR - (National Institute of Technical Teachers Training and Research) for Teacher Training programme

SWAYAM Certificate –

Courses delivered through SWAYAM are available free of cost to the learners, however learners wanting a SWAYAM certificate should register for the final proctored exams that come at a fee and attend in-person at designated centres on specified dates. Eligibility for the certificate will be announced on the course page and learners will get certificates only if this criteria is matched. Universities/colleges approving credit transfer for these courses can use the marks/certificate obtained in these courses for the same.

4. NROER – National Repository of Open Educational Resources

The National Repository of Open Educational Resources (NROER). NROER is developed by CIET, NCERT. It was launched during the National Conference on ICT (Information and Communication Technology) for School Education. NROER was launched on 13 August 2013 in New Delhi in collaboration with the Department of School Education and Literacy, Ministry of Human Resource Development, Government of India. offers resources for all school subjects and grades in multiple languages. You can access educational videos, audio, images, documents and interactive modules. Information about NROER and resource contribution is also available. Resources are available in about 29 diferent languages. NROER hosts large number educational resources in many subjects and in different Indian languages for Primary, Secondary and Senior Secondary classes. Resources are available in different formats like Video, Image, Audio, Document and Interactive. Apart from this all NCERT books are available in Flip book format. NROER is an collaborative platform, intend to reached the un-reached and institutions like SCERT, SIERT, SIE, Vigyan Prasar, CCERT, Gujarat Institute of Educational Technology (GIET), SIET and other stake holders have their share in the educational content.

Mission of NROER:-

1. To store, preserve and provide access to variety of digital resources for students and

teachers.

2. To enable the participation of the community in development and sharing of digital resources.

Objectives of NROER:-

1. To store, preserve and provide access to a variety of digital resources to students and teachers.
2. To enable the participation of the community in the development and sharing of digital resources.
3. To enhance the quality of the education system of the country.
4. 4. To facilitate teachers to create and share contextual teaching and learning resources.
5. To celebrate innovations in resource creation.

Charactestics of NROER

1. Resources are available in the form of discrete chunks in contrast to those available as
2. Bulk and make it difficult for a person to segregate information from them.
3. Eliminates the need of research from several places, since all resources on any
4. Particular subject or topic you desire are present in one place and are comprehensive.
5. Open access to anyone who wants to access the resources.
6. Resources are available for free.
7. Resources sometimes may need to be contextualized, by wraparound materials that
8. Support them.
9. Resources can be added to the NROER pool, subject to proper licensing.
10. Resources are share-able.

The media resources in the repository are organized according to subjects. The subjects are divided into 5 categories; Mathematics, Science, Social Science, languages and Art Education. Each subject has a listing of concepts. Various resources are collected and created around those concepts. Teachers can access audio, video, learning objects, images, questions banks, activities & presentations etc related to those concepts. NROER allows teachers to download, share, comment and rate media resources. So, the NROER is a comprehensive digital repository for open Educational Resources which in addition to providing opportunities for users to access and create educational resources also allows them to enroll in various online courses and participate in online contests.

5. e - Pathshala –

e -Pathshala is a platform developed by the Central Institute of Educational Technology (CIET) and the National Council of Educational Research and Training (NCERT). It was initiated jointly by the Ministry of Human Resource Development, NCERT and CIET. E-Pathshala was launched in November 2015. It consists of digital textbooks, videos, grade learning materials, audiobooks, and more for parents, teachers, and educators. The scheme is part of the Digital India campaign,

Objective of e – Pathshala

1. The primary purpose behind launching the scheme is 'learning on the go.' It works towards sharing information and educational resources with teachers and students.
2. Another objective of the portal is to reach out to diverse users and bridge the digital divide due to language, geography, and social culture.

Characteristics of e-Pathshala

1. It is a mobile-based -app that can be downloaded from the Google play store.
2. On the app, you can find Hindi, English, and Urdu content.
3. The app is designed for Android, iOS, and Windows operating systems.
4. It is available for various mobile interfaces, including Windows, iOS, and Android.
5. You can find the content on the app in an e-pub format which is attractive and gives a feeling of live learning.
6. NCERT book in the digitized format is uploaded on the portal.
7. For reading the books, it is necessary to have a PDF file reader on the mobile phone.
8. This facility has been given to make learning exciting and easy

E-Pathshala Portal

The E-Pathshala portal is developed for disseminating and showcasing all educational e-resources, including video, audio, textbooks, periodicals, and a variety of other non-print and print materials for teachers, students, researchers, parents, and educators. It provides access to graded learning materials, digital textbooks for all classes and enables participation in contests, exhibitions, workshops, festivals, etc. Every NCERT book has been digitised and uploaded on the E-Pathshala portal. All the concerned stakeholders such as teachers, students, parents, and educators can access e-books uploaded on the E-Pathshala portal through multiple technology platforms and on through desktops and laptops.

Benefits of E-Pathshala Portal

1. **Numerous resources:** The E-Pathshala portal is a storehouse of videos, audios, epubs, flipbooks etc.
2. **Easy access:** The E-Pathshala portal resources can be accessed through desktops, laptops, tablets and smartphones.
3. **Multilingual:** The E-Pathshala portal resources are available in multiple languages, i.e. English, Hindi and Urdu.
4. **Low storage:** The E-Pathshala app requires low memory and is very small in size.

The E-Pathshala allows users to have as many books as their device supports. The features of these books allow users to select, pinch, bookmark, zoom, highlight, share, navigate, and make notes digitally. It contains various resources for different users.

6. NPTEL - National Programme on Technology Enhanced Learning

National Programme on Technology Enhanced Learning (NPTEL) is a project of MHRD initiated by seven Indian Institutes of Technology (Bombay, Delhi, Kanpur, Kharagpur, Madras, Guwahati and Roorkee) along with the Indian Institute of Science, Bangalore in 2003, to provide quality education to anyone interested in learning from the IITs.

Goals of NPTEL :-

The main goal was to create web and video courses in all major branches of engineering and physical sciences at the undergraduate and postgraduate levels and management courses at the postgraduate level.

NPTEL Online Certification Courses:-

Since 2013, through an online portal, 4-, 8-, or 12-week online courses, typically on topics relevant to students in all years of higher education along with basic core courses in sciences and humanities with exposure to relevant tools and technologies, are being offered. The enrolment to and learning from these courses involves no cost.

7. Curriculum classes:-

Curriculum classes are being designed in tune with contemporary approach of learning behaviour to ensure maximum learning outcome. The taxonomy which is being used for suitable placement of the content is a fine blend of digital educational material in four quadrants. The segregation is based on the nature of the content i.e. text resources, visual resources etc. A unique initiative of Blended Learning by Consortium for

Educational Communication (CEC) will certainly facilitate the learner to attain knowledge.

Curriculum classes are categorized into Science & Technology, Management & Vocational, Social Science and Art & Culture four subject streams for easy navigation. This will help you to choose the desired subject. Subjects are further classified into papers and lecture modules. Select your stream, choose your course and start learning.

8. E - Skill India:-

E - Skill India, an e Learning initiative of National Skill Development Corporation (NSDC), integrates digital learning resources through various Indian and global knowledge partnerships, enabling access to the best-in-class learning resources for the youth of the country.

The portal addresses a candidate's requirements through various strategic knowledge partnerships with organisations such as IBM, Tata Consultancy Services, Microsoft Corporation, LinkedIn, California State University Long Beach, Khan Academy, Saylor Academy, Salesforce, Simplilearn, SAS India, BSE Institute, Apollo Medvarsity, Enguru, Wadhwani Foundation, and more.

Aims of E - Skill India :-

1. The online courses, available through NSDC's eSkillIndia portal, aim to drive the Government's 'Skill India' mission digitally.
2. The e-courses intend to empower the youth to gain basic technical skills, communication skills, financial literacy along with information and communication technology (ICT), and micro entrepreneurial skills for socio-economic self-reliance.

E – Skill India also addresses the need for reskilling and upskilling the in-service employees by offering next-generation courses on big data, machine learning and analytics, provided by leading knowledge providers.

9. National Digital Library of India (NDLI) :-

NDLI is a virtual repository of learning resources which is not just a repository with search/browse facilities but provides a host of services for the learner community. It is sponsored and mentored by Ministry of Education, Government of India, through its National Mission on Education through Information and Communication Technology (NMEICT). Filtered and federated searching is employed to facilitate focused searching so that learners can find the right resource with least effort and in minimum time. NDLI provides user group-specific services such as Examination Preparatory for School and College students and job aspirants. Services for Researchers and general learners are also provided. NDLI is designed to hold content of any language and provides interface support for 10 most widely used Indian languages. It is built to provide support for all academic levels including researchers and life-long learners, all disciplines, all popular forms of access devices and differently-abled learners. It is designed to enable people to learn and prepare from best practices from all over the world and to facilitate researchers to perform inter-linked exploration from multiple sources. It is developed, operated and maintained from Indian Institute of Technology Kharagpur.

10. E - PG Pathshala:-

E - PG Pathshala is an initiative of the MHRD under its National Mission on Education through ICT (NME-ICT) being executed by the UGC. The content and its quality being the key component of education system, high quality, curriculum-based, interactive e-content in 70 subjects across all disciplines of social sciences, arts, fine arts and humanities, natural & mathematical sciences, linguistics and languages have been developed by the subject experts working in Indian universities and other Resarch & Development institutes across the country.

Conclusion

Free e-Learning platforms developed by the Government of India contain various courses that can be accessed by the students, teachers, professionals and learners. The contents are available in the form of audio, video, presentation, PDFs, tests etc. Free e-Learning platforms provide a unique opportunity for the students, teachers, and professionals to collaborate and share their knowledge. This initiative makes sure that education is an uninterrupted ongoing process.

References

https://www.india.gov.in/ website-national-repository-open-educational-resources-nroer
http://scert.cg.gov.in/
https://www.edtechreview.in/news/national-repository-
https://diksha.gov.in/
http://aptel.ac.in/
http://swayam.gov.in/
http://cec.nic.in/cec/curriculum.class
http://www.eskillindia.org/
http://ndl.iitkgp.ac.in
http://epgp.niflibnet.ac.in

ONLINE TEACHING LEARNING RESOURCES IN DIGITAL ERA: IN THE CONTEXT OF TEACHER EDUCATION

Dr. Sudhir Sudam Kaware
Assistant Professor, Department of Education, Guru Ghasidas Vishwavidyalaya (A Central University), Bilaspur, Chhattisgarh, India

Abstract

21st Century is the century of Information and Communication Technology. Education is all set to accelerate in the changing paradigm. Therefore educational technology plays a very vital role in teaching learning. NEP 2020 also emphasized on integration of technology knowledge, pedagogical knowledge and content knowledge (TPACK). Technological intervention is found very effective in terms of achievement. Teaching learning is mostly depending on suitable use of technological devices for the effectiveness. E-learning, M-Learning and Virtual Learning are playing major role in the whole education system; school education to higher education. Teacher education is not an exception. Teacher Education Departments/institutions/colleges incorporated ICT and digital resources in their syllabuses for the extensive use of online teaching learning resources. This paper focused on the uses of online teaching learning resources for better understanding and application of the concepts. These online resources will be used by B.Ed. students in their teaching in schools. It will be benefited to maximum school students directly.

Keywords: *Online Teaching Learning Resources, Digital Era, E-Learning, M-Learning, Virtual learning*

Introduction

The COVID-19 pandemic has thrust universities into new situations that they have addressed using three types of response. The first type of response, necessary both at the beginning of the first wave of the pandemic and occasionally at its later stages, involved shutting down campuses completely, and moving all teaching and learning activities online. The second type of response, which was implemented in many universities during partial lockdowns or when social distancing was either required or encouraged, involved having some teaching and learning activities on campus and others online, to reduce the risk of overcrowding. The third type of response was implemented during periods when most of the restrictions had been lifted, but when quarantine rules reduced the availability of campuses. In such cases, some of the academic content was made available digitally in combination with teaching and learning activities on campus (Reitan, 2022).

Web conferencing has now become a huge and successful development in business communication as a result of improved telecommunication networks. Web conferencing is a multimedia communication system that allows the sharing of computer screens, web-based contents or individual applications in real-time among networked computers. This is because web conferencing can be organized to support teamwork, engage in seminars/business meetings, give lead presentations, conduct customer-relation support and, more recently, conduct online education (teaching and learning). Some web conferencing applications used for online teaching has some other sophisticated features such as polling, white boarding and annotating, chat discussions, etc. (Abdulkarim, 2022). There are some online teaching learning resources which helps a lot during COVID-19. These are webcasts, webinars, web conferencing, etc.

Online Teaching Learning Resources

Learning tools or platforms such as: Flipped classrooms, Augmented reality (AR), Virtual reality (VR), Learning Management Systems (Moodle, Canvas, Blackboards, MOOCs), as well as, learning elements or components.

Blogs: Blogs are an information portal but began as an online diary. They enable the sharing of information and encourage collaboration. Entries are typically ordered by date, with the most recent posting at the top. Blogs enable a number of metacognitive and self-regulatory processes to be practiced and enhanced. As an online diary, reflection on self-knowledge including memories, knowledge of personal theories and capabilities, self-awareness and self-understanding are encouraged. There are also opportunities for the author to reflect on their knowledge of self-systems including self-efficacy, self-concept, self-esteem and self-appraisal.

Discussion Boards: Discussion boards are also known as bulletin boards or forums and are used to post information, ideas or questions enabling others to respond asynchronously. Whereas a chat-room is used for responding to posts straight away, a discussion board enables someone to make a considered response because they have time to think about how to respond, before posting. Careful consideration of responses on discussion boards gave students the opportunity to reflect on what information they wished to share with their online peers. Less confident students may use the opportunity to read other students' work before committing their own responses to the board. In this way, they may choose to monitor and control clarity and accuracy of the type of information they wish to share, reflective of self-regulation.

Wiki: Wikis are asynchronous tools and enable creation, collaboration, editing, linking web sites, adding images and videos and sharing with other members of the wiki. Wikis do not require the set-up and hosting of a website, and therefore, users do not need to have knowledge of web editing.

3D Virtual World: 3D "virtual worlds are a low cost computer program that can simulate and/or substitute real-world activities through a person's avatar". Virtual worlds can replicate the real world in context, making it an ideal place for online teaching and learning with students. Virtual worlds embed asynchronous and synchronous resources for students to interact and engage in. Users of a virtual world require the creation of an avatar to use when entering the world and interacting with the environment and other users. Educators can set up classroom activities and tasks for their students. All users communicate via text chat or audio and are able to see each other's avatars "live".

(Gregory & Bannister-Tyrrell, 2017)

Webinar: A webinar is a short-form of a web-based seminar. In other words, it is an interactive seminar, presentation, meeting, workshop, lectures, and teaching that are transmitted online.

RingCentral Video* (*RingCentral Inc): This is a tool that provides instant messaging, voice call, group conferencing and screen sharing with recording facility on a *RingCentral* platform. It can be used on a browser, desktop or on a mobile device.

GoToMeeting (LogMeIn): It is a web-hosted real-time collaboration tool that markets itself as a user friendly and effective screen sharing tool. It is a software package that provides video conferencing, mobile conferencing, and recording facility between users. The screen of the host can be broadcasted to others.

Zoom (Zoom Video Communication Inc.): This is a tool that allows users to join meetings or webinars online using the zoom mobile app on Android and iOS, among others. . It provides instant messaging, voice call, recording, screen sharing, video conferencing, keyboard and mouse sharing, active speaker and individual muting.

CISCO Webex (CISCO Company): It is an enterprise solution video conferencing, audio conferencing, instant messaging, screen sharing and meeting recording tool. It markets itself as the leader in video and team collaboration. It is an American company formed in 2007 resulting from CISCO systems acquired Webex. It is a cost-effective solution that can host up to 100 participants in the video conference at a cheap monthly price depending on the user's requirement.

Skype/ Skype for Business (Microsoft): This is a communication tool that allows audio conferencing, video conferencing, instant messaging, screen sharing and meeting recording between Skype users on computers, tablets, mobile devices, Xbox one game console and smart watches over the Internet.

Google Hangouts (Google): Google Hangouts is communication software developed by Google for keeping in touch with one person or a group of people or friends. It is available on mobile or desktop and it provides instant messaging, audio conferencing, video conferencing, recording and screen sharing. It integrates VoIP, Google voice and IP telephony products. This platform is integrated into Gmail and Google+, and compatible with multiple computing devices.

Google Meet (Google):

Google Meet is Google's premium video conferencing software offered as part of the G-suite. It was originally paid only but recently offered free to use as a result of the challenges of COVID-19. It allows users to turn on and off their microphone and camera, share screen and see other participants.

Reflection

Information and Communication Technology (ICT) plays a vital role in teaching learning process. Due to COVID-19, extensive use of ICT for teaching and learning has been experienced world wide. All classrooms have been transformed to Virtual classrooms. Therefore, online resources are used in the teaching learning through smart mobiles, laptops, and computers etc devices. Teacher education is not an exception. Teacher trainees (students) were taking their internship classes through Google Meet and other digital platforms. Their presentations were also done through these platforms. Even all meetings regarding their researches, curriculums aspects and other academic issues were discussed and taken decisions online. B.Ed. and M.Ed. students were trained to use such online resources during COVID-19. They learnt the usefulness of these online resources in this digital era for their students. It is very effective and interesting to use such online resources in teaching learning.

Conclusion

Teacher Education is very dynamic. B.Ed. students not only understand the theoretical concepts but practical aspects also. Whatever, they learnt in the departments/colleges/ institutes; they implement in their respective schools. Educational Technology/ Information and Communication Technology enables them to deliver their subject content in proper and effective way. Though B.Ed. and M.Ed. students know the online resources for teaching but they are not interested to taking efforts for searching best resource from online/internet in teaching. All mentioned online resources like blogs, wiki, discussion boards, webinar, virtual world etc. are very useful though there is face to face teaching learning. B.Ed. students must use maximum online resources during their practice teaching and internship. M.Ed. students also must use maximum online resources during their presentations, assignments, research work (dissertations). So that after completing their bachelor or master degrees in Education/Teacher Education, they will positively utilize this knowledge and skill for their respective students.

References

Anita Reitan, Margrethe Waage & Laurence Habib (2022): From technology to community: the role of artefacts in teaching and learning during and beyond pandemic times, Teaching in Higher Education, DOI: 10.1080/13562517.2022.2162813

Abdulkarim A. Oloyede, Nasir Faruk & Wasiu O. Raji (2022) COVID-19 lockdown and remote attendance teaching in developing countries: A review of some online pedagogical resources, African Journal of Science, Technology, Innovation and Development, 14:3, 678-696, DOI: 10.1080/20421338.2021.188976, https://doi.org/10.1080/20421338.2021.1889768

Gregory, Sue & Bannister-Tyrrell, Michelle (2017) Digital learner presence and online teaching tools: higher cognitive requirements of online learners for effective learning, Research and Practice in Technology Enhanced Learning (2017) 12:18, DOI 10.1186/s41039-017-0059-3.

Hu, Xinyun, Chiu Ming Ming, Leung Wai Man Vivienne, Yelland Nicola (2021) Technology integration for young children during COVID-19: Towards future online teaching, British Journal of Technology, DOI: 10.1111/bjet.13106

Marron, Susan & Coulter, Maura (2021) Initial teacher educators' integrating iPads into their physical education teaching, Irish Educational Studies, DOI:10.1080/03323315.2021.1971103

Norris, Donald M. and Lefrere, Paul (2011) Transformation through expeditionary change using online learning and competence-building technologies, Research in Learning Technology, Vol. 19, No. 1, March 2011, 61–72

Oloyede, Abdulkarim A., Faruk Nasir & Raji Wasiu O. (2021) COVID 19 lockdown and remote attendance teaching in developing countries: A review of some online pedagogical resources, African Journal of Science, Technology, Innovation and Development, DOI:10.1080/20421338.2021.1889768

Raaper Rille, Brown Chris & Llewellyn Anna (2021) Student support as social network: exploring non-traditional student experiences of academic and wellbeing support during the Covid-19 pandemic, Educational Review, DOI: 10.1080/00131911.2021.1965960

Sharkova Nataliya (2014) Learning supported by technology in higher education: From experience to practice, Education Inquiry, 5:3, 24610, DOI: 10.3402/edui.v5.24610

Tomte Cathrine Edelhard, Fossland Trine, Aamodt Per Olaf & Degn Lise (2019) Digitalisation in higher education: mapping institutional approaches for teaching and learning, Quality in Higher Education, 25:1, 98-114, DOI: 10.1080/13538322.2019.1603611

Vaishnav Rajshree & Kaware Sudhir (2016) Virtual Classroom for Teaching; development of Synchronous and Asynchronous Virtual Classroom for teaching, Scholars' Press

INTEGRATING TECHNOLOGY IN EDUCATION: OVERCOMING CHALLENGES AND REALIZING OPPORTUNITIES

Dr. Rajiv Pancham[1], Trupti Swar[2], Shanon Fernandes[3], Rashmi Kesarkar[4], Prajal Amonkar[5], Shubham Parab[6] & Salil Tari[7]

[1]Assistant Professor, Department of Education, Ganpat Parsekar College of Education, Harmal, Goa.
[2-7]Students, Ganpat Parsekar College of Education, Harmal, Goa.

Abstract

The emergence of this new global economy has serious implications for the nature and purpose of educational institutions. Information and communication technologies (ICTs) are a major factor in shaping the new global economy and producing rapid changes in society. National Education Policy 2020 with a learner centric approach aims to make the learners creative, to give them the power to imagine and to create. This can be well achieved with the integration of technology in the classrooms. The present paper attempts to discuss the initiatives for overcoming challenges and realizing the opportunities for integration of technology in education The key initiatives for online and digital education include the blended modes of learning, setting up of virtual labs, digital infrastructure, online assessments, content creation, digital repository, online teaching platforms.

The key challenges are the willingness and ability of teaching faculty to engage in new ways of doing things; expectations learners bring to formal education; accepting the transformation from the traditional rote learning; availability of smart phones, computers with internet access to the students. Overcoming these challenges, increasing the flexibility of teaching and learning within formal education by integrating technology in education will benefited to enhance the ability to add an experiential dimension to learning through the use of active learning approaches which are situated in authentic contexts, to enhance the ability to better cater to the needs of learners, particularly through a focus on authentic learning contexts, learner agency and a learner-centered view of learning programs. The key amongst the opportunities will be the use of educational technologies as powerful pedagogical resources that will allow teachers to help students learn in fundamentally different ways, and for classrooms to look very different than they do today. Industry-Institution collaboration and tie up may also be seen as a solution in the implementation of ICT in education for enrichment the faculty with industry and research experience.

The integrating technology in education discussed in this paper reveled that teacher training institutions must play a leadership role for the implementation of technology in education for enhancing skills and environment and thus allow teachers to experience technology-based pedagogies.

Keywords: *Information and Communication Technology (ICT), Digital Technology, Technology Enabled Learning, Education, Teacher education.*

Introduction:

Today, globalization and technological change processes that have accelerated and have created a new global economy "powered by technology, fueled by information and driven by knowledge." The emergence of this new global economy has serious implications for the nature and purpose of educational institutions. Information and communication technologies (ICTs) are a major factor in shaping the new global economy and producing rapid changes in society. They have produced significant transformations in industry, medicine, business, engineering, agriculture, and other fields. They also have the potential to transform the nature of education, where and how learning takes place and the roles of students and teachers in the learning process.

Teacher education institutions may either assume a leadership role in the transformation of education or be left behind in the swirl of rapid technological change. For education to reap the full benefits of ICTs in learning, it is essential that pre-service and in-service teachers have basic ICT skills and competencies. Teacher education institutions and programmes must provide the leadership for pre-service and in-service teachers and model the new pedagogies and tools for learning. They must also provide leadership and accountability in determining how the new technologies can best be used in the

context of the culture, needs, and economic conditions within the country. To accomplish these goals, teacher education institutions must work closely and effectively with school teachers and administrators, national or state educational agencies, teacher unions, business and community organizations, politicians and other important stakeholders in the educational system. Teacher education institutions also need to develop strategies and plans to enhance the teaching-learning process within teacher education programmes and to assure that all future teachers are well prepared to use the new tools for learning.

Information and communication Technology as a Powerful Tool:

The UNESCO World Education Report, (1998) stressed the importance of ICT in higher education and it firmly advocated the integration of ICT in higher education. As technology has created change in all aspects of society, it is also changing our expectations of what students must learn in order to function in the new world economy. Students will have to learn to navigate through large amounts of information, to analyze and make decisions, and to master new knowledge domains in an increasingly technological society. They will need to be lifelong learners, collaborating with others in accomplishing complex tasks, and effectively using different systems for representing and communicating knowledge to others. A shift from teacher-centered instruction to learner-centered instruction is needed to enable students to acquire the new 21st century knowledge and skills, identifies the shift that will take place in changing from a focus on teaching to a focus on learning. Shifting the emphasis from teaching to learning can create a more interactive and engaging learning environment for teachers and learners. This new environment also involves a change in the roles of both teachers and students.

The role of the teacher will change from knowledge transmitter to that of learning facilitator, knowledge guide, knowledge navigator and co-learner with the student. The new role does not diminish the importance of the teacher but requires new knowledge and skills. Students will have greater responsibility for their own learning in this environment as they seek out, find, synthesize, and share their knowledge with others. ICTs provide powerful tools to support the shift to student-centered learning and the new roles of teachers and students. (Khvilon Evgueni, 2002)

Integration of Technology in Education: A Key Factor of NEP 2020

The National Education Policy 2020 is considered to be a revolutionary step towards the upliftment of education. One of the major concerns of the policy is the implementation of technology in teaching and learning. NEP 2020 with a learner centric approach aims to transform education with a clear objective to cater to the needs of this globalized society. For this positive transformation, the policy offers change in the curricula, improvement in the digital infrastructure, building up of strong and relevant foundational skills, change in the traditional way of assessment system. During the COVID-2019 pandemic, technology made teaching and learning possible through virtual learning. The education system was compelled to transform itself. With the introduction of the new National Education Policy, new avenues were opened. The objective is to make the learners creative, to give them the power to imagine and to create. This can be well achieved with the integration of technology in the classrooms. The policy envisions improvement in the learning outcome.

The Indian education sector has witnessed an extensive push by the policymakers, educators, and learners in integrating technology with improving the learning process. It has also led to a considerable shift in the teacher's beliefs in using ICT as a pedagogical tool. Indian teachers have been optimizing various EdTech initiatives launched by both national and state governments potentially solving systemic issues such as access, equity, and quality. The efforts of teachers integrating ICT in the classroom have helped in improving the quality, accessibility, and cost-efficiency of delivery of instruction to students, and the teacher-student relationship as well. A special place has been given to quality research in the

New Education Policy. This move will open a gateway to innovation. The setting up of the National Education Technology Forum (NETF) is a key factor in NEP-2020. Higher Education Institutes have been motivated for the setting up of technology development centers. This will enable the youth to contribute effectively and result in growth of a tech-savvy and knowledgeable society. Thus, playing a significant role in contributing to achieving the targets of the sustainable development goals, by providing platforms for increasing access to high-quality educational resources and reaching larger numbers of learners.

The new education policy has put a special emphasis on the development of infrastructure, online teaching platforms along with the tech tools. There is equally a great need of teachers who are technology friendly and for that a special emphasis has been put on training the educators. Without the educators being technology friendly, it will not be possible to create online content, online assessments. There is no doubt that technology can enhance the quality of education. Huge efforts in the form of providing support to integrate technology and to accept and implement the other changes in the present education system are needed to be made to provide the support for the integration of technology. For the successful implementation of NEP 2020, teachers must be given adequate training so as to make them fully aware of the upcoming changes. Flipped classroom, blended learning has been given due importance in the new education ecosystem.

In order to make learning more effective and fruitful, apart from textual learning other innovative methods and pedagogies will be followed such as teaching through videos, audio, interactive real time discussions. The key initiatives for online and digital education include the blended modes of learning, setting up of virtual labs, digital infrastructure, online assessments, content creation, digital repository, online teaching platforms. NEP 2020 proposes a better integration of DIKSHA/SWAYAM in higher education along with a rich variety of education software. The new National Education Policy ensures equitable use of technology by investing in the setting up of open public digital infrastructure. A due place has been given to the adoption of the emerging technologies like 3D, simulation, robotics, artificial intelligence (AI). It also facilitates blended learning with online and experiential learning. It also proposes to expand the existing digital learning platforms.

Digital Technologies in Education:

The uptake of digital educational technologies in education has been a focal point of wider initiatives to promote educational development and emerging ideals of twenty-first century education. These initiatives position digital technologies not only as tools for education providers to improve the outcomes of educational programs, but also as tools for learners who are participating in contemporary societies which increasingly rely on digital technologies for a range of personal and professional pursuits. Sustainable development includes social well-being, which depends on education. Information technology has emerged to spread shared knowledge and is a primary driving force behind education reforms. The introduction of new technology-assisted learning tools such as mobile devices, smartboards, MOOCs, tablets, laptops, simulations, dynamic visualizations, and virtual laboratories have altered education in schools and institutions. The Internet of Things (IoT) is proven to be one of the most cost-effective methods of educating young brains (Rogers 2000).

Educational technology businesses are continually attempting to create novel solutions to expand access to education for individuals who cannot obtain adequate educational facilities. Social media as a learning tool has come a long way. Large numbers of teachers and students use social media as an essential element of the overall e-learning experience. It is a critical venue for exchanging information about crucial topics these days. Aside from the ability to communicate information anywhere, at any

time, social media sites are also a fantastic source of producing networking possibilities to establish social activities and possibly new jobs (Buyukbaykal 2015).

Technology-Enabled Learning:

Technology-Enabled Learning is taken to refer to the application of some form of digital technology to teaching and learning in an educational context. It is not necessary to get into discussions about whether the learning context can be thought of as formal, non-formal or informal. At this stage, it is sufficient to consider that there is an intention for learning to result from the human-technology interaction. However, it is worth remembering that people have been employing various (non-book) technologies for educational purposes over many decades. Accordingly, we think that it would be helpful to briefly explore the role of digital technologies in education in recent times. There has been considerable growth in the adoption of technology within educational institutions, for both distance and on-campus teaching and learning. A range of terms, which each emphasize particular characteristics of the phenomenon, exists to describe it e.g., computer-assisted learning, networked learning, eLearning and, more recently, technology-enhanced learning. (Kirkwood & Price, 2014).

The potential benefits of adopting technology- Enabled learning (TEL):

- Increasing technology use by students in preparation for their working lives (developing familiarity, skills, etc.)
- Increasing accessibility for students who would not be able to attend conventional classroom sessions (due to location, disability, or work/domestic commitments, etc.).
- Changing the environment in which educational activities can be undertaken to increase flexibility for students in terms of where, when and how they study.
- Providing students with additional opportunities to communicate with teachers, support staff and fellow students.
- Providing opportunities for students to access books, journal articles and other resources (texts, sound recordings, still and moving pictures) in digital format from a variety of sources and locations.
- Enabling students to become self-directed Learners.
- Ensuring greater consistency in the quality of teaching and availability of resources.
- Enabling feedback on learning activities and assignments to be provided more rapidly to students.
- Increasing flexibility for teachers in terms of where and when they undertake their teaching and assessment activities.
- Improving the teaching practices of academic staff (e.g., increasing learner engagement through active, student-centered learning).
- Quantitative improvement in student learning outcomes (i.e., higher marks or grades achieved).
- Qualitative improvement in student learning outcomes (i.e., deeper understanding, conceptual development, better application of knowledge to real-world situations).

Digital Educational Technologies: Challenges and Opportunities-

One of the key challenges is the willingness and ability of teaching faculty to engage in new (or changed) ways of doing things. Individual teaching staff members have abilities, knowledge and motivation to engage in practice in particular ways. These issues affect their willingness to engage in innovative practices which are often associated with the use of educational technology. Further, their abilities to engage in innovative practice should not be assumed. While most experienced teacher-practitioners can be regarded as skilled with certain aspects of teaching, several factors work against their abilities to stay up-to-date with technology enhanced teaching practices. These include

- The breakneck speed of technological evolution compared with the relatively slow pace of change in educational systems;
- the limited investment in teacher professional development relative to technology hardware and infrastructure; and
- Availability of various technologies in different educational contexts.

Another of the key challenges is the expectations learners bring to formal education. Returning to the issue of individual difference, each learner brings a particular set of expectations to the educational situation. Particularly with adult learners, these expectations and based on experience, attitudes, motivation and values. These expectations include levels of flexibility; roles and responsibilities for themselves as learners, teaching staff and for the institution as a provider of education; views on assessment; notions of authenticity and relevance; preferences with regard to learning activity; and ideas about their own likelihood of success. While these expectations influence learning activity in general, they also have a particular effect on learners' willingness to engage in new, novel or unfamiliar learning situations (Jona, 2000). The research studies shows that this can be a significant challenge to innovative approaches to teaching and learning with technology.

Another challenge comes in the form of accepting the transformation from the traditional rote learning system to the technology driven innovative and critical thinking and experimental learning system. This will require a change in the attitude of the stakeholders and continuous efforts are needed to be made to understand and implement this new vision.

In order to integrate technology in education, it is important that all students have access to technology, at least they should have smart phones, computers with internet access. Unfortunately, the underprivileged students do not have access to same and that is one of the main challenges to overcome. There lies another challenge in handling the network issues, power cuts and controlling the unethical practices.

Decision makers in many institutions are likely to be interested in efficiency benefits that contribute to the reduction or containment of costs, increasing student numbers, competitive advantage, or meeting student expectations. However, those more directly involved in teaching and supporting students are likely to be interested in potential transformational benefits relating to educational outcomes.

Overcoming these challenges is a set of practical opportunities which remove barriers to the effective use of educational technologies.

The use of educational technologies is motivated by a set of perceived opportunities to improve the outcomes of educational programs and re-focus those programs on learners and learning. Universities and teacher education institutions are using educational technologies to improve access to educational opportunities and to widen participation in higher and further education motivated by changed revenue streams, the emergence of global markets for education, the imperatives of lifelong learning associated with globalization and national) imperatives related to societal needs universities are employing educational technologies to open and cater to new markets for their programs (Birzea, 2000; Starkey, 2002).

Educational technologies are seen as a means to overcome the limits of time and space in order to allow more learners, including those who are not able to participate in traditional place-based education, to participate in rich, engaging, interactive learning activities as part of formal distance and blended education. Following the drive to open new markets for higher and teacher education, providers are using educational technologies to increase the flexibility of teaching and learning within formal education (Jona, 2000). This increased flexibility includes modes of delivery (e.g. technology enhanced distance education, wholly online delivery and blended face-to-face or distance education) and modes

of interaction (e.g., synchronous or asynchronous). Flexibly delivered education includes flexibilities in place of study, pace of study, topics of study, qualification structures and progression, roles and responsibilities of stakeholders and costs associated with study for both the learner and the education provider. This flexibility has affected approaches to teaching and learning (e.g., situated and social vs. self-contained and self-paced) and the design of programs, courses, units of work and types of assessment.

One of the benefits of this flexibility is the ability to add an experiential dimension to learning through the use of active learning approaches which are situated in authentic contexts, e.g., educational technologies can be used to create sites for activity as in the case of online learning environments and immersive virtual worlds. Alternately, technology can be used to link learners to authentic activity in context as in the use of mobile digital technologies to allow learners to record and discuss practical activity wherever they are. When coupled with highly flexible, convenient communication provided by email, instant messaging, asynchronous discussion or synchronous conferencing, google classrooms, etc. educational technologies create a powerful combination of context, communication and purposeful activity which enhances the learning experience. Learners are able to use technology not only to learn about particular content, but learn to do particular content-specific tasks and learn to be practitioners by assuming certain specialist roles in context (Brown & Duguid, 2000). Moreover, teacher educators are able to assume roles which seem them participate in the community as role models and lead by example. Another result of the flexibility afforded by educational technologies has been the ability to better cater to the needs of adult learners, particularly through a focus on authentic learning contexts, learner agency and a learner-centered view of learning programs. (Mayes, 2004).

Educational technologies offer an opportunity to address particular needs of individual learners through increasingly individualized pedagogies made possible via the flexibility of technology-enabled learning. It is important that individual teachers articulate a clear rationale for using TEL in respect of their students and the contextual circumstances. For example, teachers whose students are likely to seek employment in business, design, science or technology might argue that using TEL would help prepare their learners for their subsequent careers. Other teachers might be more concerned with maximizing the teaching and learning opportunities for their geographically dispersed students. Confusion and misunderstandings can be avoided if teachers develop and share their pedagogical aims when implementing TEL.

The results are widening gap between the technology 'cans' and 'cannots'. As with the learners themselves, innovative applications of educational technologies involving groups of teaching faculty must accommodate a range of skills, attitudes and abilities as part of a developmental approach to the use of those technologies.

Key Conditions for positively integrating technology in education:

In order to positively integrating technology in education and to enhance 21st century skills, policy makers and practitioners should focus on following key conditions:

- Effective professional development for teachers in the integration of technology into instruction is necessary to support student learning. The use of technology for learning does not take place in a vacuum; practitioners must effectively apply technology in the curriculum and throughout the course. Further, access to technology professional development must be consistent and ongoing in order to keep teachers up-to-date with changing programs, resources, and applications.
- Teachers' direct application of technology must be aligned to local and/or state curriculum standards. Since curriculum standards have to align with local or state measures of achievement, classroom-based technology interventions must also mirror those standards. Moreover, any lesson

plans designed to incorporate technology must be as rigorous and relevant in meeting local and state curriculum standards as non-technology-based plans.

- Technology must be incorporated into the daily learning schedule (i.e., not as a supplement or post school tutorial). The computer simulations were effective when incorporated into "regular classroom instruction" and when teachers spend an adequate amount of time using it for core learning. Additionally, the research studies reveled that students whose teachers integrated technology into instruction more frequently and for a variety of purposes scored better than students whose teachers were low level users of technology.
- Programs and applications must provide individualized feedback to students and teachers and must have the ability to tailor lessons to individual student needs. One major benefit of incorporating technology into instruction is to avoid a one-size-fits-all approach to learning. Instead, technology applications can be tailored to meet individual student needs, provide feedback on student progress, and assist them to reflect on their work. Teachers can use data-driven decision-making tools to adapt instruction to students' specific needs. (Kulik 2003, White and Frederiksen 1998). Moreover, educational technology provides multiple avenues for assessing student learning and allowing students to communicate what they have learned to their teachers and parents.
- Technology use must be incorporated in a collaborative environment to be most effective. Student collaboration with technology elevates student achievement more than individual use. Kulik (2003) and others found that student collaboration increased the information available to students through a process of sharing and augmented critical-thinking skills as students worked to assimilate a range of ideas and information from online sources, software, and their peers.
- Project-based learning and real-world simulations must be the main focus of instructional technology utilization. Project-based learning simulations, multimedia, and lessons based on problem-solving skills improve student motivation, a strong harbinger to increasing student achievement. Real-world simulations are also more effective than using computers for drill-and practice.
- Effective technology integration requires leadership, support, and modelling from teachers, administrators, and the community/parents. Educational planning that incorporates and models' effective technology use has been positively related to increases in student achievement. When schools, community leaders, and families, demonstrate the effective use of technology for learning, communication, and project management, student motivation and interest in using technology in their own work is positively affected.

Discussion and Conclusion:

The approaches in integrating technology in education indicates that there are challenges and opportunities in integrating technology in teacher training and professional development of teacher educators. Overall, governments and educational institutions seem to recognize the importance of integrating ICT in learning and teacher training. In future, technology will play an essential role in shaping the future of education, ensuring that new teaching tools are used effectively will require a new generation of educators who understand the importance of human connection in the classroom and beyond the classroom. These can lead to a satisfying and engaging career in education. Students will gain the knowledge and skills necessary to employ new educational technology to maximize their advantages in the future. Industry-Institution collaboration and tie up may also be seen as a solution in the implementation of ICT in education. Faculty will be enriched with industry and research experiences, can contribute in ICT integration.

It is observed in the analysis that a variety of technology integrated environments have been created to provide more effective technological training and teacher tends to integrate digital technology in their teaching, if they experience use authentic pedagogical skills as a learner. Overcoming the challenges, key amongst the opportunities will be the use of educational technologies as powerful pedagogical resources that will allow teachers to help students learn in fundamentally different ways, and for classrooms to look very different than they do today. To appreciate these opportunities, our students must be exposed to authentic uses of educational technologies during their pre-service teacher education program. The opportunities in integrating technology in education discussed in this paper reveled that teacher training institutions must play a leadership role for the implementation of technology in education for enhancing skills and environment and thus allow teachers to experience technology-based pedagogies.

References

Abid Haleem, Mohd Javaid, Mohd, Asim Qadri, & Rajiv Suman, (2022), Understanding the role of digital technologies in education: A review, cited from http://www.k eaipublishing.com/en/journals/sustainable-operations-and-computer s/ 2022

Aithal, P. S., & Aithal, S. (2019). Analysis of Higher Education in Indian National Education Policy Proposal 2019 and Its Implementation Challenges. International Journal of Applied Engineering and Management Letters (IJAEML), 3 (2),

Birzea, C. (2000). Education for democratic citizenship: a lifelong learning perspective. Strasbourg: Council for Cultural Cooperation.

Brown, J. S., & Duguid, P. (2000). The social life of information. Boston, MA: Harvard Business School Press.

Büyükbaykal, (2015), Communication technologies and education in the information age, Procedia-Social and Behavioral Sciences

Dash Manoj Kumar, (2007), Integration of ICT in Teaching Learning: A Challenge, Edutracks, Volume 6, no. 12

Dellit Jillian, (2004), Using ICT for Quality in Teaching- Learning Evaluation Processes, South Australia Adelaide,

Desk, I. T. W. (2020). A reality check on NEP 2020: 6 major challenges in implementation. India Today.

Jona, K. (2000). Rethinking the design of online courses. Paper presented at the ASCILITE. from http://www.ascilite.org.au/conferences/coffs00/.

Jung Insung, (2005), ICT-Pedagogy Integration in Teacher Training: Application Cases Worldwide, Educational Technology and Communications, Division of Education, International Christian University, Osawa, Mitaka-shi, Tokyo.

Keengwe, J., & Bhargava, M., (2015), Mobile learning and integration of mobile technologies in education, Education and Information Technologies

Khvilon Evgueni,(2002), Information and communication in teacher education A planning guide, Division of Higher Education, UNESCO.

Kirkwood & Price, (2014), Technology-Enabled Learning Implementation Handbook Burnaby, Commonwealth of Learning, British Columbia, Canada

Kulik, J. (2003). Effects of using instructional technology in elementary and secondary schools: What controlled evaluation studies say. Arlington, VA: SRI International.

Manoj, Ambika (2021): National Education Policy-2020: Issues and Challenges in implementation. University news Vol.59, no-5, April 12-18. p.146.

Mayes, J. T. (2004). Learner centred pedagogy: Individual differences between learners. JISC e-Learning Models Desk Study Retrieved October 20, 2006, from http://www.jisc.ac.uk/uploaded_documents/Stage%202%20Learning%20Styles%20(Version%201).pdf

Rogers, P.L., (2000), Barriers to adopting emerging technologies in education, Journal of educational computing research 22 (4)

White, B. Y., & Frederiksen, J. R. (1998). Inquiry, modeling, and metacognition: Making science accessible to all students. Cognition and Instruction, 16(1).

CHALLENGES AND REMEDIES IN ONLINE TEACHING LEARNING PLATFORMS IN THE STATE OF GOA

Vinay D. Takale
Assistant Teacher, 2nd Lt. J. J Rane Government High School Kudchire Bicholim – Goa

Abstract

Over the past several years, technological advances have affected our lives. There has been change in education system. Technological advances and innovations in educational operations have a noticeable impact on academic development. Traditional methods of delivering education have become less motivating to many students and teachers. The recent pandemic has forced us to find the alternative methods of teaching and learning. This sudden change from face-to-face to online learning have caused numerous challenges for students and teachers. The online platform is becoming popular. This study aims to collect data from secondary school teachers of Goa from rural and urban regions, the practical challenges they encountered in online teaching learning platforms, and to suggest the remedies to the challenges faced by secondary teachers.

Keywords: *Online, Technology, Internet, Motivation, Communication.*

Introduction:

Covid 19 pandemic has resulted all schools across the globe to adapt online education.. Courses were conducted online, examinations were conducted online, and assignments were submitted through Google classroom, emails, and WhatsApp. India is the second largest internet subscriber after China. Technology plays very important role in transacting education and thus helping students and teachers connect virtually through online classrooms, webinars, etc. The new digital age has opened up a wide opportunity to access essential knowledge and information. With the emergence of internet, the teachers are able to use online teaching learning platforms.

Need for the Study:

The closure of educational institutions in India due to covid 19 was a huge challenge to reach the students. There were transitions from an offline mode of education to an online mode. The barriers were affecting in teaching learning process. This study aims to identify the challenges and remedies in online teaching learning platforms.

Review of Literature:

Dr. G K Lavanya conducted study on enriching education through e-learning has identified various e learning platforms., like Distance education (Postal, Radio, TV), E-learning, Gamification, Open Educational Resources (OER), Cloud based e-learning, Big Data in on-line education, Massive Open Online Courses (MOOC), Microlearning, Mobile learning etc.

Himangshu Sekhar Sarma accesses use and integration of ICT tools in the teaching learning process among government school teachers of the Northwest education block in Jorhat district, Assam.

Vaibhav Verma1 & Rishabh Verma (Jan 2022) conducted study on The Transition from Traditional to Digital Teaching-Learning due to COVID-19: A Comparative Study

Jignsu Yagnik and Yamini Chandra (2020) discussed reflection and various digital learning platforms which were used for teaching, learning and mentoring students.

Conceptual Framework

In the digital era the online learning is boon and plays important role in the development of education of students. The advancement of technology and pandemic like situation in education has shifted from conventional learning methods to online education. The conventional teaching learning methods are limited to classroom, fixed timing, fixed concept of learning can be overcome by online education.

Objectives:

1. To identify the digital platforms used during online teaching leaning.
2. To identify the challenges faced by the secondary teachers in online teaching learning platforms.
3. To suggest remedies to challenges in online teaching learning platform.

Methodology:

The methodology used is survey-based research intended to collect data from secondary teachers of urban and rural regions of Goa. Data was collected from 62 secondary teachers from Goa state from rural and urban regions. The survey model used in this study was a self-administered online survey created using Google Form and distributed to secondary teachers of Goa via online digital platforms. The questionnaire was submitted to more than 100 teachers of Goa, out which 63 teachers responded constituted a sample of the study.

Data Analysis:

Data is analysed qualitatively and quantitatively. The data is analysed Qualitatively by mean of grouping and inferring. The data is analysed Quantitatively by means of converting the responses into percentages.

Quantitative Analysis:

The data was collected from 63 students out which 30 Male and 33 Female Secondary teachers responded**.**

Table: 1

Sr. No	Gender	Population
1	Male	30
2	Female	33
	Total	63

Out of 59 secondary teachers 18 Urban Teachers and 41 Rural teachers responded.

Table: 2

Sr. No	Urban	Rural	Total
1	18	45	63

Analysis and interpretation of objective one:

The first objective was to identify digital platforms used in online teaching learning. After collecting data, the objective was analysed.

Table: 3

Teaching platform	Google Meet	Zoom	Cisco WebEx	You Tube
Number	62	0	0	01
	98.4%	0	0	1.6 %

It is revealed from Table 3 that 98.4 % of teachers in Goa have used Google meet platform, whereas 1.6 % teacher has used You Tube platform. Therefore, it is concluded that maximum teachers have used Google meet as teaching learning platform.

Analysis and interpretation of objective two:

To identify the challenges faced by the secondary teachers in online teaching learning platforms. After collecting data, the objective was analysed.

a) Students having no Gadgets for online teaching

Table 1

No. of teachers	15	11	22	13	2
	23.8 %	17.5 %	34.9 %	20.1 %	3.2 %

Conclusion:

It is revealed from table 4 that 34.9 % secondary teachers found that students did not have Gadgets in online learning.

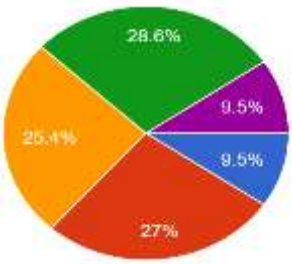
b) Poor internet connectivity:

Table No: 2

No. of teachers	6	17	16	18	6
	9.5 %	27 %	25.4 %	28.6 %	9.5 %

Conclusion:

It is revealed from table 4 that 28.6 % secondary teachers found that students have poor internet connectivity.



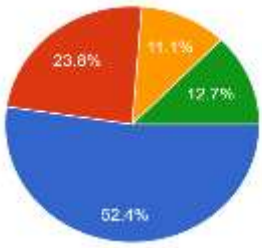
c) No access to electricity

Table No. 3

No. of teachers	33	15	07	08	0
	52.4 %	23.8 %	11.1 %	12.9 %	0

Conclusion

It is revealed from table 3 that 52 .4 % secondary teachers found that students did not have access to the electricity.



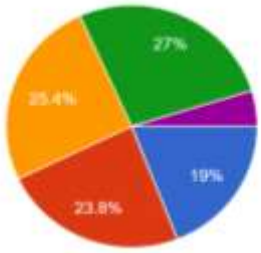
d) Lack of parental support:

Table No. 4

No. of teachers	12	15	16	17	03
	19 %	23.8 %	25.4 %	27 %	4.8 %

Conclusion:

It is revealed from table 4 that 27 % secondary teachers found that there was lack of parental support to students.



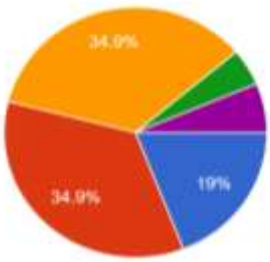
e) No motivation to students:

Table No. 5

No. of teachers	12	22	22	03	04
	19 %	34.9 %	34.9 %	4.8 %	6.5 %

Conclusion:

It is revealed from table 5 that 34.9 % secondary teachers found that there is no motivation to students.



e) Online sessions are boring to students:

Table No. 6

No. of teachers	06	20	18	14	05
	9.5 %	31.7 %	28.6 %	22.2 %	7.9 %

It is revealed from table 6 that 31.7 % secondary teachers found that online sessions are boring to students.

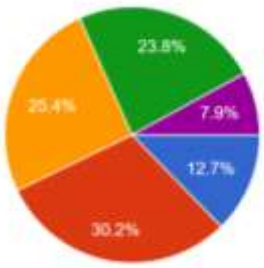
f) Distractions of students- Microphone, camera on:

Table No. 7

No. of teachers	08	19	16	15	05
	12.7 %	30.2 %	25.4 %	23.8 %	7.9 %

Conclusion:

It is revealed from **table 7** that 30.2 % secondary teachers found they experienced distraction from students.



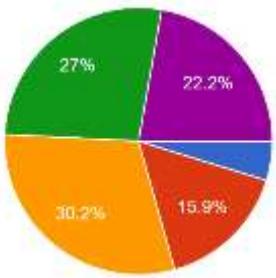
g) Cost of internet pack is high

Table No. 8

No. of teachers	03	10	19	17	14
	4.8 %	15.9 %	30.2 %	27 %	22.2 %

Conclusion:

It is revealed from table 8 that 30.2 % of secondary teachers found that cost of internet pack is high.



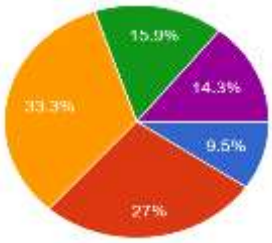
h) No proper communication during online teaching learning:

Table No. 9

No. of teachers	06	17	21	10	09
	9.5 %	27 %	33.9 %	15.9%	14.3 %

Conclusion:

It is revealed from table 9 that 33.9 % secondary teachers found that there was no proper communication during online teaching learning process.



Analysis and interpretation of objective three:

Remedies to tackle challenges in online platforms.

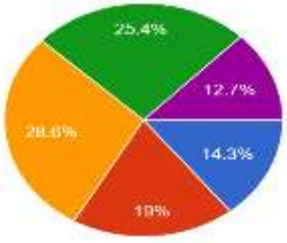
a) Govt. or NGO should provide gadgets to the students

Table No. 1

No. of teachers	9	12	18	16	8
	14.8%	19.9 %	28.6 %	25.4 %	12.7%

Conclusion:

It is revealed from table 1 that 28.6 % secondary teachers were of opinion that Govt. or NGO should provide gadgets to the students like mobile phones.



.

b) Using Fibre optic / Broadband connectivity

Table No. 2

No. of teachers	11	11	12	15	14
	17.5 %	17.5 %	19 %	23.8 %	22.2 %

Conclusion:

It is revealed from table 2 that 23.8 % secondary teachers were of opinion that fibre optic or broadband should be used for good connectivity.

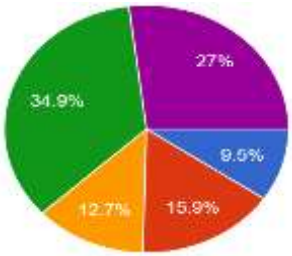
c) Ensuring continuous supply of electricity for internet

Table No. 3

No. of teachers	06	10	08	22	17
	9.5 %	15.9 %	12.7 %	34.9 %	27.9 %

Conclusion:

It is revealed from table 3 that 34.9 % secondary teachers were of opinion there should be continuous supply of electricity for internet.



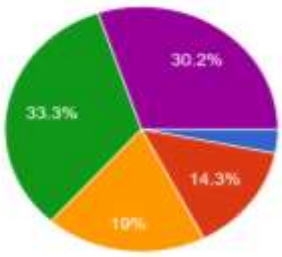
d) Conducting awareness sessions for parents

Table No. 4

No. of teachers	02	09	12	21	19
	3.2 %	14.3 %	19 %	33.3 %	30.2 %

Conclusion:

It is revealed from table 4 that 33.3 % secondary teachers were of opinion that awareness sessions should be conducted for parents, so that they will support their ward in online learning.



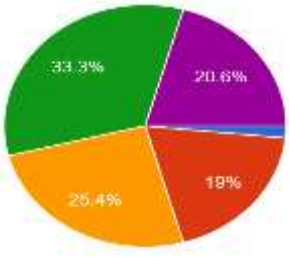
e) Conducting training to teachers to make online sessions interesting.

Table No. 5

No. of teachers	01	12	16	21	13
	1.6 %	19 %	25.4 %	33.3 %	20.6 %

Conclusion:

It is revealed from table 5 that 33.3 % secondary teachers were of opinion that training should be conducted for teachers to make online sessions interesting.



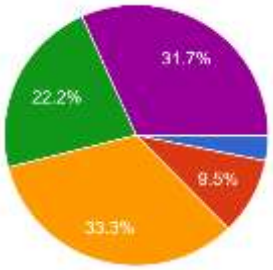
f) Online classes can be made interactive by using online aids and resources

Table No. 6

No. of teachers	02	06	21	14	20
	3.2 %	9.5 %	33.3 %	22.2 %	31.7 %

Conclusion:

It is revealed from table 6 that 33.3 % secondary teachers were of opinion that training should be conducted regarding how to use online aids and resources to make online sessions interesting.



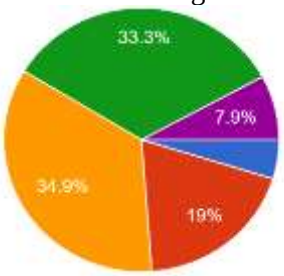
g) Mentoring for teachers to ease the students- turning off cameras, Microphone

Table No. 7

No. of teachers	03	12	22	21	05
	4.8 %	19 %	34.9 %	33.3 %	7.9 %

Conclusion:

It is revealed from table 7 that 34.9 % secondary teachers were of opinion teachers should mentor which conducting online classes to ease the students in turning off camera. Microphone.



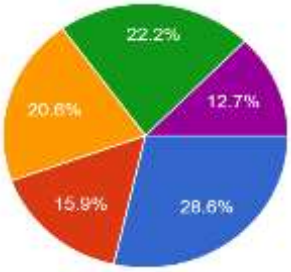
h) Assistance form Govt/PTA - to recharge Data pack

Table No. 8

No. of teachers	18	10	13	14	08
	28.6 %	15.9 %	20.6 %	22.2 %	12.7 %

Conclusion:

It is revealed from table 8 that 28.6 % secondary teachers were of opinion that Government or PTA should provide assistance to recharge Data pack for students.



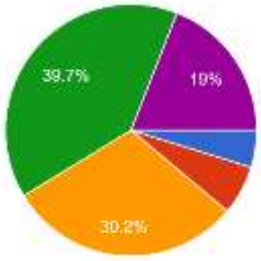
i) Conducting motivational sessions to students

Table No. 9

No. of teachers	03	04	19	25	12
	4.8 %	6.3 %	30.2 %	39.7 %	19 %

Conclusion:

It is revealed from table 9 that 39.7 % secondary teachers were of opinion that motivational sessions should be conducted for students so that they will join the classes.



Conclusion:

The present study concludes that majority of the teachers have used Google meet as teaching learning platform. Teachers should train to make use of online resources effectively. Though online education was to challenging but most of webinars can be attended from any part of country.

Online learning has pros and cons, additional research is to be conducted to find various impacting factors in online teaching learning. In future online learning is an option to offline mode if pandemic like situation arises. Parents should be made aware of online teaching.

Reference

Behera, R. S. (January 2022). Use of ICT in Teaching-Learning Process in Elementary Level Teacher Education Institutions of Odisha. Indian Journal of Educational Technology, 96- 111.

C, D. c. (June 2021). The education system in a pandemic situation. Times of India.

Chandra, J. Y. (July 2020). Teaching with Technology: Educators Experience. Indian Journal of educationaltechnology , 169-170.

Jaiswal, V. (May 2019). Indian Higher education In Yhe Era of Disruptive Technologies. University Newa, 12-13.

Joshi, R. (September 2022). Best Online Teaching Platforms in India. Classplus growth blog.

L.Thangmawia, L. P. (June 2022). Effectiveness of ICT on Online Mathematics Teaching and Learning in Secondary School. Indian Journal of educational technology, 11-19.

Lavanya, D. G. (Volume 9 Issue 5, May 2020). Enriching Education through E-Learning.

(2008). Massive online open course. Wikipedia.

Prahbhjot Malhi (Professor) Bhavneet Bharti, A. G. (January 2022). Post COVID-19 challenges of online teaching in higher education instituion: Teachers experience and satisfation. Indian Journal of Educational Technology.

Sultana, S. S. (June 2022). Appraising the Awareness, Attitude and Usage of creative common liscence. Indian Journal of Educational Technology, 1-4.

Varghese, H. C. (July 2021). Online to Offline: A long way to go. Journal of educational Technology, 106-117.

ONLINE TEACHING LEARNING PLATFORM – MATHS & SCIENCE EDUCATION

Mr. Prajval Bhaskar Salgaonkar
Teacher, Dr. K. B. Hedgewar High School Asonoda Goa, Trainee Teacher Educator, S.Y. M.Ed. GVM's Dr. Dada Vaidya College of Education, Ponda Goa

Abstract

"Teaching is the profession that teaches all the other professions," Anonymous
Teaching is always considered to be a one of the noble profession. Teaching is a ways to be up to date with your knowledge and share it with those who are interested. Education and learning are very important areas in the life of every person. Teachers help you build your character and personality and help you build your life. With today's modern advancement in technology and the world shifting to online education, teaching profession has had to change its definition. The world is rapidly moving from classroom teaching to an online teaching platform.
The purpose of the paper is to discuss about Online Teaching Platforms for Math and Science Education. Paper will examine various online teaching learning platforms that are used for teaching math and science. This paper will also discuss the advantages of online teaching platforms. Present Paper will also go over the characteristics of online teaching platforms and will also address the benefits and drawbacks of online teaching platforms.

Keywords: *Online, Teaching, Learning, Platforms, Maths, Science.*

INTRODUCTION

An **online teaching platform** is a collective group of interactive online facilities that offer information, tools, and resources to teachers, students, and other people involved in education to help and improve the administration and delivery of teaching learning activity. These facilities are helpful because it makes communication flow easily and are easily accessible.

These online teaching resources provides us with freedom and liberty to design our own courses and choosing our own timings and class schedules. Online teaching platforms are basically a fly over between learners and teachers.

Online Teaching Platforms Science Education.

- ***Kahoot!***

Kahoot! is an educational tool which can be used on any smart device with internet connectivity. This tool can be used in a classroom to play games and access learning outcomes. Also students can play on Kahoot to test their own knowledge. Either way, this platforms creates interest to the competitive spirit!

- ***ptable***

Periodic Table of Elements online resource puts everything we need to know about the elements at a glance. It had linked every element to its Wikipedia page, give the electron number, tells the properties of each element, and much more. It helps to the quiz masters to frame questions for quiz on Periodic Table.

- ***Science Kids***

Science Kids is other interactive learning platform which helps teacher to teach wonders of science. This platform has a multiple interactive science games covering variety of concepts from living things to physical processes and everything in between.

- ***National Geographic Kids***

This platform includes a large collection of videos, interactive activities, and games which keeps children of all ages engaged for hours on end.

National Geographic Kids' platform has different subcategories for ease of navigating our child's learning. Each section contains extensive and informative write-ups on different animals from lions to whales supported with world-class National Geographic footage. Each section also includes memory

games, quizzes, and other different activities to reinforce their learning by applying their new-found knowledge.

- ***PhET Interactive Simulations***

  PhET Interactive Simulations is a platform for an interactive and fun science-related website. Built and run by the University of Boulder, Colorado. This platform has a vast collection of simulators covering most topics with physics, Chemistry, Math, Earth Science, Biology.

Online Teaching Platforms Math Education.

- ***GeoGebra***

GeoGebra is a computer tool that allows students to solve problems in a energetic way. It is useful for students at all levels of study, from beginners to experts. This user-friendly software covers Geometry, algebra, spreadsheets, graphing, statistics and analysis, and calculus. Educator are interested in using GeoGebra tools for online teaching.

- ***Geometry Pad***

Geometry Pad platforms allows to study and practice geometry and fundamental constructions. It's like having a personal teacher when it comes to learning mathematics. Learners can show their geometric constructs, take measurements, use the compass, and inspects variety of geometric shapes with ease.

- ***FluidMath***

FluidMath is a platform with "pen-centric" iPad and dynamic whiteboard for mathematics. While solving difficulties and exploring with tough subjects, learners and teachers can write in their own handwriting. FluidMath is an excellent choice when it comes to using math tools in online teaching.

- ***Shapes 3D***

Shapes 3D is an platform that teaches geometry. Prisms, pyramids, revolution solids, and Platonic solids are all possible. This tool enhances teacher's abilities and provide opportunities to demonstrate things that are difficult to demonstrate with physical tools or in the classroom. Shapes 3D is another excellent alternative for educators who wish to use math tools in online teaching.

- ***Math is Fun***

Math is Fun is a platform which make math pleasurable and amusing. This platform assist students in their study by including puzzles, games, quizzes, worksheets, and a forum. The problems and solutions are all given in simple language, allowing learners to study on their own without the need of teacher.

Advantages of online teaching platforms.

- ***Efficiency***

Online learning helps teachers to deliver lessons to students in effective way. Online learning are having number of tools such as videos, PDFs, podcasts, and teachers can use all these tools to integrate lesson plans. By extending the lesson plan beyond traditional textbook knowledge to include online resources, teachers are able to become more efficient educators.

- ***Accessibility Of Time And Place***

Online education is the platforms which allows students to attend classes from any location of their choice. It also allows schools to reach out to a more extensive network of students, instead of being restricted by geographical boundaries. Also, online lectures can be recorded and shared for reference. This allows students to access the learning material at a time of their comfort. So, online learning offers learners the accessibility of time and place in education.

- ***Affordability***

Online learning reduces financial costs. Online education is far more affordable as compared to physical learning as online learning eliminates the cost of student transportation, student meals. Also, complete

course or study materials are available online which creates a paperless learning environment which is more affordable and also beneficial to the environment.

- ***Improved Student Attendance***

As online classes can be taken from home or location of choice, there are lesser chances of students missing out on lessons.

- ***Suits A Variety Of Learning Styles***

Every learner has a unique learning journey and a unique learning style. Some learners are visual learners, while some learners prefer to learn through audio. Similarly, some learners thrive in the classroom, and other learners are solo learners who get disturbed by large groups.

The online learning platform with its wide range of options and resources, can be personalized in various ways. It is the best route to create a perfect learning environment suited to the needs of each learner.

Characteristics of online teaching platforms

- ***User-friendly***

A learner-friendly online teaching platform makes things structured, easy and enjoyable. Learners will scuffle to navigate through system if it is full of bugs and technical glitches. Hence it is very important to make system not only good in terms of look and feel but also usability and navigation.

- ***Time zone friendly***

If you are having so many learners from across the world, it becomes important to coordinate time zones to work collaboratively with international learners and teammates. So it is important to ensure eLearning platform can translate directly to the time zone of each learner automatically on their profile pages. Just they have to go through their personalized account, choose their own time zones, and time zone confusion is sorted out.

- ***Interactive and collaborative***

Another features of virtual learning platform as compared to traditional classrooms is not just the flexibility of delivering lessons but also the interactive and collaborative nature. Virtual classrooms allow learners to collaborate with each other through group projects by discussing in forums, taking part in tests, and competing for high scores on the leader board. Online learning platforms also offer students greater freedom to engage with online courses and respond according to the inputs. Flipped classrooms, gamified lessons, animations are all examples which shows growth in collaborative and engaging learners. With the success of these existing techniques, new technologies will come in the future.

- ***Innovation***

Innovation is the heart of online learning for both teachers and students. Online teaching platforms provide new routes for teachers to deliver effective learning content. Learners discuss with online courses in innovative ways, showing what works and what doesn't in online learning. In few years, the virtual classroom is expected to grow to advanced technology like artificial intelligence (AI) and virtual reality (VR). As the online teaching platform grows, looking forward to see more innovation in terms of emerging technologies. As AI and VR are still evolving, they are on their way to the eLearning platform in the years to come.

Benefits of online teaching platforms.

- ***Cost-effective***

The lesser expenses related with renting classrooms, paying for travel, and printing materials are among educators' most significant benefit of e-learning as all of the information is available in electronic form, paper usage is also greatly decreased.

- ***Flexibility***

Another benefit of online teaching learning platform for teachers and learners is the wide range of materials, including videos, texts, presentations, and quizzes, that they may use to customize their tutoring approaches to the learners preferred learning styles.

- ***Productivity***

Online teaching platform is the chance to get ongoing feedback from learners on how well they comprehend the subject matter if they find it fascinating, etc. Besides, a wide range of evaluation tools is available on online platforms.

- ***Creativity***

Teachers facing lot of challenges to increase versatility and creativity to catch their learner's interest. Using a range of online platforms for online teaching learning stimulates and expands teacher's capacity for original thought.

Drawbacks of online teaching platforms.

- **Inability to Focus On Screens**

For many learners, biggest challenges of online teaching learning is the struggle with focusing on the screen for extended periods of time. With online learning, there is a greater chance for learners to be get distracted by social media. Hence, it is important for the educators to keep their online classes engaging and interactive to assist students to stay focused on the lesson.

- ***Technology Issues***

Other drawback of online teaching learning platform is internet connectivity. Although the number of people using the internet has increased dramatically over the past few years, it can be difficult to get a reliable connection with adequate speed in smaller cities and towns. Without a consistent internet connection for learners or educators, there can be a lack of continuity in learning for the learner. This is harmful to the education process.

- ***Sense of Isolation***

Learners can grasp a lot knowledge from being with the company of peers. But, in an online teaching learning process, there are least physical interactions between learners and educators. This often results in a sense of isolation for the learners. In this condition, it is importan that the school should allow for other forms of communication between the learners, peers, and educators. This can be done be creating online messages, emails and video conferencing which will allow face-to-face interaction and will decrease the sense of isolation.

- ***Teacher Training***

Online teaching learning process requires educators to have a basic knowledge of using digital platforms of learning. But, this is not the case always. Very often, educators have a very basic knowledge of technology. Sometimes, educators and learners don't have the necessary resources and tools to conducts and attend online classes. To battle this, it is important for education institute to invest in training teachers with the latest technology updates so that they can conduct their online classes coherently.

- ***Manage Screen Time***

So many parents are worried about the health hazards of having their children spend so many hours staring at a screen. This increase in screen time is one of the biggest challenege and drawback of online teaching learning platform. Sometimes students also develop bad posture and other physical problems due to staying hunched in front of a screen.

- ***Absence of Face-to-face Interaction***

Even though many learners don't like constant prodding from educators, it is helpful in increasing retention. However, a lack of face-to-face communication with the teacher restricts and minimises feedback, leads to social isolation, and also results in a lack of motivation.

- ***Compromised Communication Skills***

Online teaching learning are highly effective in boosting students' academic understanding. However, there are low communication skills development. This is an area that we often overlook during online sessions. Additionally, due to the lack of face-to-face communication in a digital world, learners may be hesitant to collaborate effectively when they are having assignments and group projects.

Conclusion

Advancement in modern technological had changed the field of Teaching Learning Process. While choosing teaching learning platforms we should take care of characteristics, benefits and challenges of this platforms. Online teaching learning classrooms must be able to accurately convey the feel of a physical classroom in an online setting. Engaging your students with an interactive learning environment and technology is the key to successful online learning.

To sum up, there are the various Online Teaching Learning platforms for Math and Science educators who wish to use tools in online teaching learning process. These tools help educators to be effective in teaching learning with the new smart generation. Each new modern technology gives chance for teachers to work upon their online skills, but not every transformation is expected to do well. Detecting what to integrate into your online teaching learning platform will require trial and error. Studying different innovations to see what works for Teaching Learning platform and what doesn't really work.

Reference

Author, Guest. "10 Online Tools That Can Bring Science to Life for Your Students." Getting Smart, 4 Feb. 2018, www.gettingsmart.com/2018/02/04/top-10-online-tools-that-can-bring-science-to-life-for-your-students/. Accessed 8 Jan. 2023.

Bhojani, Sandeep. "Online Education Advantages and Disadvantages: Is E-Learning Here to Stay? | Upskilling | Emeritus India." Emeritus - Online Certificate Courses | Diploma Programs, 23 Sept. 2022, emeritus.org/in/learn/online-education-advantages-and-disadvantages-online-learning/. Accessed 8 Jan. 2023.

Dutta, Anuvrat. "Utilizing Math Tools for Online Teaching." Evelynlearning.com, 2021, www.evelynlearning.com/math-tools-in-online-teaching/.

Gautam, Priyanka. "Advantages and Disadvantages of Online Learning." ELearning Industry, 10 Oct. 2020, elearningindustry.com/advantages-and-disadvantages-online-learning#:~:text=Accessibility%20Of%20Time%20And%20Place&text=Additionally%2C%20online%20lectures%20can%20be. Accessed 8 Jan. 2023.

joshi. Best Online Teaching Platforms in India - Classplus Growth Blog. 1 Sept. 2022, classplusapp.com/growth/best-online-teaching-platforms-in-india/. Accessed 8 Jan. 2023.

McFadden, Christopher. "11+ Best Science Websites for Interactive Learning." Interestingengineering.com, 7 Jan. 2021, interestingengineering.com/culture/11-best-science-websites-for-interactive-learning. Accessed 8 Jan. 2023.

"Top 10 Online Teaching Platforms for Teachers." Www.careers360.com, 21 Sept. 2021, www.careers360.com/courses-certifications/articles/top-online-teaching-platforms-for-teachers. Accessed 8 Jan. 2023.

"What Are the Top Characteristics of the Online Teaching System?" Pinlearn, 2 Apr. 2020, pinlearn.com/characteristics-of-the-online-teaching-system/.

GAME BASED LEARNING BEYOND CLASSROOM TEACHING

C. Pearlin Amirtha Gnanam
B.A., B.ED, St. Ignatius College of Education, Palayamkottai, Tamil Nadu

Abstract

This paper aims to peruse the GAME BASED LEARNING (GBL) method where the students and teachers will capture themselves in learning. This Game Based Learning method makes the students to learn with fun and motivates to expand their new ideas and notions. GAME BASED LEARNING platforms are designed to increase learner engagement and productivity by incorporating gaming elements into the training strategy. To make students motivated is one of the main problems that teachers must defy in the classroom. Jigsaw Learning method is the best method of learning. Game Based Learning includes games based on habitat and learning content through activities like role-plays, debates and arena with dramatic scenes. People realize the need to prepare younger generations to adapt to different and fast changing environments. Soft skills are still important and these can be learned and practiced by Game Based Learning method. There are a few hindrances in GAME BASED LEARNING method like too much of screen time and lack of focus in learning.. By this method students can't replace the traditional learning method or strategies.

Keywords: *High motivation, Creativity, Group work, Analyze the results, trying out different solutions.*

"nous ne pou vons rein etre sans jouer a letre"
"We cannot be anything without playing at being it".
- J.P. SARTRE

Game Based Learning is to create new ideas and notions among students. It incorporates game in education and it's the Acer for Education. Now we are living in an endless debate about the needs of a new generation and the methods and instruments that schools should provide in order to satisfy those needs. The key is to diversify and analyze the students learning level. Game Based Learning method can be easily used in the classroom. The result of using this teaching strategy have proven that incorporating games is highly effective because they can facilitate and encourage student motivation.

" Game Based Learning is designed to balance subject matter with game play and the ability of the player to retain and apply said subject matter to the real world".

ED TECH REVIEW

Game Based Learning is an effective method for making students work towards a goal, allowing them to learn through experimentation, run through behaviors and thought processes that can be easily transferred from a stimulated environment to real life. Basically Game Based learning is a strategy that uses the idea of playing game to reach specific learning objectives, whether they belong to knowledge, skills or attitudes. There are some benefits in Game Based Learning method. We can say that if students were motivated, teachers problems would disappear. Motivation is the first key to good teaching and learning flow in the classroom. It makes students motivated and engaged naturally. This Game Based Learning method include competition among students which can raise the level of motivation in a classroom. Teacher should never be scared of using games for learning and keep in mind that nobody is never too old to play a game. Playing can challenge students and force them to step out of their comfort zone. Including the students is the second key to play with challenge. Fortunately a Game Based Learning activity, whether it is complex or not is made of different parts and different characters. There is no limit to the creation of the type of players and the kind of participation that are required. Inclusion plays an vital role. Games are naturally student centered and students should be involved in the preparation of the game. If they are engaged and interested, they will accomplish tasks more

willingly than with traditional activities. Usually, when teachers set up the goals and the rules, most of the students will work without any further explanation and teachers can monitor and assist their students. So the third benefit is student centered teaching. There are two skills that can be practiced and learned especially when engaging in role play that is critical thinking and decision taking. When students are assigned to play specific characters in role play they should attain themselves to decide on the spot, what to do in order to reach the goal. This is the fourth benefit of Game Based Learning method. The next one is Group Work. It is not difficult to understand why a game is highly suitable for team and group work. Unity is Strength and everyone loses and everyone loses or wins when they play a game together. Without teamwork a group can't win a game. The final benefit of Game Based Learning is creativity. This is the more effective tools for fostering creativity, especially if students are involved in the construction of the game. Imagination has no limits. Teachers can leave more opportunities inside a game where students can fill in the blanks with their own solution and ideas.

TYPES OF GAME BASED LEARNING:

The types of Game Based Learning is based on the place where the game happens and the environment in which the students play. There are three types of Game Based Learning,

- Board games
- Real life games
- Digital games

BOARD GAMES:

Monopoly can be considered an educational game. It has all the necessary elements; a story,characters, points, competition and many other aspects. There are many examples of monopoly –like games for schools with certain rules and regulations for different subjects like Mathmonopoly or English Monopoly. Board games and the preparation of the game is very importantfor students. Students should be involved in the "building – of - the – game" phase because itcan be highly instructive and motivating. Keep in mind that building an educational game can bea great Project Based Learning (PBL) activity.

REAL – LIFE GAMES:

In this game the environment should be real. This is the most motivating, but also the most Stressful type of game. In this type, students must move, act, use their body and their minds in order to play. This is the most hypnotic type and it provokes the students in almost every aspect of their learning. There is some possibility to move into a certain space, the real life game is often connected to the theatre. It's easy to find role play activities, as well as simulations or drama in this type of game learning. Students should make decision according to their goals, the environment and the rules.

DIGITAL GAMES:

Now the world is in the digital and everything comes under online. Digital games can be compares to board games. In fact, a lot of digital programs for Game Based Learning were used online boards that a teacher can edit and add educational content according to the topic that will be played. Students can also involved in the building or constructing of the game, if the teacher is not able to manage online tools without their help. A digital game does not involve skills that are connected to the use of the body and the real space, but it can train students to collaborate in a different and virtual way.

Why we need Game Based Learning method specially for students? This is the running question in everyone's mind. At current bearings, these days people feel the need to prepare younger generations to adapt the different and fast changing environments. In the past, knowledge of hard skills such as obtaining degrees or certificates was a guarantee for a job. Today, hard skills are still important, but they are not sufficient enough. For this reason, the soft skills such asbeing able to communicate, engage

in teamwork, and respect time management and also necessary. A school that completely overlooks soft skills is a school that is not educating its students to be happy and successful in their lives. This is not the place to dig deeply into the concepts like soft skills and emotional intelligence but it can be said that, having interpersonal skills in empathy, listening, decision making, critical thinking and other aspects are required. If you are awestruck how these soft skills can be learned and practiced by the students, then the Game Based Learning method is one of the answer. Game learn, a well known organization that connect games and learning at any level. It recognizes that "Game Based Learning has become the best solution for soft skill learning".

Game Based Learning Vs Gamification:

Game Based Learning is often confused with gamification. Ed Tech Review defines gamification as , " the application of game elements and digital game design techniques to non- game problems, such as business (growing in education technology) and social impact challenges". So called "game elements" can be points, achievements, badges and leader boards. Basically, they are used as extrinsic motivational tools in traditional classroom activities. The line between Game Based Learning and Gamification is sometimes very thin. Game Based Learning usually includes a game- like environment and practice of the learning content through activities like arena with aromatic scenes and role plays. Gamification, is about inserting some elements of a game into traditional activities. Quizzes can be considered for gamification tools like web apps for creating quizzes, such as kahoot or quizzes. These are not considered as Game Based Learning. So Game Based Learning is better than Gamification for the students.

Jigsaw Learning for Students:

Jigsaw is the method of organizing students in both visual and virtual activity. It breaks classes into groups and work will be assigned to the respective groups. In visual learning the students can be given some assignment and they synthesize their work when it gets over. In virtual jigsaw learning students can divide in the digital platforms and given some debates. Jigsaw makes very easy to co-ordinate small group learning in break out comes. We needed to find a virtual classroom that would meet the needs of the teachers and the students. Their technology focused on learning and their amazing teamwork will be found in this virtual jigsaw learning. Through web- conferencing tools the students find easy and limited for training and learning the jigsaw tools. Jigsaw offers a learning environment that meets the unique needs of each person participating in training. Jigsaw was built with many activity based tools designed to let participants own their learning experienced by doing. It provides virtual training platform that closely mirrors our in person training. Using jigsaw, we can have virtual labs for software training and we can easily have role playing exercises to the students. Jigsaw is what we are looking for towards technology learning through some puzzles. Thus jigsaw is the most robust virtual classroom we found and we loved it. Is Game Based Learning is effective for higher education? Decades of following the same teaching pattern where teachers aimed only to complete the syllabus on time and make the students to learn. This has resulted the un reproduction of Learning where the students get tunneled. Renewed attempts to change this system have led to educators implementing a host of effective learning strategies for the overall development of the students which is not merely confined to academics. The teachers are required to organize the class and a lesson in Game Based Learning method. This makes students to get into class in fun and at the same time conducive to effective learning. The passive practice of delivering lectures and enforcing the students to unwillingly participate in activities does not contribute to learning. Game Based Learning includes a point or reward system which works well within the learning management system, if a student accomplishes a task he or she receives a reward. So this leads the students to motivate themselves and they have a activate

participation. Here are two recommendations for making an effective Game Based Learning activity and keeping students focus on their learning, not just on their fun.

- A final product
- The assessment

A FINAL PRODUCT:

Students must see concrete results for their efforts. If they create a game and then play it, assessment or feedback should be a part of it. Feedback can come from another class i.e., parents or the community and can be based on the creation of leader board, a video of the game or the launching of the game of a web page etc. This concept is valid for any in class activity but is especially valid for Game Based Learning.

THE ASSESSMENT:

Remember to give students, during the starting of the game or at the end of the assessment which can come from the teacher, a peer or through student self-assessment. Anything that is done before, during or after a game can be discussed, analyzed and revised in order to get the most out of Game Based Learning activity. In this way, teachers add extrinsic motivation by providing students with tools to help them understand that is important to have fun, but it is also important to know how to do the things properly.

Significance of Game Based Learning method:

If we look at this significance the first one is individualized feedback gives us individual feedback about our performance or about the attainment of learning objective with which the digital game is designed then creative icebreakers so there are students in unconventional classroom situation. So it is no necessary that they are very participative with the kind of learning experiences which are being given to them but when they are playing game they play a role of some kind of creative when the students who are otherwise not very responsive in the classroom, they give responses and they get engaged with the game then improved retention because learning is intense and interesting. So it also get retained in their mind and it leads to improve retention. The next one is boost engagement. Generally students especially in case of school students they find a learning or studies very boring so, they tend to spend more time on their devices like mobile, tablet, laptop, desktops but they are feed with interesting educational game, so they are engaged with the device with some purpose or with some positive purpose. It also encourages collaboration so students played with collaboration. There is also an element of trial and error in the games. Students who are engaged with Game Based Learning they learn by trial and error also and ultimately they achieve the learning objective. Problem solving is the main significance in the Game Based Learning. Because they are independently indulged with the learning task and that is how they solved the problems which comes in between attaining a learning outcome on their own and that is how they are engaged in better problem solving. Game Based Learning also leads to practicing the learning tasks because there are a lot of element which makes us to practice and therefore trial and error also leads us to practice where we gets into a learning tasks of committing some errors and then we are again retrying and that is how we are practicing. So apart from this there are certain gaming principles. Gaming involve additive grading. As we progress in playing games aligned to a certain content or learning outcomes or objectives. So the grading points are added and they are accumulated. Then badges is the another gaming principle. Badges are some digital artifacts or images which students can collect to get a feedback of their learning while they were playing a game. Then lead board is if we give some games to align to learning objectives or learning outcomes they have a lead board. It means the list of students is given in order of their attainment of points. So we can have name or we can lead boards by creating a certain symbols to identify the student and the student

can also identify themselves in the lead board and they can understand that how many students are ahead of them and where they are placed in the list of attaining particular learning goals. So lead board is also involved in designing a game as a gaming. After lead board there are many levels in this learning where learners achieve their goal according to their level. In a class of students some learn faster and some bit slower. It also depends upon their interest in particular topic but we want students to attain a specific level of learning.

Some hindrances of Game Based Learning:

Game Based Learning is a serious way for us to meet the needs of our students in way that is both engaging and impactful. However, there are still some limitations to Game Based Learning that needed to be considered before educators can use it in practice. These limitations of Game Based Learning includes the outcomes of our students: the cost of investment, as well as the shift and priorities. Not all Game Based Learning systems used in digital implementations. In addition, Game Based Learning programs often focus on consistent engagement and attention of players and students. So it decrease the attention span of users. This is the hinder of the active involvement and engaged the students. Lastly negative behaviors may come out from the students because this learning is based on the competition where the teams of individuals from the same organization compete against one another.

Conclusion:

Any game played using an electronic device, either online or stand alone then the result of the interaction builds an interactive and virtual environment that enable the players to engage with the content. Digital games provide a virtual environment where students are not limited by physical space or hands on access to learning materials. Game Based Learning is an instructional method that incorporates educational content or learning principles into digital games by engaging the learners.

Thus it's not awarding badges or points in a classroom. This Game Based Learning is actually a game as a part of educational process which could be inside the classroom or outside of the classroom.

" Do what you love and do it well – that's much more meaningful than any metric."

- Kevin Systrom.

Works cited

Adams. C. (2017, September 22). The disadvantages of using games as a learning tool. Retrieved on October 15, 2019

Jigsaw interactive in classrooms. Changing the learners and collaborates them in learning https://jigsawinteractive.com

https://www.teacheracademy.eu/blog/game-based-learning/

ATTITUDE OF TEACHERS TOWARDS THE USE OF ONLINE LEARNING PLATFORM BY THE STUDENTS: A STUDY.

Mr. Prasad Shetgaonkar
Graduate Teacher, Harmal Panchakroshi High School, Harmal Goa.

Abstract

Online learning is one of the fastest growing modes of education. It is very convenient for students as well as teachers as they can interact from their own places. In the present research the researcher did a study on the Attitude of teachers towards the use of online learning platform by the students in the schools of Pernem Taluka. In this study the researcher used a descriptive research design which adopts both qualitative and quantitative paradigms. Data was collected through rating scale for teachers designed by the researcher. Descriptive statistics was used to analyze the data in which percentage (%) was used to describe the data.

Keywords: *Attitude, teachers, online learning platform, students.*

INTRODUCTION: "Education is the most powerful weapon we can use to change the world" (Mandela Nelson, 2003 cited in Agarwal S., 2020)."Online learning is a form of education that takes place over internet.Online learning platorms play an important role in modern education." (Liu,Z.Y.,Lomovtseva,N. & Korobeynikova,E.(2020)).An online learning platform is a portal for educational content and resources that offers a student everything they need in one place: lectures ,resources, opportunities to meet and chat with other students and more. Al_Mosa (2002) defines E-Iearning as a learning method that uses modern communication techniques like computer, computer networks, searching engines, E-libraries and multimedia. Online learning is one of the Form of education in which the main elements include physical separation of teachers and students during instruction and the use of various technologies to facilitate student -teacher and student- student communication. Various type of digital media are used to communicate with one another. It is a newer form of distance learning as it started existing since internet became widely available. Some of the characteristics of online learner are persistence, initiative, organized. Online learning has become popular due to its convenience and easy operations. The use of online learning platform increased during the period of COVID -19 lockdown in 2020 and 2021. Online learning has advantages such as it allow the students to be flexible over the schedule of online learning. It provides a number of ways for the students to reduce on the costs. One of the benefits online learning are massage boards and grouping tools that allow students to give their feedbacks, assignments quickly. However online learning platform may have certain disadvantage as it may lack the enthusiasm kind of environment presented by a classroom. Overexposure to mobile phones may cause health hazards like headache, weak eyesight and also students may face lack of concentration.

STATEMENT OF THE PROBLEM:

"The study of the Attitude of teachers towards the use of online learning platform by the students."

NEED OF THE STUDY:

Researcher thought of undertaking the proposed study as while going through the review of related literature it has been observed that there is a significance of using online learning platforms by the students and there is a need to carry out a research to find out attitude of teachers towards the same in the state of Goa in Pernem Taluka.

OBJECTIVES OF THE STUDY:

To ascertain the attitude of teachers towards the use of online learning platform by the students.

RESEARCH QUESTIONS:

What is the Attitude of teachers towards the use of online learning platform by the students?

SCOPE AND DELIMITATIONS:

a. Scope

Proposed research is useful for all the stake holder of education who have positive attitude towards the use of online learning platform by the students

Delimitations:

i. Delimited to Pernem Taluka of Goa state only

ii. Delimited to 50 teachers only.

RESEARCH METHODOLOGY: In the proposed study the researcher selected the population consisting teachers teaching in the schools of Pernem Taluka coming under North Goa district of Goa state.50 teachers were selected by convenient sampling technique. The researcher used convenient sampling method. A self-design rating scale was used to collect the data. Rating scale included points to find positive as well as negative attitude of teachers towards the use of online learning platform. Descriptive statistics was used to analyze the data in which percentage (%) was used to describe the data.

ANALYSIS OF DATA (In Percentage)

Sr. No.	Rating scale	Strongly agree	Agree	Partially agree	Disagree
1	Online learning platform waste the time of the students.	10.9	9.1	47.3	32.7
2	Online learning platform causes loss of interest in classroom learning.	12.7	38.2	29.1	20.0
3	Online learning platform causes waste of money and financial pressure on parents.	23.6	29.1	27.3	20.0
4	Online learning platform results in misunderstanding the concept among the students.	12.7	18.2	38.2	30.9
5	Online learning platform leads to social isolation of the students.	18.2	52.7	21.8	7.3
6	Online learning platform causes misuse of technology by the students.	34.5	34.5	30.9	___
7	Online learning platform causes stress and anxiety among the students.	12.7	27.3	34.5	25.5
8	Online learning platform affects the physical health of the students.	23.6	43.6	23.6	9.1
9	Online learning platform causes lack of classroom ethics and in person interaction.	43.6	40.0	12.7	3.7
10	Online learning platform causes distraction of students from the studies.	23.6	40.0	30.9	5.5

11	Online learning platform helps students to learn new skills and capabilities.	16.4	47.3	36.4	___
12	Online learning platform helps building the confidence level.	3.6	29.1	38.2	29.1
13	Provides freedom to learn from anywhere.	34.5	54.5	10.9	___
14	Gives students the freedom to go in depth on a topic.	23.6	40.0	30.9	5.5
15	Builds independent learning and study habits.	23.6	43.6	25.5	7.3
16	Ensures easy access to learning resources.	20.0	58.2	21.8	___
17	Helps to reduce on transportation costs.	23.6	49.1	12.7	14.5
18	Provides opportunities to receive immediate feedback.	20.0	50.9	27.3	1.8
19	Provides opportunities to learn new technical skills.	32.7	50.9	14.5	1.9
20	Develops self- motivation and self-discipline.	7.3	38.2	36.4	18.2

FINDINGS:-

1) Out of total number of teachers most of the teachers partially agree that online learning platforms waste the time of the students , results in misunderstanding the concept among the students whereas most of the teachers agree that the online learning platforms causes waste of money and financial pressure on the parents , causes loss of interest in the classroom learning whereas some teachers partially agree that online learning platforms causes loss of interest in the classroom learning , causes waste of money and financial pressure on the parents some teachers disagree that online learning platforms waste the time of the students , results in misunderstanding the concept among the students whereas very few teachers strongly agree that online learning platform results in loss of interest in the classroom learning , waste the time of the students , results in misunderstanding the concept among the students and very few of them agree that online learning platform waste the time of the students , results in misunderstanding the concept among them and very few disagree that online learning platforms causes loss of interest in classroom learning and waste money and create financial pressure on parents.

2) Out of total number of teachers, most of the teachers agree that online learning platforms results in social isolation of the students , misuse the technology , affect their physical health , distract them from their studies , partially agree that online learning platform causes stress and anxiety among them , strongly agree that online learning platforms causes misuse of technology and causes lack of classroom ethics and in person in person interaction.

3) Out of total number of teachers some teachers strongly agree that online learning platforms affect the physical health of the students , distract them from the studies , partially agree that online learning platform causes distraction of the students from the studies , affects their physical health , and agree that online learning platform causes stress and anxiety among the students , causes lack of classroom ethics , and in person interaction , disagree that online learning platforms causes stress

and anxiety among the students whereas very few teachers disagree that the online learning platforms affect the physical health of the students , lack classroom ethics and in person interaction in them , distract them from their studies , whereas very few strongly agree that online learning platforms causes stress and anxiety among the students and partially agree that they lack classroom ethics and in personal interaction.

4) Out of total number of teachers, most of the teachers agree that online learning platform helps students to learn new skills and capabilities, provide them freedom to learn from anywhere and to go in-depth on a topic, helps building independent learning and study habits, ensures easy access to learning resources, helps to reduce on transportation cost, provides opportunities to receive immediate feedback, to learn new technical skills and help developing their self- motivation and self-discipline . Also most of them partially agree that online learning platform helps building the confidence level of the students where as some teachers strongly agree that online learning platform provides freedom to learn from anywhere, to go in depth on a topic, builds independent learning and study habits, ensures easy access to learning resources, reduce on the transportation cost, provides opportunities to receive immediate feedback, to learn new technical skills.

5) Out of total teachers some teachers partially agree that online learning platform help students to learn new skills and capabilities, give them freedom to learn from anywhere, ensures easy access to learning resources, builds independent learning and study habits, provides them opportunities to receive immediate response, to learn new technical skills and developed self- discipline and self-motivation whereas very few teachers disagree that online learning platform gives freedom to the students to go in depth on the topic, builds independent learning and study habits, reduces on transportation cost, provides opportunities to receive immediate feedback, to learn new technical skills, developed self- motivation and self- discipline , where is few of them partially agree that online learning platform helps building their confidence level.

DISCUSSION

The purpose of the study was to find out the attitude of the teachers towards the use of online learning platforms by the students. Through the research study the researcher found out that the teachers have positive as well as negative attitude towards the use of online learning platforms. Based on the findings of the above research, the researcher felt the need to develop strategies; power point presentations can be used to make the topic to be taught more effective and interesting in the online learning. Through the negative findings, researcher felt that the students should be given the exposure and opportunities to make use of online learning platforms but proper guidance from the teachers and parents should be provided to them. Teachers should be also given the flexibility to make use of online platforms according to the need of the students and not fixed to the curriculum. Teachers can be more empowered by giving proper training, facilities like smart board, internet facilities which will help and develop positive attitude towards the use of online learning platforms in the teachers as well as students.

REFERENCES

Verma Iti (2021) -An analysis of students perceived effectiveness of Elearning in higher education.

Anbuchezhian, M A (2006): study of information and communication technology in colleges of education in Tamil Nadu

Trakru, Monica(2014) Effectiveness of eLearning in Higher Education A Study of Professional and Traditional Institutions

Lokesh Koul (Fourth Edition) – Methodology Of Educational Research 5) N.R. Swaroop Saxena Sikha Chaturvedi – Education In Emerging Indian Society

REPOSITORY OF DIGITAL INSTRUCTIONAL PLATFORMS FOR EDUCATORS

Nawazish Praween
Student, M.Sc. Mathematics Education, Cluster Innovation Centre, University of Delhi

Abstarct

Technology integration is emphasized in the National Education Policy 2020 (NEP-2020). According to the strategy, one of the fundamental guiding concepts for the educational system will be the "wide use of technology in teaching and learning, removing language barriers, improving access, as well as education planning and management." In this context, NEP 2020 has outlined laying criteria to promote the integration of digital resources in the classroom, which will become a digital push for quality development in the field of education.
This study aims to create a repository of online teaching platforms for teachers to teach efficiently. Thanks to online learning platforms a teacher has the opportunity to choose multisensory teaching materials from hundreds of teaching strategies using digital technologies.These provides room for class customization to accommodate the diversity of the classroom & individual learners also help in elimination of geographical disadvantages and makes tracking and evaluation of all activities easier. This repository is a collection of 40 online teaching platforms some of which are free while for some users have to pay one time.This repository has further segregated on the basis of key features & functions .This repository is not the final list , can be enriched with more efforts.

Keywords*: Online teaching platforms ,Teaching ,Learning ,Assessment,Repository*

Introduction

Due to lockdown procedures and other limitations brought on by the COVID-19 pandemic, educators and students were obliged to adopt an online learning environment. However, it has been noted that the ever-evolving nature of technology has demonstrated its potential and cannot be misinterpreted as a short-term solution in instances like the pandemic; rather, it must be acknowledged for its incorporation into the teaching-learning process or educational system.

According to GM Insights, the online learning industry has surpassed $ 250 billion and is expected to grow at a CAGR of over 21% by 2027.

Digital learning platforms are basically an innovative technology that transforms the physical class into virtual classrooms that facilitates the teacher to teach at their own pace by selecting multisensory resources & tools from thousands of options , sharing assignments ,tasks ,collaborative projects and keeping track of the learners. Not only teachers, they also help learners learn at their own pace ,solve assignments whenever they are free and in whatever expression mode they want ,especially for the CWSN.

The digital instructional platforms are very effective to solve some unresolved problems and are -

- Provide quality education
- Provide equity based education
- Provide education to all
- Make education access to all
- Make learning meaningful and engaging.
- Increase in enrollment ratios

Learning management system

A Learning management system makes the teaching -learning process possible with one click of teacher and learners. It is an educational technology content that makes the virtual classroom a replica of a physical class . LMS is very diverse in all aspects of teaching, whether it is about videos and documents presented in an online class.

Objectives of Study: The objectives of the study are;

1. To study the characteristics of existing online digital platforms.

2. To create a repository of mathematical learning tools for auditory deficit learner (deaf)

Methodology-

This study is an exploratory research done to explore the characteristics of existing digital instructional platforms and make a repository of the digital instructional platforms for educators

Results & discussion- implications

We can consider the development of online /digital instructionals platforms as a boon of technology for the education system . These platforms which consist of live teaching ,schedule classes ,students performance tracking system ,multisensory tools etc are very helpful for teachers as it helps the dedicated or passionate educators to make the teaching -learning process effective ,interactive and engaging .

As we are emphasising to make the classroom inclusive ,these platforms can be very supportive to cater the spectrum of the inclusive classroom.

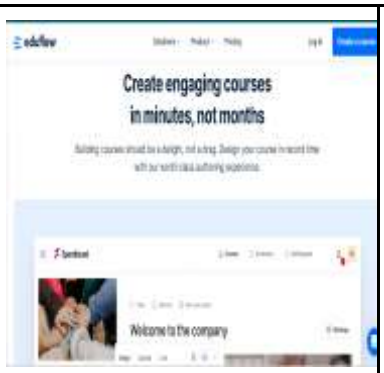
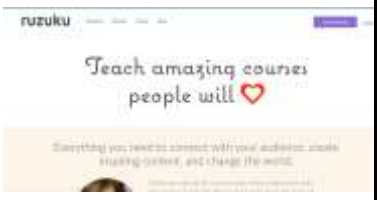
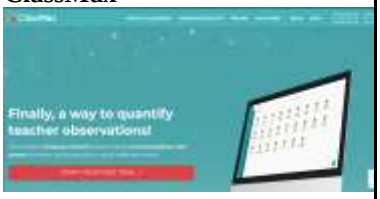
This study has mentioned here the list of about 40 existing digital instructional platforms for educators.

S.No	Online Teaching Platforms	Features & Facilities offer
1.	**Teachable** 	This platforms provide features to design online lessons and coaching classes on different subjects . Also educators can create quizzes ,discussions and assessments etc. There are no specific requirements for signup.One can use the platform's premium plans for a free trial,with the email and school name. But educators need to pay the fees to use the platform.
2.	**Moodle** 	Moodle is a free and open-source learning management platform that allows the educators to design a course ,teach online and assess the learners & keep track of the learner progress in short help in managing the teaching-learning process virtually. It is very helpful in blended learning,distance education ,flipped classroom and other learning projects.
3.	**Padlet** 	It is a platform where educators can design one or more walls that can hold every content they choose to share. It is basically a blank page, where movies, pictures, documents, music etc can be put . Its basic plan is free.
4.	**Simple Learn** 	Simplilearn is a fantastic online teaching and learning platform where you can network with other teaching professionals and share your skills. It has a strong emphasis on developing online courses in fields like Cloud computing, Big Data, Full Stack programming, and many others. You only need to fill out an online form at Simplilearn and wait for a response from a representative to begin working in this field.

5.	**Skillshare** 	Teachers can design 10- to 25-minute classes on Skillshare that include videos and group tasks. It works on a membership subscription model with a rate of 10$ per subscription. To get started with this no approval required one can simply visit the official website to start .
6.	**Podia** 	Podia is a paid online platform that offers choices for creating courses, managing data and payments, marketing projects, and much more. There are no page restrictions and you can create mobile-friendly pages. Downloads may be produced for lead generation or sales. It provides multiple-choice quiz production, hosting for videos, and other services. One can avail a 14-day free trial by creating an account. After that, one need to choose a plan starting at INR 2866.890 per month.
7.	**Byju's** 	It is a live teaching platform that enables teachers to give individualised lessons to school children around the world in a variety of areas, including maths and science. Here the curriculum is predesigned. Teachers just have to preview before teaching & teachers can take students' doubts & provide solutions. Any graduate can go for Byju's selection round ,then go for registration and interview .
8.	**Cuemath** 	It is a platform for teaching maths and coding to kids in grades K–12 in more than 20 nations. Anyone who is proficient in high school-level arithmetic and coding, possesses soft skills, and has empathy for children is eligible to apply to work as a teacher at Cuemath. Teachers are required to submit an online application, if selected, they must pay a one-time charge for training and certification.
9.	**Unacademy** 	This platforms allow users to create content on any educational topic of maximum 15 minutes already listed or new ones. Teachers can add whiteboard notes , handwritten notes ,pdf ,presentation and more.Teachers receive rewards based on the total number of views for their videos rather than remuneration. Teachers need to download the Unacademy ,create a profile and enter bio details & subjects they want to teach . Then need to submit a 3-minute demo video in landscape mode which can comprise ppt ,images ,and pdf. Teacher will notify via email if got selected.
10.	**Edapp** 	It is an online teaching platform with intuitive tools for building employee education programs at-scale. EdApp offers over 80 templates for easy building of personalised courses with the option to include games, quizzes, videos, evaluations, and more. It offers a free plan .

11.	**Kajabi** 	It is also an online teaching platform . An Educator can build, develop, and administer a variety of digital goods with the aid of Kajabi, including communities, podcasts, and courses with the powerful templates of the Kajabi. Basic plans after a 14-day trail starts with $119/month.
12.	**FlipGrid** 	Here learning happens anywhere,anytime through video discussions. Flipgrid is a free platform that enables teachers to post discussion-style questions, and students can respond by uploading videos/audios. This is a very effective tool for assessment of CWSN .
13.	**Edmodo LMS**	It is a cloud-based teaching platform that facilitates collaboration among teachers -learners -parents. It has features of unlimited storage, quickly creating groups, assigning homework, schedule quizzes, manage progress, and more. Its basic features are free.
14.	**ProProfs LMS** 	It is a LMS which facilitates teaching, training,assessment ,quizzes etc in an interactive way.
15.	**Learnyst** 	One of the most complete and feature-rich platforms , it allows tutors to design their courses from scratch. Its mobile app is also available . Provide facilities to upload content rich with ppt ,video ,image etc. Users can sign up and utilise Learnyst's forever-free plan and explore the platform.
16.	**Udemy** 	Udemy is a global platform to teach online with support for over 65 languages in more than 180 countries. Anyone can create a course that includes documents, video lectures or screencast videos, presentation files, and more for free in different subjects. Here ,the tool marketplace insights gives you hints regarding demand topics. Teachers can work with multiple people to create a course. Instructors earn money on all paid enrollments based on the revenue share model. Instructors need to sign up on the Udemy websites and go to the option to become an instructor options and answer fews questions and set up your profile. Here no approval required instructors need to complete their identity verification. For paid courses, one needs to register as a premium instructor.

17.	**Vedantu** 	It is an Indian tutoring platform where anyone can teach via live video conferences. One can apply via filling a simple form which is then screened by experts ,shortlist teachers need to prepare a topic of their interest for demo Teachers can make up to INR 75,000 a month if they are available for at least three hours every day between 4 and 10 PM IST.
18.	**Course Craft** 	It allows an innovator to create different courses with quizzes,text,forum quickly. Provide a dashboard to schedule lessons ,handle payments and more . Teachers have the option to go for free or premium monthly subscriptions.
19.	**Edugyan** 	An online platform to facilitate designing courses ,go live and online teaching ,secure courses . It is all in one hassle free online tutoring software with no revenue sharing platform.
20.	**Chegg India** 	An online teaching platform designed for the passionate teacher who wants to do a part time job ,chegg india is a good platform for this. One needs to sign up, then after filling the details need to go through the assessment process and then wait for their confirmation.
21.	**Learndash** 	LearnDash is a strong WordPress plugin that quickly and easily adds the course-selling capability to your website. LearnDash provides a simple drag-and-drop interface that makes it quick and simple to create your first online course. It facilitates quizzes ,certificates and design customization of the contents . It is very good and simple to use for beginners .
22.	**Waklet** 	It is a free online platform that allows presentation of engaging and interactive educational contents. Teachers and students create collections using the platform Wakelet. They resemble Pinterest boards that are used in classrooms. Text, images, links, videos, and other content can also be added to them.
23.	**Techysoar** 	It is a paid platform that helps you to build your own LMS and allows you to create and sell interactive unlimited courses. Having features to conduct live classes on you-tube or on zoom/meet.
24.	**Eduflow**	Eduflow is a powerful LMS that help in creation of course with ease. This platform Discussion prompts, forums and other interactive options help boost engagement on this educational platform. You

		can track the completion of students' activities, and they can track their progress too. The instructor first need to the explore the free features /courses after compilation the instructors will get the certified instructor certificate to continue with the platform. The course outline - ● Fundamentals of how to create a course ,use tools,add activities ,add & manage participants and track learners progress. ● How activities work ,peer & instructors review. ● Embeds and integration The teacher can invite the learners through the invitation code .
25.	**Ruzuku** 	Ruzuku platform for online teaching enables experts in different fields to create courses. It provides the ease of displaying presentations, word documents, PDFs, and so on. You can host video broadcasts and teleconferences. Discussion prompts, forums and other interactive options help boost engagement on this educational platform. You can track the completion of students' activities, and they can track their progress too. It gives a 14-day free trial after that price INR 5494.873.
26.	**Quizlet** 	Provides features to design an interactive class with the help of flashcards and games. It is very helpful for a blended learning classroom .Helps learners to enhance their learning .
27.	**ClassMax** 	It is a very easy virtual teaching-learning platform that guides educators to use the different tools to design a class ,contents ,assess the learners progress,can design seating charts and monitor the behaviour of the learners . It offers a 14-day free trial ,then after the pricing is according to the teachers' needs.
28.	**Academy of Mine** 	It provides a platform for educators to create their own academy by simply dragging and dropping actions. Its notable features are - on-demand-self paced learning,virtual classroom,reports & analytics and personalised course/content. Its basic plans start with $599 per month.
29.	**Thinkific** 	This platform provides facilities to build and share e-learning courses for various businesses,with video lessons, games ,assessments and more . It is best to market a course and grow the audience . To test the features one can go with the free plans .

30.	**Pocket Study** 	Pocket Study is a user-friendly cloud-based LMS platform with a course selling portal which assists instructors, coaches, and institutions in launching their online courses and to set-up live classes. It provides features of create & sell courses ,conduct live classes, make private video channels ,pool of audio lectures ,personalised e-library,conduct live classes ,live chats with learners and also facility of parents -teachers meet.
31.	**Learn Worlds** 	This platforms provide a high level of interaction. It provides facilities to -create contents, including video, eBooks, audio, PDFs, quizzes, etc. The basic plan starts with $24 per month
32.	**Preply** 	It is a language learning e-platforms.It is a platform for those who want to be language teachers in English, French,Arabic, etc.. Good for private online lessons with flexible payments options.
33.	**Google Classroom**	It is the most used and fantastic online teaching platform that allows easy communication ,teamwork ,assessment and files sharing . A powerful tool for flipped classrooms. Also has features to make a class website.
34.	**Dialpad** 	It is a cloud based platforms allows educators to create a online campus and brings all learners under one roof. Educators can create a virtual classroom in seconds that can be joined by any device.
35.	**Prodigy Math Game** 	It is a Canadian based learning platform aimed to make mathematics learning into a digital game . Very useful for maths teaching and assessments.
36.	**WizlQ** 	It is a virtual classroom software platform that runs in the cloud and has an intuitive user interface that enables teachers to run live classroom sessions with two-way communication. Provide tools like -Hand rising tools ,white boards,analytics & reports on student performance . Teachers can store documents ,recorded video & audio sessions so that if a learner misses any class can cope up and review it anytime. WizIQ's starting monthly rate is $25, and the company also provides a 14-day free trial.

37.	**Blackboard collaborate** 	It is a highly interactive, browser-based platform for online instruction designed to facilitate learning experiences. Provide tools like -Virtuals ticks,file sharing ,text chats ,hand rising tools ,white boards,quizzes,screen-sharing,real -time annotations & text ,live polls. Teachers can record ,manage ,monitor the session and evaluate the performance accordingly. Blackboard Collaborate enables the teachers to connect with entire classes or specific students according to the needs of the class. Blackboard Collaborate offers a 30-day free trial.
38.	**Learncube** 	It is a browser-based simple to use virtual classroom programme that offers file sharing, two-way audio and video communication capabilities, videoconferencing, real-time chat, session recording, and a host of other features created with teachers' and students' requirements in mind. Provide tools like -Virtuals ticks,file sharing ,text chats ,Hand rising tools ,white boards,analytics & reports on student performance and make the platforms appropriate for any size. The most basic plan is free and Other plans start at $14 per month.
39.	**Vedamo** 	It is a browser-based, online learning platform with a strong emphasis on collaboration and interactivity between teachers and students. The key features of this application include unlimited virtual classroom sessions with 25 learners per session, an interactive whiteboard, live streaming capabilities, and screen and file sharing. The breakout rooms, are one of its more distinctive characteristics, enable teachers to give students group projects just like they would in a traditional classroom. Vedamo offers a $25 virtual classroom plan with a 30-day free trial.
40.	**Adobe Connect** 	It is an online teaching platform that runs in a web browser with Adobe Flash Player. It offers teachers the opportunity to host on-demand or live online classes from anywhere. Provide tools like -Virtuals ticks, real time & private chats ,interactive polls & voting ,file sharing ,text chats ,Hand rising tools ,interactive white boards. Adobe Connect has a Section 508-compliant virtual classroom solution that makes the virtual classrooms more accessible for students with disabilities. Plans start at $50 a month per user with a free trial.

Conclusion & implications.

This study aimed to make a repository of existing digital instructional platforms for educators and special educators.These platforms are used for self-directed learning by both teachers and students.Also some of these platforms and easy to use but for some users has to pay after the trial period .The massive web resources that are now available serve as proof of the recent development in technology.Also as

mentioned in the abstract this is not a comprehensive list of all the available resources, it can be enriched with more effort.

References

Journal of Technology for ELT - 3. Edmodo: A Beneficial Digital Tool for English Language Teachers -- by Lakshmi
https://quizlet.com/
https://www.udemy.com/
https://www.edx.org/
https://www.prodigygame.com/
https://edu.google.com/
https://www.skillshare.com/
https://www.dialpad.com/
https://www.coursera.org/
https://classmaxapp.com/what-is-classmax/
https://preply.com/
https://www.pocketstudy.app/product
https://techysoar.com/
https://info.flip.com/
https://wakelet.com/
https://padlet.com/
https://www.eduflow.com/
https://www.adobe.com/
https://www.vedamo.com/
https://www.learncube.com/
https://www.blackboard.com/
https://help.wiziq.com/
https://preply.com/
https://www.learnworlds.com/
https://www.thinkific.com/
https://www.academyofmine.com/
https://quizlet.com/
https://ruzuku.com/
https://www.learndash.com/
https://www.vedantu.com/
https://www.craftcourses.com/
https://www.edugyan.org/
https://www.learnyst.com/
https://moodle.org/
https://kajabi.com/
https://www.podia.com/
https://moodle.org/
https://www.cuemath.com/
https://byjus.com/
https://www.skillshare.com/
https://www.simplilearn.com/
https://teachable.com/
https://www.cheggindia.com/
https://www.cheggindia.com/earn-online/part-time-online-teaching-platforms-in-india/

CERTIFICATE OF ORIGINALITY

This is to certify that the research paper submitted by me is an outcome of my independent and original work. I have duly acknowledged all the sources from which the ideas and extracts have been taken. The project is free from any plagiarism and has not been submitted elsewhere for publication.

EFFECT OF GAMIFICATION TEACHING APPROACH ON STUDENTS ACADEMIC PERFORMANCE IN ACCOUNTANCY SUBJECT

Mr. Chatim Aldonkar Hemant Deepakant[1] & Mr. Kamble Ketan Laxman Aruna[2]

[1]B.Ed. Student, Ponda Education Society's College of Education, Farmagudi, Ponda, Goa

[2]Assistant Professor, Ponda Education Society's College of Education, Farmagudi, Ponda, Goa

Abstarct

The teaching strategy used in the classroom influences the students' performance. For a variety of reasons, students need to be motivated to study and here gamification can work as a tool for increasing students' attention spans, motivation, and develop urge to respond as this approach incorporates game-like elements in the teaching strategy. The objectives of this study were to identify problems and to test the effect of gamification approach on academic performance in accountancy subject of standard 11th commerce students. In this study mixed method was used whereby descriptive survey design was implemented for identification of problems in accountancy. To test the effect of gamification teaching approach on students' academic performance, experimental method with quasi experimental design was being applied. The control group which included 40 students, was instructed using the traditional lecture method whereas the experimental group which included 40 students, was exposed to gamification teaching approach. For both groups, pre-test and post-tests were administered and recorded. Therefore it was concluded that the gamification teaching approach was effective in improving students' academic performance in accountancy subject.

Keywords: *Gamification Teaching Approach, Students Academic performance, Accountancy Subject.*

INTRODUCTION

The study of commerce focuses on fostering the information, abilities, and attitudes needed to manage trade, commerce, and industry. Chartered Accountants, Cost and Works Accountants, Company Secretaries, and Business Administrators are some of the more modern professions to emerge from the field of commerce education. (Agarwal. n.d.). The purpose of commerce education is to create human capital necessary to meet the difficulties facing business and commerce world. (Jain. 2018). The preparation of a businessman, in Herrick's opinion, comes from commerce schooling. It covers every form of schooling that helps someone become a successful businessman. (Gupta. 2019).

In Goa State Board, the subjects taught in the higher secondary Commerce stream includes Accountancy, Secretarial Practice or Mathematics, Economics and Statistics of Economics, Business Studies, Banking, English, Hindi or Konkani, Physical Education, and Information & Communication Technology. One of the core subject which is being provided at the higher secondary level in commerce course is Accountancy. The framework of accountancy is made up of a series of concepts, principles, methods, and regulations. It provides accounting with a structure and methods that accountants can use to locate, gather, record, and present financial information. It also directs the usage of financial records. (Feder. 2021 & Surbhi. 2021). Accounting is a process designed to present financial information by accumulating, recording, maintaining, and reporting on the end user's financial activities. (Feder. 2021. & Ram. and et.al. 2019).

In the coursework of accountancy for 11th standard, topics like Accounting concepts & principles, Double entry system, cashbook, final accounts of a sole trader, etc. are covered. For the 12th standard, partnership accounts and company accounts are handled in depth. (GBSHSE. 2022). This curriculum places additional emphasis on the procedural requirements for abiding by several

regulations, including the Income Tax and the Companies Act. The primary goal of accounting education is to educate students for the corporate world. (Pandit. 2021).

In addition to this conventional manner of teaching, other approaches, can be employed to modernize the subject of accountancy and aid in student learning. Accounting can be taught using a variety of cutting-edge and innovative techniques, such as peer tutoring, simulations, games and case studies, (Panja. 2018). Use of power point presentations, Run Your Own Real-World Business, Making personal budgets is a novel method for accounting instruction. (Kessler. 2021). The needs of contemporary students can be met by a novel way to teaching accountancy that uses gamification.

Gamification is a technique that inserts aspects from games into non-gaming activities to increase motivation and participation thereby positively impacting on students' academic performances. (Flores. 2015, Anonymous. 2021, Durso. and et.al. 2020). Winners and losers or even how your students play the game have no bearing on the outcome in a learning environment. (Gupta. 2022). The primary goals are on boosting a student's involvement and inspiring him or her by adding game aspects and tactics, like leader boards and instant feedback. As a result, the learner feels engaged and empowered as they go through the processes and complete the objectives. (Flores. 2015).

Therefore, this research analyzes how students would enhance their cognitive abilities in an accounting course by implementing gamification approach. Students tend to be passive learners and less actively encourage critical thinking abilities in the teacher-centered learning model. However, this study will develop a number of accounting transaction tasks in the form of a chit jar game, which groups will play and apply the accounting concepts in order to solve the game tasks. For this, a classroom based non-computer game is chosen and accordingly 4 groups are made. (Rosli. and et.al. 2017)

The goal of applying gamification technique in accounting course is to assist students in becoming "physically" involved in accomplishing the accounting tasks, motivating them and getting them involved in the learning process. Once this has been accomplished, the learner will be able to record the accounting transaction and create analytical petty cashbooks and special purpose books. Thus, lecturer can use this method to increase the students' interest and motivation level comprehension, and capacity for critical thought in the context of the accounting problems. (Rosli. and et.al. 2017)

NEED OF STUDY

According to need based study done by researchers, majority of the student's face difficult in accounting problems due to lecture method (special journal books). To teach this unit essential lecture method can be enhanced by gamification to improve academic performance of students.

OBJECTIVES

1. To identify problems in accountancy subject of standard 11th commerce students.
2. To test the effect of gamification approach on academic performance in accountancy subject of standard 11th commerce students.

RESEARCH QUESTION

1. What problems are faced by students of 11th commerce in the subject of accountancy?
2. What is the impact of teaching through gamification approach on academic performance of the students?

HYPOTHESIS

Null hypothesis – There is no significant difference in mean score of academic performance of control and experiment group after implementation of gamification approach in teaching accountancy subject.

Research hypothesis – There is significant difference in mean scores of academic performance of control and experiment group after implementation of gamification approach in teaching accountancy subject.

Scope

The scope of this study extends to higher secondary school affiliated to Goa state board.

De-limitations

Gamification teaching approach was delimited to a few areas in accountancy subject.

Limitations

Participation of students in gamified class and responses to questionnaires and post-tests.

METHODOLOGY

Research method and design

In this study the data was collected and analyzed on the basis of mixed method whereby it included both, qualitative and quantitative data. For objective 1 descriptive method with survey design was used. For objective 2 experimental method with Quasi experimental design was being applied.

Quasi experimental design

Group	Test	Treatment	Test
Control group	Pre-test	Traditional lecture method	Post-test
Experimental group	Pre-test	Gamification teaching approach	Post- test

Variables

Independent variable: Gamification teaching method-

A plan structure of teaching 11th commerce accountancy subject with the help of game elements supported by lecture method of teaching.

Dependent variable: Academic performance of students –

Students score obtained in pre-test and post-test of accountancy subject made by researchers.

Population

11th commerce students of Higher Secondary School affiliated to Goa state board during the academic year 2022–2023.

Sample

Sample was chosen from St Thomas Higher Secondary School, Aldona, Goa. (2022-23 batch). For need based study in accordance with objective 1, a sample of 30 accountancy students from 12th commerce were surveyed. For objective 2, a sample of 80 students studying accountancy was selected from 11th commerce out of which 40 students were selected for experimental group that is gamification teaching approach group and other 40 were added in control group that is traditional teaching method group.

Sampling method

Convenience sampling technique was used to select sample of both the objectives as researcher selected students from school which allowed to conduct research.

Data collection tools

To collect the data for objective 1 questionnaire, both open and close-ended questions were used. Close-ended questions were given a level of difficulty in accountancy subject ranging from easy to medium to difficult, while open-ended questions asked to give a reason for the same. For objective 2 teacher made test was administered to collect the data.

Data analysis tools

Data obtained from objective 1 was qualitatively analyzed by coding-decoding and quantitatively analyzed with the help of percentage. Data obtained from objective 2 was quantitatively analyzed with the help of mean, standard deviation, T - test and effect size.

DATA ANALYSIS AND INTERPRETATION

Objective 01 - To identify problems in accountancy subject of standard 11th commerce students.

Data was collected with the help of questionnaire to identify the area of difficulty being faced in 11th standard commerce during the 1st term. Both, qualitative and quantitative questions were asked.

Table- 01: Observation table of students area of difficulty level in Accountancy subject in percent

Content	Difficulty level			Total
	Easy	Medium	Difficult	
Accounting Problems	32.40	47.21	20.39	65.00
Accounting Theories	40.48	49.05	10.47	35.00

Interpretation – Major part (65%) of accounting curriculum comprised of accounting problems, and fewer (35%) covered accounting theories. Researchers found that most (40%) students thought theory was easy while few (32%) felt that accounting problems were easy. A close-range of 47% and 49% of students, respectively, judged that the level of difficulty for accounting theories and problems was medium. Least (10%) students felt that theories were difficult, while maximum (20%) students faced difficulty in accounting problems.

Finding – During the first term in 11th commerce, majority of the students struggled with learning the accounting problems.

Table- 02: Observation table of student's difficulty level in Accountancy subject- unit wise in percent

Content	Difficulty level		
	Easy	Medium	Difficult
Introduction to Accounting	46.67	43.33	10.00
Theory base of Accounting	43.33	46.67	10.00
Recording of Business Transactions	33.33	50.00	16.67
Books of Original Entry	43.33	33.33	23.33
Special Journal Books	26.67	43.33	30.00
Bank Reconciliation statement	40.00	43.33	16.67

Interpretation – The experiment chosen topic "special journal books" revealed that few (27%) students thought that this unit was simple. Most (43%) of the students thought the unit had medium difficulty and many (30%) faced difficulty in mastering the accounting problems.

Finding – Majority of the students in 11th commerce had trouble understanding the accounting problems in the unit "special journal books" during the first term.

Table- 03: Observation table of reasons for student's difficulty in Accountancy subject in percent (special journal books)

Content	Reasons			
	Did not Understand through Lecture Method	No Basic Knowledge	lack of Attendance	Others Reasons
Analytical petty cash book	52.94	29.41	5.88	11.76
Purchase Book	41.18	41.18	5.88	11.76
Sales Book	41.18	35.29	5.88	17.65
Purchase Return Book	37.50	31.25	6.25	25.00

Sales Return Book	37.50	31.25	6.25	25.00
Other topics	40.00	33.33	6.67	20.00
OVERALL	41.84	33.67	6.12	18.37

Interpretation – From the total responses, majority (42%) of the students indicated that the lecture method was boring and that they did not understand it. Many (34%) students thought that the unit was challenging because they lacked fundamental information, few (6%) students had attendance problem and then other students gave a variety of alternative explanations.

Finding – Overall, the feedback from accountancy students urged that the unit on "special journal books" had a lecture method technique which they did not understand.

Objective 02 - To test the effect of gamification approach on academic performance in accountancy subject of standard 11th commerce students.

T-test was used to analyse the data in order to determine the mean difference in scores between the control and experiment groups of the chosen sample that took part in the experiment.

Null hypothesis

There is no significant difference in mean score of academic performance of control and experiment group after implementation of gamification approach in teaching accountancy subject.

Table- 04: Observation table of obtained t-values and table t value.

Group	N	Mean	Std. Deviation	Obtained t value	Table t value	Degree of freedom	Level of Significance
Control	40	11.3125	3.74455	25.187	2.0227	39	0.05
Experimental	40	17.1875	3.31795				

Interpretation – The null hypothesis is rejected because the obtained t value of 25.187 is higher than the table value of 2.023 at significance level of 0.05 %, indicating that there is significant difference in mean scores of academic performance of control and experimental group after implementation of gamification approach in teaching accountancy subject.

Finding – The application of gamification approach in teaching of accountancy subject is accountable for the disparity between the mean scores of the posttest of control and experimental group.

Table- 05: Observation table of effect size

Group	N	Mean	Std. deviation	Cohen's d	Hedges' g	Glass' delta
Control	40	11.3125	3.74455	1.661	1.661	1.771
Experimental	40	17.1875	3.31795			

Interpretation: Since the observed Cohen's d and Hedges' g is 1.661, and Glass' delta is 1.771, the magnitude of the difference between the mean scores for both tests is large.

Finding – The use of gamification teaching approach was found to be effective with a large magnitude of effect size, as per the benchmarks proposed by Cohen (1988).

RESULTS (objective wise) –

Objective 01- In the first term of 11th commerce, the students had trouble learning accounting problems. Comparatively speaking, theory concepts were simpler than accounting problems. The chapter concerning "special journal books" was in which the biggest issue was brought up.

Objective 02- The implementation of gamification method has benefited the accountancy students in the 11th commerce class. The study's findings on the unit "special journal books" revealed that students who had exposure to gamification as a teaching approach performed well in academics.

DISCUSSION ON RESULTS –

The results shows that students who were taught using the gamification technique outperformed students who were taught using the traditional strategy in terms of academic performance which are in line with the results shown by Jamaluddin and et al. 2017. Use of gamification approach in the classroom boosts the learner's motivation and engages them in a fun, competitive setting, as researched by Kiryakova and et.al. 2014. This has two effects: first, it enhances student performance and content comprehension, and second, it creates a favorable learning environment, as described by Pathak and Aggarwal. 2021. It is observed that by using game elements to teach accounting difficulties in class, the students would be able to clearly see and grasp them, fostering the development of critical thinking in solving the accounting problems. This observation is backed by Rosli and et.al. 2017.

CONCLUSION

The researchers concluded that majority of the students have difficulty in solving accounting problems in 11th standard. The researcher concluded that gamification teaching approach was effective in improving their academic performance.

REFERENCE

Agarwal, D. (n.d.). Challenges & Opportunities in commerce education. Http://www.madhavuniversity.edu.in/. Retrieved December 24, 2022, from https://madhavuniversity.edu.in/challenges-and-opportunities-in-commerce-education.html#:~:text=Commerce%20education%20is%20that%20area,of%20Trade%2C%20Commerce%20and%20Industry.

Anonymous. (2021, September 30). What is gamification in education? Futurelearn. Retrieved December 16, 2022, from https://www.futurelearn.com/info/blog/general/gamification-in-education

Citation generator. Bibme, a Chegg service. (n.d.). Retrieved December 23, 2022, from https://www.bibme.org/apa

Durso, S., Reginato, L., & Cornacchione, E. (2020). Gamification in accounting and students' skillset. Advances in Scientific and Applied Accounting, 12(3), 079–100. Https://doi.org/10.14392/asaa.2019120305

Feder, M. (2021, December 17). Accountancy vs. Accounting - 3 major differences. University of Phoenix. Retrieved December 26, 2022, from https://www.phoenix.edu/blog/accountancy-vs-accounting-3-major-differences.html

Flores, J. F. (2015). Using Gamification to Enhance Second Language Learning. Digital Education Review, 32–54. Retrieved November 23, 2022, from https://files.eric.ed.gov/fulltext/EJ1065005.pdf.

GBSHSE. (2022, July). Study Material, Notes And Downloadables. Goa Board of Secondary and Higher Secondary Education. Retrieved December 26, 2022, from https://www.gbshse.in/#/student-study-material

Gupta, A. (2019). A study on prospects and challenges in commerce education. International Journal of Research and Analytical Reviews, 6(2), 300–304. Https://doi.org/DOI: 10.13140

Gupta, G. (2022, March 3). Pros and cons of gamification. E-Learning Industry. Retrieved September 5, 2022, from https://elearningindustry.com/pros-and-cons-of-gamification

IBM Corp. IBM SPSS Statistics. (2022). Version (29.0.0.0 (241). IBM. Retrieved December 27, 2022, from https://www.ibm.com/spss.

Jain, J. K. (2018). An analysis of commerce education in india. Journal of Emerging Technologies and Innovative Research, 05(06), 230–237. Retrieved December 24, 2022, from https://www.jetir.org/papers/JETIR1806827.pdf.

Jamaluddin, J., Mahali, M., Din, N. M., Ahmad, M. A., Jabar, F. A., Fadzillah, N. S., & Malek, M. A. (2017). A comparison of students' performance in Gamification Approach versus conventional approach of accounting teaching and learning. Advanced Science Letters, 23(8), 7733–7736. Https://doi.org/10.1166/asl.2017.9564

Kesler, B. (2021, August 17). 6 teaching strategies and techniques for accounting courses. Trainingmag. Retrieved December 16, 2022, from https://trainingmag.com/6-teaching-strategies-and-techniques-for-accounting-courses/

Lakens, D. (2013, November 26). Calculating and reporting effect sizes to facilitate cumulative science: A practical primer for T-tests and ANOVAS. Frontiers. Retrieved December 30, 2022, from https://www.frontiersin.org/articles/10.3389/fpsyg.2013.00863/full#:~:text=Interpreting%20Cohen's%20

d&text=A%20commonly%20used%20interpretation%20is,rigidly%20(Thompson%2C%202007). Https://doi.org/10.3389/fpsyg.2013.00863

Lenhard, D. W., & Lenhard, A. (2016). Computation of effect sizes. Psychometrica. Retrieved December 23, 2022, from https://www.psychometrica.de/effect_size.html. DOI: 10.13140/RG.2.2.17823.92329

Mcled, S. (2019, July 10). Effect size. Simply Psychology. Retrieved December 23, 2022, from https://www.simplypsychology.org/effect-size.html#:~:text=Cohen%20suggested%20that%20d%20%3D%200.2,if%20it%20is%20statistically%20significant.

Pandit, S. (2021). Challenges faced in the delivery of the subject of accounting at the under graduate level. A global journal of social sciences, IV(I), 8–15. Retrieved October 30, 2022, from https://www.gapgyan.org/res/articles/(8-15)%20challenges%20faced%20in%20the%20delivery%20of%20the%20subject%20of%20accounting%20at%20the%20under%20graduate%20level.pdf.

Panja, S. (2018). Creative methods of teaching accountancy- its impact. Https://doi.org/10.31235/osf.io/n3y26

Paraphrasing tool. Quillbot. (n.d.). Retrieved December 23, 2022, from https://quillbot.com/

Ram, M., & Tapria, R. (2019). Accounting theory: concept and importance. International Journal of Education, Modern Management, Applied Science & Social Science, 01(02), 129–134. Retrieved December 26, 2022, from https://www.inspirajournals.com/uploads/Issues/1136878387.pdf.

Rosli, K., Saat, R. M., & Khairudin, N. (2017). Simulating Teaching and Learning of Accounting Subject through Gamification Approach. International Conference on Accounting Studies, 155–160. Retrieved September 5, 2022, from https://www.researchgate.net/publication/326835357_Simulating_Teaching_and_Learning_of_Accounting_Subject_through_Gamification_Approach.

Social Science Statistics. (n.d.). Retrieved December 23, 2022, from https://www.socscistatistics.com/

Surbhi, S. (2021, July 1). Difference Between Accounting and Accountancy. Keydifference. Retrieved October 26, 2022, from https://keydifferences.com/?S=Difference+Between+Accounting+and+Accountancy

Weebly. (n.d.). Student t-Value Calculator. T Table. Computer software. Retrieved December 26, 2022, from https://www.ttable.org/student-t-value-calculator.html.

ROLE OF INFORMATION AND COMMUNICATION TECHNOLOGY (ICT) IN TEACHING & LEARNING

K. Vishnu[1] & V. Suresh[2]

[1]B.Sc (MPC) Second Year B.Ed Student (teacher trainee), Govt IASE (Institute of Advanced Study in Education) College, Kurnool district, Andhra Pradesh state.

[2]MSc (Mathematics), M.Sc (Physics), M.Sc (Psychology), M. Ed, M.Phil (Education), Lecturer in Mathematics, Govt IASE (Institute of Advanced Study in Education) College, Kurnool district, Andhra Pradesh.

Abstarct

Information & Communication Technology (ICT) always plays a vital role in almost all the fields. While coming to the field of education, there is a great need of innovative ideas to make teaching & learning easy. Technology has become an essential component in many areas of our daily lives,our children's ,in the classroom and learning environment.So one of the needs is, adapting Information and communication technology (ICT) in teaching and learning. Definitely it gives a great experience in teaching and learning of subjects if we adapt information and communication technology (ICT) in teaching of subjects. This paper is going to introduce about digital content.

Keywords: *Information and communication technology(ICT), Curriculum, GeoGebra, ROBO Compass, KineMaster, PowerPoint presentation, teaching learning material(TLM), Puzzle apps, Digital Content, etc...*

Introduction:

Suppose we want to send a message from one location to another location.there are two ways of sending that message.one is to carry that message in physical mode.and another way is to send it just by making use of technology say gmail,whatsapp,facebook etc... within short period of time.In the same manner we can adapt this ICT in all the subjects for fast and effective learning.For instance let us consider one subject that among all the subjects in the school curriculum, mathematics is always a challenging task for the teachers and students as well.This is happening due to lack of technological knowledge among

the teachers and unaware of using technology for effective teaching and learning process of mathematics subject.To get succeed in this challenge, it is advisable to adapt technology in mathematics teaching and learning.With the help of technology, we can make mathematics teaching and learning more enjoyable and fruitful.

Aims and Objectives:

By adapting information and communication technology (ICT) in teaching and learning, we can make teaching as interested as playing games to the students. Even the younger generation teachers will also be able to understand the importance of innovative ways of teaching to enrich the teaching skills and also to make that learning is reachable to the little minds of the children.

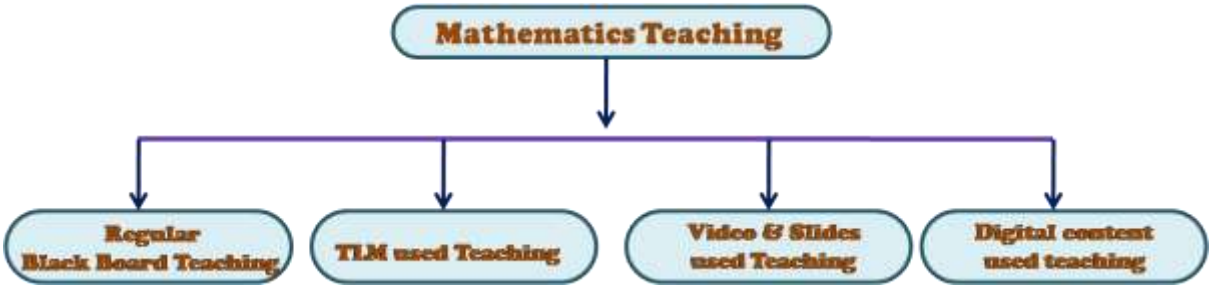
Discussion:

In this paper I discuss about the familiar possible methods of teaching and their effects on learning among the children.And also I discuss about the possibility of making digital content for effective teaching and learning of subject. If we are able to adapt this kind of digital content in the teaching, definitely learning also becomes more enjoyable. And students also get interest to learn subjects when we introduce this type of teaching method in the existing curriculum as per latest instructions of National Education Policy -2020.

Methods:

I take mathematics subject as an example for explanation. It doesn't mean that ICT is useful only for mathematics.ICT can be adapted to all subjects. Before going for this, it is necessary to discuss possible teaching methods once. Now let us discuss about one subject. From the centuries mathematics teaching is always a challenging task for every teacher to teach. Every teacher adapted different innovative ideas in their teaching to make mathematics teaching and learning more enjoyable.

Let us have a look into different ways of teaching...



1. **Teaching by using regular black board:**

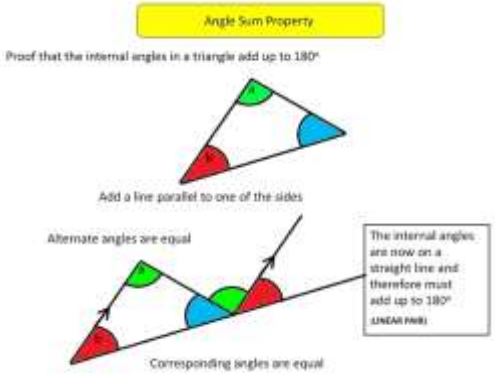
Even though it is traditional and most comfortable method for all the teachers, it is not going to create that much interest and impact on mathematics learning among the children. This method is useful for those who are really interested towards the mathematics.

2. **Teaching by using teaching learning material(TLM):**

In this type of method we use any material which is useful for teaching and learning process. that is in case of teachers for teaching and in case of students for learning.It gives a little bit more clarity and hands-on experience for the children when compared with the previous method in understanding the typical concepts of mathematics. But it is not always possible to provide sufficient material to make teaching and learning material (TLM) for every single student. Then definitely it creates a gap between students and learning of mathematics even though they felt it is interested.

3. Teaching by using slides:

When compared to the previous 2 methods of teaching this method is little more effective and it creates more interest among the students in learning of mathematics. Collecting relevant pictures, information from the web resources, arranging them according to need and presentation is always a typical task. But the end result of this effort will be fruitful in teaching and learning of mathematics.



4. Teaching by using digital content :

This is the most effective method of teaching among all the mentioned methods above. Of course the creation of digital content needs a lot of effort but the end result in teaching and learning is really phenomenal. There are many more web applications like GeoGebra; RoboCompass which are available to make most difficult topics of mathematics as simple as possible. Many android applications and game type content area are available to give the best and enjoyable practice for the children to learn mathematics subject as fast as possible.This method is not only useful to explain concrete concepts but also the abstract concepts of mathematics subject in a simple way.

With the help of android applications like KineMaster, GeoGebra, and with some other video editing softwares we can create such wonderful digital content videos in the same manner like that of three dimensional(3D) animation which gives the most comfortable and joyful experience in mathematics teaching & learning to the students.

Soft wares and applications

1) Robo compass.

2) Kine Master

3) K5 learning.com

Results:

Creating such digital content may be difficult but the end result is definitely remarkable in all aspects of teaching & learning. Once a digital video content is made, it can be stored forever in the digital form and can be accessed whenever we need it. And one of the most advantages of this digital content teaching method is flexibility and accessibility.i.e; we can access it at anytime and anywhere .Finally which leads to fruitful teaching and learning.

Conclusion:

When we are ready to adopt the upcoming technology in the teaching of subjects that is using digital content then only we can fill the gap between students and learning . Even though this is little bit difficult to implement in curriculum but it gives the best results compare to other methods of teaching. From this even duller can also get interest to learn subjects like a game. So I conclude that adapting information and communication technology (ICT) in teaching and learning is a better way to improvise skills, critical thinking and abstract thinking among the present generation students. And abstract concepts can also be imparted to the students with good explanation and by using different examples in digital content form.

References

Digital content e-platform resources like Vedantu, BYJU'S

ENRICHING CONTENT USING PODCAST: AVENUES FOR ENHANCEING LEARNING

Mrs. Renuka Anand Pardeshi[1], Gaurav Devidas Kinnerk & Shruti Damodar Shevde[2]
[1]Assistant Professor, Department of Education, Ganpat Parsekar College of Education, Harmal-Goa
[2]Students, Ganpat Parsekar College of Education, Harmal-Goa

Abstarct

The purpose of this study is to examine the use of technology in Education. The main focus of it is to highlight the importance and use UGC guidelines amd MOOCs for content development with the use of technology. In this article, the researcher has scrutinized the status of the use of technology in education through the use of Podcast and Google Classroom to enhance the teaching-learning process. The combination of content development and technology has been considered here for the benefits of the teaching-learning process. In the 21st century, we cannot think about the teaching-learning process without technology. The Digital Era has given us the facility to get any information while simply sitting in a room and just need to switch a button. Traditional teaching was focused on objectives whereas modern teaching focuses on the learning outcomes where getting information is not sufficient and one also needs to build skills. In traditional teaching, teachers role was to provide information whereas in modern teaching the teacher's role is to generate curiosity within the learners and works as a facilitator. Technology has grabbed everyone's attention and has given benefit to each and every field of life and the educational field wasn't left out. Technology and education have become the two sides of the same coin. It's said that education is the mirror of the society, and for the society's and country's development the education system needs to hold the technology's hands and work together. For the fulfillment of this purpose every teacher needs to develop technical skills to handle and run the educational system in a better way. The study also emphasizes on the small steps taken toward the content development in different subjects for benefit of the teachers and students.

***Keyword**:-Content, Podcast Enriching, Enhancing Learning*

Introduction: -

In the 21st century, the definition of classroom has been changed. The education has gone beyond the classroom with the introduction of technology in it. Students are getting engaged in various educational online platforms and enrolling themselves in it. From the research, till the year 2021 the number of enrolled online learners was 189 million and registered online learner was turned to 92 million in the world. But the question is why is the active users number less than of that who enrolled. In a survey made by the authors in this research getting 160 samples, it was found that almost 81% of the students still choose traditional classrooms for their education and most of them are unhappy with the platforms available on the web and one of the main reason for this is the non-interaction nature of the online platforms. When we talk about interaction, the question answering round or the conversational way pulls our interest and such a way of earning can be Podcasts. It needs a proper planning and a blue print with proper guidance for teachers to jump into any new kind of technology which might become a great success in the same.

Literature Review:

Podcasting is one of the technological advances that have been widely accepted in educational setting. A podcast is a digital media file that can contain audio files, video files, or synchronized audio and image files. A podcast can be disseminated easily from a dedicated server or a webpage to devices such as a desktop computer, a laptop or handheld devices. For example, a recording of a radio show and a lecture or a slideshow with a narrative can be uploaded by producers and downloaded by consumers very easily. Many universities have been using video clips, sound files, and other digital media files to provide materials to students (Dale & McCarthy, 2006; Evans, 2008; Lee & Chan, 2007).

1) Stephanie Maher Palenque(2014).

"The power of Podcasting : Perspectives on pedagogy" paper examines the origins of podcasting, the value of podcasting in higher education, the influence of podcasting on student learning and engagement and possibilities for future development in this area.

The central question when evaluating any technology and considering those tools for use in the classroom must focus on student learning: "In what ways does the use of podcasting have the potential to positively impact student learning (Collier-Reed, Case, & Stott, 2013)? While podcasting in the college classroom may be innovative and technologically advanced, the final result must have a positive effect on the student experience, enhancing student learning.

2) Masafumi Takeda (2013).

" The effect of podcast tasks on student's engagement and performance in a beginning level Japanese language course " titled paper discusses, as the

growing popularity of podcasting and its application in education become more apparent, there have been a number of studies on the academic use of podcasts. A podcast is a digital file that can be delivered automatically to a device such as a portable media player or a computer via the Internet.

The purpose of the current study was to investigate the effect of PTs on the students' engagement and performance in an introductory level Japanese language.

3) Christopher Drew (2016)

Edutaining audio: an exploration of education podcast design possibilitiespaper discusses about the versatility,

intimacy, and ease of production of podcasting makes it a logical technology to apply to flexible education contexts. As a result, there has been increasing scholarly interest in the value of education podcasting in recent years. While education podcasting literature has tended to explore podcast implementation in institutional contexts, education podcasts outside of academia have also grown in popularity, to the extent that 'education' is a common sub-group in podcast aggregation sites.

4) Lara Lomicka and Gillian Lord (2009)

Podcasting – Past, Present and Future: Applications of Academic Podcasting In and Out of the Language Classroom, this

paper explores current and potential pedagogical applications of academic podcasting in K-12 and higher education language learning classrooms.

We have explored both previous research and current podcasting projects, and we have provided suggestions for incorporating podcasting into the language classroom.

5) LoriBreslow, David E. Pritchard, Jennifer DeBoer, Glenda S. Stump, Andrew D. Ho and Daniel T. Seaton (2013).

The paper Studying Learning in the Worldwide Classroom Research into edX's First MOOC discusses about the research that was conducted on the course analytics of edX's first

MOOC "Circuits and Electronics (6.002x)" and investigates the students' level of success in the course.

6) Li Yuan (2013).

MOOCs and open education: Implications for higher education ,this report sets out to help decision makers in higher education institutions gain a better understanding of the phenomenon of Massive Online Open Courses (MOOCs) and trends towards greater openness in higher education and to think about the implications for their institutions.

7)Jenny Mackness, Sui Fai John Mak and Roy Williams (2010).

The Ideals and Reality of Participating in a MOOC ,this paper explores the perspectives of some of the participants on their learning experiences in the course, in relation to the characteristics of connectivism outlined by Downes, i.e. autonomy, diversity, openness and connectedness/interactivity. The findings

are based on an online survey which was emailed to all active participants and email interview data from selfselected interviewees.

8)Philip J. Guo, JuhoKim and Rob Rubin (2014).

Videos are a widely-used kind of resource for online learning. How Video Production Affects Student Engagement: An Empirical Study of MOOC Videos, this paper presents an empirical study of how video production decisions affect student engagement in online educational videos

Objectives

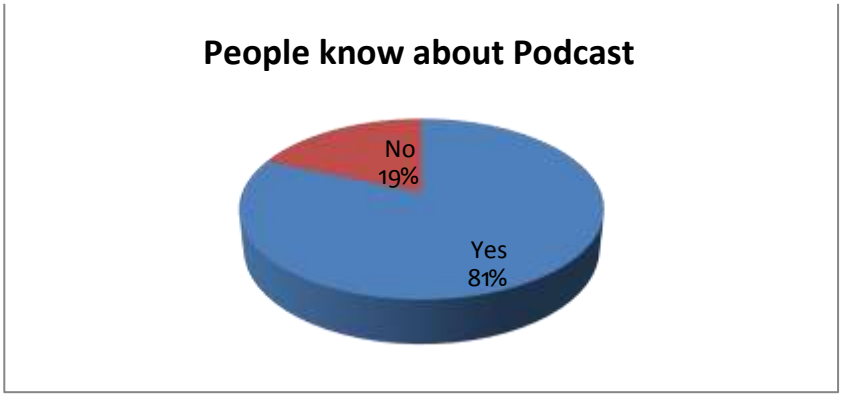
1. To understand and provide basic knowledge of Podcast.
2. To review the studies on Podcast.
3. To know the purpose and types of Podcast.
4. To understand the limitations of Podcast.
5. To provide guidelines to the teachers to use Podcast in content development.
6. To highlight the role of UGC and MOOC in developing e-content.
7. To investigate and promote use of Podcast in daily teaching learning process.

The start of Podcast.

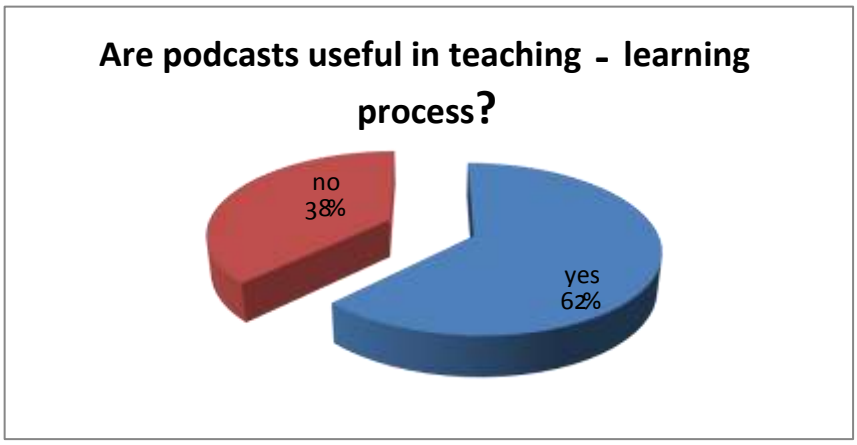
A Podcast is a digital source used in today's technological world as a substitute to the traditional radios. Podcast which connects with the meaning of person on demand is basically a scene of interview where a podcaster and a invitee is present. Podcast as a term was given by a MTV video jockey Adam Curry and a software developer Dave Winer in the year 2004. Unlike traditional methods of content production like TV and radio shows, podcasts are accessible way for content creators to connect with an audience. They are not even currently regulated, meaning you don't need a broadcasting license to publish podcast content. Anyone with basic podcast equipment like a microphone, recording software and a membership to a hosting platform can create their own show.

In India Podcasts are not yet flourished hence the survey we did for our research paper states these results shown below in graphs.

The survey was accomplished by getting 160 responses on the question asked. 130 people responded with the answer that they know about podcasts whereas 30 of them responded that they aren't aware of the same.



We also asked the students if they think podcast is useful in teaching-learning process in which 99 students responded with yes 61 students responded with no.



Purpose of Podcast.

A podcast has many purposes such as sharing information and knowledge about various issues and facts in the society. The POD and the host has to take care of this below written purposes while directing a podcast: -

1. Hear updates and breakdowns of current events.
2. Learn about a new topic or industry.
5. Listen in on interviews with popular or famous guests.
6. Experience an audio drama or narrative storytelling.

But behind each of these reasons is the desire to be entertained.

Types of Podcast.

Podcasts are as varied as people's imaginations can make them, and there are about as many genres as you can think of; news and education, health and fitness, comedy, and even fiction podcasts are just a few of the most popular kinds.

While the podcasting world is wide and varying—and limited only by creators' imaginations— the vast majority of podcasts can be broken down into one of four formats:

1.Conversational
2.Narrative nonfiction
3.Scripted fiction
4.Repurposed content.

These are loose categories, and some podcasts are mixes or hybrids of multiple formats.

In India Podcasts are not yet flourished hence the survey we did for our research paper states these results shown below in graphs.

The survey was accomplished by getting 160 responses on the question asked. 130npeople responded with the answer that they know about podcasts whereas 30 of them responded that they aren't aware of the same.

Disadvantages of Podcast

As podcast has no censor board or limitations, the podcasters can term anything in their podcast which may result in controversies and frauds. Some podcasts may lead to fake information throughout a community who listens to the podcast. Somewhere biasness could also be seen in some podcasts which may lead to the benefit of some groups in the society and problems for other people. In an educational podcast, the person on demand who is the guest to speak on a podcast may be a person of any specified community or group which may also lead to wrong information to the listeners.

The platform of podcast has not been indulged very well in the educational sector which is why the popularity of the platform between the students is less. As there is less availability of educational podcasts students have not put their any mind in this platform of learning which can be possible through decent planning in country like India.

The role of University Grants Commission in the e-content development.

UGC has mentioned guidelines for use of e-content development. The goal of this scheme is to encourage teachers and group of teachers to develop e-content by using technology which is suitable for use in various teaching learning programmes. The following are the objectives of this scheme :-

(a) Promote generation of e-Content in all subjects

(b) Develop teachers' and experts' resources in e-Content creation

(c) Make available the e-Content to teachers and students through various delivery modes for formal and non-formal education.

(d) Develop partnerships between educational institutions and the IT industry for the continuous development of new content and methodology taking into account contemporary technology. Information and technology have become the cause of changing scenario of the society. It has also touched to the educational field. A society needs to change as per the demand of surrounding. In this 21st century, for teaching content effectively a teacher needs to know handling technology smoothly without any hesitation. To step with digital era, teacher needs to know integration of Education and Technology.

This initiative shows the need of the time that how UGC is working toward to fulfil demand of 21st century skills in teaching-learning process.

UGC has given 11 aspects following which the content can be delivered. This work can help the podcasters in education which mainly are teachers to plan a suitable podcast keeping the guidance in the mind. To make it more viable and easy for the students to use, the teacher can also use another platform to present the podcast.

Use of Massive Open Online Courses in content development using podcast.

The Ministry of HRD also has taken initiative in e-learning. As per the 'Digital India' initiative, MHRD has initiated to develop and make available 'Massive Open Online Courses (MOOCs)' the learners throughout the country and also the Technological Pedagogical and Content Knowledge. MOOCs are online courses which are developed as per the pedagogy stated following the four quadrants which informs about the course details and how to complete the course.

While planning for a MOOC a teacher is supposed to follow some main guidelines such as introducing the lesson and objectives and giving the students supplementary and references to read and concluding the topic. MOOCs helps the teacher to not only plan a lesson online rather it gives a detailed blue print to plan a lesson which is to be executed in the traditional classroom. The MOOCs consists on modules on the topics which are later on being assessed on the same platform. The four quadrants let the students get the same information what they get in the classroom through the video/audio lessons followed by the references given to read and also the followed conclusion and assessment of the lesson taught through modules. Swayam portal by the Government of India is an example of MOOCs in India.

Development of content through podcast.

The guidelines given by the UGC gives a teacher a complete outline of planning the content as per the student's habitat. The objectives and aspects lead the teacher to develop the content which it might try to fulfil using online platforms. The teachers can also look into the MOOCs guidelines of preparing content and use them in creating their content for the podcasts. As podcasts were known as audio based online source of information, there days it is also posted on platforms like Youtube. Platforms based on

MOOCs can give the teacher a base to post their planned and recorded podcasts with being the person on demand at times and letting other experts be the person on demand and themselves as host. The teacher can follow the four quadrants issues by the MOOCs and can post the podcasts and the relatable information such as the guides, references, assessments, etc. As guided in the UGC guidelines and the MOOC objectives, the teacher can plan the time limit of each module. The teacher should focus on not making the podcast lengthy and try to end it between 4-5minutes which wont harm the attention span of the students.

Use of Google Classroom in podcasting.

Teachers who have already recorded their podcast and are thinking of the benefit of the students of her/his students can post its recorded podcasts on google classroom and ask the students to complete the modules and then complete the assessments which will be posted on the same platform by the teacher.

Suggestions and Conclusion.

The podcasts has become a major substitution to the radios in recent time. With fulfilling various purposes of podcast, it can be a better way to take classes beyond classroom. The Podcast has a podcaster or the host and a person on demand who is the main source of the knowledge provided through the podcast. The content can be developed using podcast keeping in mind the MOOCs quadrants and the use of the same. The podcasts can be uploaded by the teachers on platforms such as google platform, platforms based on MOOCs and engage the students there. The teacher can keep the podcasts as short as they can dividing the block learning in to short episodes of podcast and then post it on the google classrooms. The teacher can then use the same platforms to post glossary and evaluation on the same. Podcasts can be a easy, short and precis way of learning a unit and a topic.

References

1.*Palenque, S.M (2016), The Power Of Podcasting: Perspectives On Pedagogy, Journal of instructional research , Vol.5 , https://files.eric.ed.gov/fulltext/EJ1127626.pdf.*

https://www.ugc.ac.in/oldpdf/xiplanpdf/econtentxiplan.pdf

Mishra, P., & Koehler, M. J. (2006). Technological pedagogical content knowledge: A framework for integrating technology in teachers' knowledge. Teachers College Record, 108 (6), 1017–1054

https://edutechwiki.unige.ch/en/Podcasting#How_podcasting_works

https://www.classcentral.com/report/most-cited-mooc-research/

McHugh, S. (2016), How podcasting is changing the audio storytelling genre. The Radio Journal: International Studies in Broadcast and Audio Media,14(1), 2016, 65-82 https://ro.uow.edu.au/cgi/viewcontent.cgi?article=3366&context=lhapapers#:~:text=Of%20particular%20significance%20is%20the,'talkier'%20and%20less%20crafted.

Lomicka , L. Lord , G. Podcasting – Past, Present and Future : Applications of Academic

Podcasting In and Out of the Language classroom. University of South Carolina , USA, University of Florida , USA.

N. Fehennig, "Podcasts in context", Library Technology Reports, 53(2), pp. 30-38, 2017. https://journals.ala.org/index.php/ltr/article/view/6232/8116.

D. Bolliger, S. Supanakorn and C. Boggs, "Impact of podcasting on student motivation in the online learning environment", Computers & Education, 55(2), pp. 714-722, 2010. https://bit.ly/2PgKMuf

M. Lazzari, "Creative uses of podcasting in higher education and its effect on competitive agency". Computers & Education, 52(1), pp. 27–34, 2009.

https://doi.org/10.1016/j.compedu.2008.06.002

IMPROVING SCIENCE LEARNING THROUGH GAMIFICATION

Juben Naik

Abstarct

Science education is widely considered as one of the most integral part of today's education since it is responsible for creating scientifically literate citizens and promoting crucial 21st century skills like adaptability, critical thinking or problem solving. In the past few years, one technological trend that has been heavily focused on by researchers in many fields, including education, is gamification.

The purpose of this paper is to discuss the definition of gamification. The paper also investigates the impact of gamification applications on student motivations for learning science, as well as student opinions on the application. The paper examines various types of gamification that can be used to facilitate science learning. The effectiveness of gamification applications is thought to have resulted in an increase in student motivation to do research, performance, communication, and cooperative studies in science education. As a result, the current paper discusses the benefits and drawbacks of using gamification in the teaching learning process.

***Keywords**: Gamification, science education, learning, motivation and revolutionize.*

INTRODUCTION:

Science is critically important for advancing economics, health, and social well-being in the twenty-first century. A scientifically literate workforce is one that is well-suited to meet the challenges of an information economy. However, scientific thinking skills do not routinely develop and must be scaffolded via educational and cultural tools. In this paper we outline a rationale for why we believe that video games have the potential to be exploited for gain in science education. The premise we entertain is that several classes of video games can be viewed as a type of cultural tool that is capable of supporting three key elements of scientific literacy: content knowledge, process skills, and understanding the nature of science. We argue that there are three classes of mechanisms through which video games can support scientific thinking. First, there are a number of motivational scaffolds, such as feedback, rewards, and flow states that engage students relative to traditional cultural learning tools. Second, there are a number of cognitive scaffolds, such as simulations and embedded reasoning skills that compensate for the limitations of the individual cognitive system. Third, fully developed scientific thinking requires metacognition, and video games provide metacognitive scaffolding in the form of constrained learning and identity adoption.[1,2]

Technological advancements and their rapid development always create new and exciting ways to engage students learning and meet the growing needs of education. At the same time, traditional teaching methods or even applications that are still used today always prove to be, at least, insufficient. Science education is widely considered one of the most integral parts of today's education, according to the National Research Council, since it is responsible for creating scientifically literate citizens and promoting crucial 21stcentury skills like adaptability or problem-solving. Consequently, there has been a great interest in tools and means that facilitate scientific thinking and the educational theories implemented in them.[2]

In the past few years, one technological trend that has been heavily focused on by researchers in many fields, including education, is gamification. The use of gamification in education utilizes gaming elements and aesthetics to enhance students' motivation and promote learning. The core idea in gamification lies behind the logic that the game elements' motivational strength can be transferred in an educational context. The implementation of gamification in science education has been an intriguing area for many researchers as it is something familiar to students, and at the same time, it draws their interest. Moreover, it can facilitate scientific thinking compatible with scientific theories,

methodologies, and learning strategies related to education and gamification. However, while the implementation of gamification has been generally considered successful around user engagement, its impact on learning outcomes has often been questioned, with research results varying among individuals, creating a divide between researchers, and questioning its benefits. Thus, the growing popularity combined with mixed results has further increased the need to explore the specific processes relating to education to figure out their impact.[2,3]

Gamification is defined as an education platform, which aims to internalize the external motivations of learners, provides feedback, and rewards. It is described as a new trend, which is aimed at increasing the interest, participation, motivation and loyalty of learners. It is stated that the main discussions about gamification started around the end of 2010. In recent years, the popularity of gamification increased in several areas, such as business, marketing, corporate management, finance, health, education, news and entertainment media; one of the basic purposes of gamification is to apply game design elements in real-world contexts and to increase the motivation and performance of learners. Game design elements are particularly used with the purpose of increasing effectiveness in reaching targets. Traditional education was perceived by most students as ineffective and boring and explain that gamification reinforced not only knowledge but such skills as problem solving, cooperation and communication. Various game elements could be added to gamification, but studies try to determine why games are so attractive to students.[3]

The purpose of gamification is to make the learning process more attractive for learners and to ensure that they gain different learning experiences through a learning environment that is numerous fun activities. In learning designs employing gamification, the concept of motivation is an important element. Motivation is defined as one of the most important sources of power, which determines the direction, strength, determination of student behaviours at school.

This study aims to make an extensive and comprehensive critical review. It will investigate, examine, and identify key gamification features in science education and elements of success and theoretical gaps in pedagogy and contribute to gamification in science education at all educational levels. Only peer-reviewed empirical studies from journals and conferences were selected in the systematic review to maximize our findings' validity, gather unbiased information, and increase as much as possible the generation of evidence. Thus, we follow a scoping review of relevant empirical studies and trends, provide insight, and illuminate the state of current practices and compile recommendations to future researchers to create their theoretical models and gamification designs based on the current evaluation practices. Therefore, we opted for a mixed review, which is consistent with other similar studies in gamification.[3,4]

Gamification:

The introduction of games and technology into the classroom provides many unique experiences for children that enhance subject area knowledge. In particular, games offer children and young adults a hands-on approach to course content which provides additional motivation for students to learn and understand the curriculum. Gamification is the process of adapting elements of game-play to other activities, like learning a new concept, to foster engagement with that activity.[1,4]

There are many subject areas that can be gamified; however, games can be particularly helpful when teaching students science-based lessons. Educators can use two primary methods to gamify a particular subject or curriculum. Teachers can incorporate science-based games into their curriculum, or they can find ways to create a game-like experience within the structure of the coursework. The first method, adding games into the curriculum, can be easier for teachers to incorporate into lesson plans.

Gamification in eLearning has become increasingly popular since it offers a wide range of advantages for learners and can help make the overall eLearning experience not only more enjoyable but more effective too. As a matter of fact, there is an exact science behind why gamification in eLearning is so successful. Regardless of your audience or subject matter, gamification in eLearning can help you create exciting, educational, and entertaining eLearning courses. But before we get into the science, it's worth discussing the distinction between gamification and serious games, as many seem to confuse the two terms.[3]

Differences between Gamification and Serious Games

Gamification and serious games are often grouped together. It's true that they both motivate online learners and enhance their eLearning experience. However, there are certain characteristics that set them apart. On the one hand, gamification blends game mechanics with traditional eLearning activities and modules. Leaderboards, points, levels, and eLearning badges add that extra incentive online learners need to actively participate and serve as eLearning benchmarks. Choosing the right game mechanics is of the utmost importance. You must conduct in-depth audience research to determine what drives them. For some, leaderboards may cater to their need for friendly competition. While others prefer to earn eLearning badges, points, and other asynchronous rewards.[2,5]

On the other hand, serious games follow the typical game structure, but also have some form of training value. For example, online learners must overcome a series of in-game obstacles in order to build essential skills. Serious gaming is fun, entertaining, and interactive. However, it also aligns with specific learning objectives and goals. While gamification involves the traditional eLearning course structure, serious games can exist independently. That being said, they are ideally suited for positive reinforcement and "just-in-time" online training. As a result, serious games should NOT be standalone eLearning activities and are a great addition to comprehensive eLearning courses.[4]

How Science Supports Gamification In eLearning

When we participate in activities that stimulate our bodies or minds, such as exercising, our body releases a hormone known as endorphins. The same effect can be achieved by playing eLearning games that challenge learners or give them the chance to achieve a particular reward, even if that reward is something as simple as moving onto the next level. When these endorphins are released, learners not only have more fun during the eLearning process but they actually retain more information. Endorphins also bring on feelings of calm and well-being. It's also important to note that gamification in eLearning creates a sense of excitement within the learners because they feel that they are accomplishing something, thanks to the endorphins that are being released. This excitement leads to a boost in motivation and makes the experience more powerful and memorable.[5,6]

The Top 7 Benefits of Gamification in eLearning

Below you'll find just a few of the top benefits that are commonly associated with gamification in eLearning.

1. Increases Learner Engagement

Gamification in eLearning can help eLearning professionals create experiences that fully engage their learners. Gamification holds their attention and motivates them, given that they are striving to reach a goal. Some online learners may already be intrinsically motivated to reach their goals. However, there are others who need that extra nudge to actively participate. When learners feel positive about their learning process and know that they are going to be rewarded in some way for their efforts, then they stop becoming passive observers and turn into active participants. By doing so, they are able to effectively absorb the information and commit it to their long-term memory, because the knowledge itself is linked to the favorable experience you've provided through gamification in eLearning.[6]

2. Makes eLearning Fun and Interactive

While you may have a variety of learning goals and objectives you want to achieve throughout the eLearning course, none of these outcomes can be effectively achieved if the learners aren't really excited about what they are learning. Gamification in eLearning makes learning not only informative but fun and exciting too. It also adds an interactive element to your eLearning courses. This creates the feeling of immersion, which offers learners the opportunity to feel as though they are an integral part of the overall learning process.

3. Improves Knowledge Absorption and Retention

Whether you are designing an eLearning course that is centered around compliance training or one that focuses on eleventh-grade biology, the goal is always the same; to instill knowledge within your learners. Even more importantly, learners must be able to access this knowledge when they actually need it in the real world. Gamification in eLearning can improve knowledge absorption and boost knowledge retention by blending endorphins and the awareness of real-world benefits.[6,7]

4. Sparks Friendly Competition

Friendly competition drives online learners to do their best and outdo their peers. Gamified eLearning pits online learners against one another and allows them to test their own mettle. One of the most effective game mechanics for this purpose is leaderboards. Online learners compete to reach the top of the board and prove that they have what it takes to succeed. However, there is a catch. Certain online learners may find leaderboards off-putting. As such, you should always give them the chance to opt out and offer alternative gaming rewards. For example, certificates or unlockable objects.

5. Gives Learners the Opportunity To See Real World Applications

Gamification in eLearning allows learners to see the real-world applications and benefits of the subject matter. They are able to get a first-hand look at how their choices within the game result in consequences or rewards. If they don't fare well, then they aren't rewarded for their actions or aren't able to progress to the next level. In essence, you give them the chance to explore a topic at length and get a firm grasp on how they might be able to apply that information outside of the virtual classroom, while they are in a fun and risk-free environment. Online learners may think that they're just trying to earn an eLearning badge, but in reality they are gaining real-world experience without the risk. Then, when they do venture out into the world, they will have the power to put that knowledge to good use in professional or personal settings.[7,8]

6. Facilitates Mistake-Driven Learning

Mistakes can be valuable teachers. They show us what we need to work on and where we excel. Both gamification and serious games involve an incentive-based system. As a result, online learners get the immediate feedback they need to identify areas for improvement. Everyone is able to make mistakes and fine-tune their strategy in a safe environment. For instance, an online learner doesn't earn the points they need or is unable to advance to the next level. This indicates that they have a performance or skill gap holding them back. They are also able to see the outcome and repercussions of their behaviors before they enter the real world. Every mistake online learners make is a chance to improve and reflect on their cognitions.[8]

7. Enhances the Overall Learning Experience for All Age Groups

Regardless of whether you are designing eLearning deliverables for adult learners or K-12 students, gamification in eLearning can help make the overall eLearning experience much more effective. If learners are having fun and are getting excited about learning, then they are more likely to actually acquire information. Even a dull or complicated subject matter can be absorbed more easily because learners are enjoying the process and actively participating. In fact, you can even integrate gamification

into your eLearning courses in such a way that learners won't even know they are acquiring new information. Knowledge absorption simply becomes a byproduct, as they are focused on achieving rewards and accomplishments within the eLearning course. This is often when real learning takes place, however, as the boundaries that often hinder the learning process are removed.[8,9]

Discussion and Conclusion

The purpose of this study was to explore the impact of gamification applications on the motivations of students for learning science as well as to identify the opinions of students and parents on the application. Gamification applications are effective in developing positive behaviours in the students. In addition, it was found that students and parents had positive opinions in regard to the gamification applications. Gamification has great potential to revolutionize education, particularly science education, by engaging students emotionally in their learning and by teaching them to think with purposeful reasoning. Using virtual reality maximizes these beneficial qualities of games, and makes virtual reality education especially useful for science by developing students' abilities to creatively synthesize information to solve practical problems. With the fast expansion of games into classrooms worldwide, combined with the technology boom for digital and remote learning observed in the past year, it is only a matter of time before e-lessons become a mainstay of science education.

References:

National Research Council. Exploring the Intersection of Science Education and 21st Century Skills: A Workshop Summary; National Academies Press: Washington, DC, USA, 2010

Kapp, K.M. The Gamification of Learning and Instruction: Game-Based Methods and Strategies for Training and Education. Int. J. Gaming Comput. Simul. 2012, 4, 81–83. 8.

Zimmerling, E.; Höllig, C.E.; Sandner, P.G.; Welpe, I.M. Exploring the Influence of Common Game Elements on Ideation Output and Motivation. J. Bus. Res. 2019, 94, 302–312. 9.

Papadakis, S.; Kalogiannakis, M. Using Gamification for Supporting an Introductory Programming Course. The Case of Classcraft in a Secondary Education Classroom. In Lecture Notes of the Institute for Computer Sciences, Social-Informatics and Telecommunications Engineering, LNICST; Springer: Cham, Switzerland, 2018; Volume 229, pp. 366–375.

Suh, A.; Wagner, C.; Liu, L. Enhancing User Engagement through Gamification. J. Comput. Inf. Syst. 2018, 58, 204–213. 14.

Subhash, S.; Cudney, E.A. Gamified Learning in Higher Education: A Systematic Review of the Literature. Comput. Hum. Behav. 2018, 87, 192–206

Hamari, J.; Koivisto, J.; Sarsa, H. Does Gamification Work?—A Literature Review of Empirical Studies on Gamification. In Proceedings of the Annual Hawaii International Conference on System Sciences, Waikoloa, HI, USA, 6–9 January 2014; pp. 3025–3034. 17.

Rapp, A.; Hopfgartner, F.; Hamari, J.; Linehan, C.; Cena, F. Strengthening Gamification Studies: Current Trends and Future Opportunities of Gamification Research. Int. J. Hum. Comput. Stud. 2019, 127, 1–6.

Mora, A.; Riera, D.; González, C.; Arnedo-Moreno, J. Gamification: A Systematic Review of Design Frameworks. J. Comput. High. Educ. 2017, 29, 516–548.

B.ED. EMPLOYMENT CHALLENGES AND POSSIBILITIES FOR QUALIFIED TEACHERS IN GOA: A STUDY

Mr. Khushali U. Prabhu[1], Ms. Yuvratni S.Naik[2], Ms. Mitalee P.Harmalkar[3], Ms. Sejal V. Parsekar[4] & Ms. Shanalee I.George[5]

[1]Assistant Professor-GPCOE
[2]Student-Teacher-GPCOE
[3]Student-Teacher-GPCOE
[4]Student-Teacher-GPCOE
[5]Student-Teacher-GPCOE

Abstarct

Goa has the Second highest literacy rate in India, it enjoys being the state having highest Gross Domestic Product (GDP) but still unemployment is the biggest issue. To this unemployed category, B.Ed. students are in the considerable number. One of the reason behind this can be the fact that Goa has six B.Ed. colleges and apart from this some students obtain the B.Ed. degree from the neighbouring states, which has resulted into many unemployed qualified teachers in the state of Goa. This research paper strives to find the different challenges and possible solutions to the same. Survey method and Google form consisting of 8 questions and personal interview from permanent, contract basis teachers and qualified teachers was used to collect data for the research. Through this research we concluded that many teachers incline towards the inclusion of skill based courses in the curriculum, specially designed to tackle unemployment problems in the state of Goa. Respondent were also of the opinion that Government should provide them employment opportunity in the remedial teaching and also provide opportunity to work in different sectors owned by the Government. Some Respondents were of the opinion that B.Ed. colleges should train their students on how to face an interview and also call upon the reputed schools for campus interview.

Keywords: *B.Ed. Employment, Challenges, Qualified teachers, Government role and Curriculum role*

Introduction:

Goa is gifted with beautiful nature by God. Goa attained liberation from the Portuguese colony on 19/12/1961 about 14 years later then Independent India. Goa got its statehood in 1971 and from that year onwards the development started every sector of Goa that is from business, farming, infrastructure, and healthcare and even in education. The first Chief Minister of Goa Shri.Bhausaheb Bandodkar should be given credit to today's developed Goa. His main focus was on the education sector, so he opened Marathi medium schools in every ward, for which primary teachers were asked to join from the neighbouring states such as Maharashtra and Karnataka. Thus because of his vision at present Goa is ranked second in the literacy rate. Goa has six B.Ed. colleges and yearly around 600 B.Ed. students' pass out from the state of Goa as qualified teachers. This adds to unemployment amongst the qualified teachers of Goa . Further more through this study we found out that qualified teachers looses hope for the job and slowly ending towards the crunch of depression. This study aims to bring out the challenges faced by the B.Ed. qualified teachers in the Goa of state and finds the possible solutions for the same. Entire research paper studies the different roles that can be played by the different educational stakeholders namely (i). Curriculum (ii).Government (iii). B.Ed. colleges. By implementing the suggestions/ conclusions from this study we hope to see better days for the qualified B.Ed. teachers.

Review of Literature:

(1) Title : Educated Unemployed: A Challenge before Sustainable Education.
Author: Jitendra Kumar Dixit, Pankaj Tiwari, Sanjeev Kumar Gupta Pratibha Singh, Harshit Gupta

Objectives:

(1).To provides young men and women with educational as well as vocational guidance.

(2). It will also help in solving the problem of unemployment

Findings: Now other professions are really climbing the ladder and it is very important for each student to identify his capabilities, his interest before taking up any course. Because, it is better to think before, rather than roaming here and there for getting a job. The employability, however, is a more serious problem and is a major challenge to the entire educational system and the content of the curriculum as well as the emphasis on the theoretical as distinguished from practical applied training. The efforts made by the Indian state and policy-makers in this area need to be reviewed carefully; but it is widely believed that these efforts have been inadequate.

(2). Title : Systematic Literature Review of Higher Education and Unemployment in Asian Countries

Authors: Nur Sheilla Saida Abdullah, Mohamad Zuber Abd. Majid & Muhammad Hussin.

Objectives:

(1).It helps understand the peer literature reviews which could help in understanding of unemployment challenges faced by graduates with high academic qualifications.

(2).To examine how aspects like graduate experience knowledge, expectations, skill development, and the current job market climate and economy impact graduate unemployment.

(3) To suggests actions and changes to improve higher education programmes to create a balance between employability and academic qualifications.

Methodology: Survey method

(3). Title: EDUCATED UNEMPLOYMENT

Author : 1)Akansha Kapoor

2)Dr. Kavita Indapurkar

Objective: The objective of the study is to determine the trend and pattern of educated unemployment and to determine the causes of unemployment

Findings: Educated youth are the main pillar of the nation's future. It's the youngsters on whose shoulders lies the greatest responsibility for the economic growth of India. On one hand, India is having the highest ratio of educated youth among the population. But on the other hand, educated unemployment is increasing. The reasons behind the educated unemployment are lack of vocational training, drawback in educational system where quantity over quality preferred and focus on theoretical aspect of knowledge only, attitude of candidate while applying for a particular job including high expectations, money motives and run behind the trend. Pressure from parents and alarming situation of growth of population. Till the time we are not aware regarding the causes of educated unemployment, we would not be able to present the solution or remedies in order to increase the growth of India.

(4). Title: Systematic Literature Review and Analysis of Unemployment Problem and Potential Solution

Author - safaa Alkatheri , Abdullah Almalaise.

Objectives:

(1). To know the causes of the unemployment problem?

(2). To know what are the policies and practices that aim to mitigate unemployment

Findings: the unemployment problem still exists in many countries across the world. This unemployment problem results from many causes, and some those causes have existed in many countries, while other causes are related to a few countries. Additionally, the mismatch problem was considered as one of the main causes of unemployment problem, since it contributed to unemployment in many countries as mentioned in Section 3. Therefore, Section 4 concentrated on mismatch by defining its types and measurements they suggested increasing the training opportunities, in some cases, to respond quickly to any change in the required skills. Moreover, the study suggested establishing small industries to employ the labours who have skills in handmade items. In addition, the studies

suggested launching an internship program and industrial training, so the students get experience side by side their education, also their generic and communication skills will increase, and the level of English language proficiency will improve.

Most of the researchers worked for this topic has covered unemployability amongst other fields but they have not covered the topic which we intent to cover in this research paper. However past literature doesn't provide evidence of any study regarding B.Ed. uneployability hence this study was taken up by us for research.

Methodology and Experimentation:

Present study is quantitative and exploratory in nature and questionnaire was used to collect the quantitative data from the B.Ed. pass out students.

Sample Description:

Purposive sampling method was adopted to select the sample. Sample for the study consisted of 155 responses .Sample was selected from the pass out students of the B.Ed. colleges from all over the Goa.

Tools and techniques

To understand the B.Ed. employment challenges and possibilities in the state of Goa. Survey was conducted asking various questions to the B.Ed. pass out students with respect to unemployment. The survey was consisted of altogether 8 different questions related to the topic. The responses were in subjective form

Results and Discussion:

Respondent's opinions to the questions asked in the Google form and Interviews are listed below:

(A). Job opportunities using B.Ed. degree except teaching in educational institutions:

(i). You can start your own coaching classes, take tuitions, If you are good at English language you can start English speaking course for beginners, you can write research articles, books etc.

(ii). Be a trainer for a coaching institute, motivational speaker, Master of Ceremony (MC), Writer, private tutor, translator. Even we can start our own self- employment jobs like starting a You tube channel about topics covered in school. Provide guidance to answer GTET CTET Examination.

(iii). Human Resource department in industries, Consultants in Government policy framing Bureaucratic advisors and Guides in NGO's.

(iv). B.Ed. can also help me do more research in the field of education.

(v). One can achieve a junior research fellowship in education after the completion of Ph.D in the same subject. One can place his/her own start-ups and provide guidance for the competitive exams, foreign opportunities to the students. One can be an educational counsellor and deal with the learning disabilities of the needy. One can begin an educational extension in some local/isolated places in the country where educational facilities can't reach.

(vi). Full time Journalism can be taken up by B.Ed. qualified teacher

(vii). Business in book cafe and also side by side I can tutor those who need help in subjects which I have specialized.

(viii). Can become a professional tourist guide, can be a part time Yoga coach (for foreign tourists), also event management skills can be used somewhere for monetization.

(B). Initiatives the government should take into consideration:

(i). Government should bring retirement age of teacher from 60 to 58 years. Interest free loans to the unemployed qualified teachers to start business related to the B.Ed. skills.

(ii). Govt should recruit B.Ed. passout students to take remedial classes in schools in the evening. Government should hire B.Ed. passout students to conduct surveys, to perform election duties etc.

(iii). By just being fair in recruitment and standardising the recruitment process in Government and Non -Government schools too.
(iv). Vacancies in Government school needs to be filled with the deserving candidates.
(v). Apart from India there are various countries who require teachers; our Government shall be able to guide students to apply for such job.
(vi). The services of the qualified B.Ed. teachers can be successfully utilised as a qualified tourist guide in the Tourism department, Art and Culture department, Archaeological department etc.
(vii). Government should keep track of B.Ed. passed out students and provide this data to various schools so that schools can contact these B.Ed. passed out students and employ them based on their eligibility.
(viii). Government should provide opportunities for the self employment in the form of loans for the start-ups, usage of digital platform.

(C). Changes expected in B.Ed. curriculum:

(i). Should include skill based short term courses
(ii). Should include training on how to answer interviews
(iii). Introduce courses which can help in self employment
(iv). B.ED curriculum shall be designed in such a way that advance skill shall be developed within each student.
(v). Curriculum must have a wide range of employment opportunities and not only to the teaching to high school and higher secondary level.
(vi). Hands on practice of conductive interviews and CV writing.
(vii). Giving opportunities based on students interests in participating in co-curricular and extra co-curricular activities to enhance their capabilities.
(viii). Central, State census preparation and modifications of electoral role can be given to the alumni instead of utilising working teachers in the school by effecting the study curriculum of the students.
(ix). The B.Ed. institutions should begin the well furnished placements. It should provide a course which can be held through a tie-up with other national and global educational institutions and educational associations for getting extended opportunities for their students
(x). By enabling the student-teacher for competitive exams, Skills in ICT, web based teaching and by providing lifelong support to students to update and upgrade knowledge and skills
(xi). Introduction of vocational courses and other short term courses in curriculum.
(xii). It should include practical component that will help to improve communication skills, also priority should be given to exposure of student teacher to real school environment rather than just making them give lessons in class to their peers.

(D). Role of B.Ed. colleges in reducing unemployability among the qualified teachers:

(i). Should arrange Campus interview and arrange entrepreneurship skilled workshops.
(ii). They should maintain a record of candidates who are unemployment, and when any of the vacancies (all over Goa) are out, they can be informed.
(iii). The colleges should find out the information regarding the posts to be taken in future in different schools and inform the students.
(iv). Census should be carried out for the need of teachers for forthcoming 10 years in comparing the statistics of present strength of the teacher and with the required strength of teacher for next forthcoming 10 years accordingly quota of the each B.Ed. college faculty vise in the state should be fixed to overcome the surplus of B.Ed. unemployed teachers.
(v). Organise different talks on career guidance, different career options.

(vi). Campus Recruitment by keeping in touch with educational institutions.
(vii). B.Ed. colleges should organise Job placement fair.
(viii). The B.Ed. colleges should concentrate on recommending their well skilled teacher trainees to the various Educational Institutions throughout the state.
(ix). Don't give admission to 100 of students if jobs are only 5, admissions should be given as per availability of jobs
(x). They should have their own placement cell which can coordinate with nearby schools.
(xi). Schedule workshops for the students to learn the trends in teaching. Organise sessions related to the trends in the education sector .Conduct sessions which give the students an idea as to what other things they can do rather than teach in a private/government schools.
(xi). The number of B.Ed. seats should be reduced and also the number of B.Ed. colleges should be reduced.
(xii). Focus should be more on the "process and quality" of teaching rather than the product and quantity. In brief the process of B.Ed. degree should be fruitful.

Conclusions:

The Bachelor of Education degree was a very fruitful course in the beginning but as the years passed, it has become a topic to have a serious discussion on. Since a lot of B.Ed. graduates are passing out every year, it has created a big question to all the qualified teachers. Students are pursuing the degree but the pass outs are not getting the jobs. Although Goa is a tiny state it has high literacy rate but it's sad to see that there are many people who are unemployed as they aren't able to find jobs of their interest or for the degree they are qualified for. Thus, it needs proper solutions through which the problem can be reduced and the B.Ed. alumni can employ themselves in other fields too.

(i).Curriculum Role :

The B. Ed. Curriculum should include skill-based courses which will have market value in order to make the students capable of earning their livelihood. The curriculum should be flexible. e.g. the internships shouldn't be only restricted to schools, it should also encourage the students to work with the NGOs, with the communities etc.

(ii).Government Role:

With the help of voluntary retirement schemes, teacher's retirement age shall be reduced to 58 from 60. The remedial teaching classes of the schools should be given to the unemployed B.Ed. degree holder.

(iii). B.Ed. Colleges Role:

The B.Ed. colleges should arrange Campus interviews as well as train the students to answer the same by conducting mock interviews, aptitude test etc.

References:

https://www.google.com/url?sa=t&source=web&rct=j&url=https://hrmars.com/papers_submitted/12141/systematic-literature-review-of-higher-education-and-unemployment-in-asian-countries.pdf&ved=2ahUKEwj1r6innrf8AhVIw3MBHQguB_IQFnoECA4QAQ&usg=AOvVaw0oQdiXeRLBuaoDYKqtUwYt

https://www.researchgate.net/publication/331812702_A_Systematic_Literature_Review_and_Analysis_of_Unemployment_Problem_and_Potential_Solutions

https://www.researchgate.net/publication/216389858_Educated_Unemployed_A_New_Challenge_before_India

https://youtu.be/yiC81rAWwt8

ADVANCEMENT IN THE UTILIZATION OF EDUCATIONAL TECHNOLOGY AMONG TEACHERS OF TEACHER TRAINING COLLEGES IN NORTH GOA DISTRICT - AN OVERVIEW

Ms. Prachiti P. Ganpule[1], Ms. Divya Parkar[2], Ms. Sejal Nanhore[3]
[1-3]Department of Education, Ganpat Parsekar College of Education, Harmal, Goa.

Abstarct

This paper shows the usage of educational technologies by the teachers in the teacher training institution. It is to see how many teachers are aware about the different technologies provided and how they use it to provide content or information to the students or teaching them. The investigators aimed at finding out the technology based method used by teachers to deliver lectures in the teacher training institutes, examining the level of awareness of teacher educators about the usage of ICT based tools used in Education, knowing the strategies used by teachers to promote educational technology among alumni, analyzing various ICT based tools to teach different subjects, collecting the experiences of teacher educators about using ICT tools in their academic career. The present study employs qualitative survey method. The target group was experienced teacher educators of various teacher education institutes from North Goa district of the state of Goa. 50 teacher educators teaching the subjects in Science, Arts and Education stream in the 4 years integrated course of BABED and BSCBED were the respondents of the study. The teacher educators are well advanced in using different types of ICT based applications such as PPT, Google Classroom, Google Meet, Slideshare, Flip Classroom, Unacademy, Elibraries, Repositories, Padlet, Teachmint,Chalklit, Flipgrid, ORAEDU, Kahoot, CMap, Canva, Diksha, Peardeck, Moodle. Teacher educators from Goa develop content in various disciplines through various webinars, seminars, workshops, training programmes for the students. A learning management system (LMS) called 'Distavo' was introduced in Goa and it served as a framework of various subject knowledge for both the teachers as well as students.

Keywords *- Educational technology, teacher educators, integrated course, LMS, Dishtavo*

Introduction

The usage of ICT has increased in the modern world and it has become a need of the hour and its more important in the education system as the students build our future. A well competent teacher having the knowledge about their content and the different and interesting methods to deliver it to the students is required and so it is important to make the future teachers aware about the different ICT technologies for better learning and teaching process. This paper shows the usage of educational technologies by the teachers in the teacher training institution. It is to see how many teachers are aware about the different technologies provided and how they use it to provide content or information to the students or teaching them. ICT helps teachers for their personal use in lesson giving as well as for students to present their own ideas. It makes the teacher trainees prepare for their future occupations and social life and also helps them in real life classroom situations. It also focuses on methods to improve awareness among teachers and teacher trainees for better ICT implemented classes.

Recent years there has been a great change in the world due to technology. People are getting more and more into digital media, people are aware about the different technologies that are used, so with the change its important for teachers to use the updated technologies to engage their classroom. To come up with new ideas and new innovations, students should be introduced with technological tools which can even help them with their learning.

Using technology by teachers for teaching learning process can make them benefitted as:

1) It is easily accessible
2) Improves learner communication
3) It gives the fun learning experiences for students
4) It can be accessible for student from anywhere and anytime

5) It provides students with new and updates knowledge
6) Students are able to improve mentally and physically.

Therefore, the investigators from the undergraduate category appearing in the integrated BABed course of 4 years, through their curiosity, tried to investigate the ICT-enabled educational opportunities provided or known in the North Goa district. The current paper is aiming -

- To find out the technology based method used by teachers to deliver lectures in the teacher training institutes.
- To examine the level of awareness of teacher educators about the usage of ICT based tools used in Education.
- To know the strategies used by teachers to promote educational technology among alumni.
- To analyze various ICT based tools to teach different subjects.
- To collect the experiences of teacher educators about using ICT tools in their academic career.

Research Reviews

1. Masturan, Azlim, carried out a research on the utilization of Educational Technology to Enhance Teaching Practices: Case Study of Community College in Malaysia, in 2015, which aimed to identify lecturer's perception towards the usage of the educational technology, through the structured questionnaire. The result from this study found that the lecturers in the community college have positive perceptions that educational technology enhances their teaching practices and students' performance. The major barriers in using it are technical support, administrator support, computer self-efficacy and accessibility. Analysis found that lecturers of the community college are ready to utilize the educational technology in their teaching practice. However, the technical support needs to be enhanced by internet and computer facilities. Institution also recommended providing more training for lecturers to sharpen their teaching skills by utilizing the educational technology which is the case also in our study and suggested by the teachers
2. Towhidi, Afsaneh in her paper entitled 'Distance education technologies and media utilization in higher education' carried out in 2010 aimed to list successful countries using various systems of distance education in their higher education, to explain the nature of distance education, to describe the variables in distance education, to classify and to describe the media usage in distance education, to show constraints and highlights of distance education, to describe the utilization of media in different countries, to suggest some solutions to be utilized in higher education, and to present a summary and a conclusion.how ,it takes into consideration on the limitations strength and other variables in the developing and developed countries.
3. Golas Jennifer, in Effective teacher preparation program : Bridging the gap between educational technology availability and its utilization ,This article examines the need for restructuring current teacher preparation programs The effectively re-designed program will offer preservice teachers the tools necessary for providing K-12 students the education needed to be successful in today's workforce. It explains that this can only be accomplished by closing the gap between availability of technology and the knowledge on how to utilize it. Suggestions for effective instructional strategies with theoretical support for their implementation into teacher preparation are included. the article suggests that technology is infused throughout teacher preparation, placing emphasis on mediation, modeling, and exploration.
4. Seidman Steven (1986)A survey of school teachers utilization in media. Tthe study reported in this article investigates the extent to which 11 media were utilized by school teachers in general as well as by teachers at the elementary middle And junior high school and senior high school levels in the Fort Worth Texas public high school ,Public school teachers, sample survey

5. Wasehudin Wasehudin (2021) The utilization of educational technology based on zoom meeting and Google classroom in pandemic era, how Zoom Meeting and Google Classroom media are used as technology media that could be a learning solution in this Covid-19 era, The method used in this study was based on qualitative research based on case studies, where it was used as primary data for further research , most of the students found it difficult to provide supporting infrastructure for online learning due to their economic conditions and many students who were clueless in the field of information technology (IT), making it difficult for them to operate the two online learning platforms. Most students not having adequate communication tools and internet network access was also a problem faced by our institutions teachers and students during the pandemic.
6. Bauer John, 2002, USA, Interpreting teaching practices in educational technology: A study of 30 teachers' utilization of computers in classroom instruction. The purpose of this qualitative study was to explore the teaching practices of 30 teachers who use computer technology in their instruction in order to understand how and why they operationalized their practices. Participants were volunteers from two elementary schools, one middle school, and one high school and were identified by their schools as being proficient with technology. The study examined best practices, influences on teachers to use technology, issues and concerns of participant teachers, and student responses to technology instruction.
7. A critical study of the availability, accessibility and utilization of the educational technology facilities for the postgraduate students in Indian and Iranian University. The present investigation is an essential study of educational facilities in the universities of India and Iran. However, almost all the postgraduate students had a high positive attitude towards the use of educational technology for higher education. More than one third of the students need to improve their educational technology skills in order to exploit the resources available through ICT.
8. A Study on Awareness of Trained Teachers in relation to Information and communication Technology Nabin Thakur, This study was undertaken to study the level of ICT awareness among the trained teachers, to compare the level of ICT awareness among male and female as well as rural and urban trained teachers. The data was collected by a self made questionnaire form in which thirty different secondary schools five from urban and five from rural of each three districts in West Bengal. Ten secondary trained teachers were allowed to administer the questionnaire from each school and the questionnaire was administered personally for each teacher. In that way all three hundreds trained teachers participated to administer the questionnaire wherein fifty questions were pioneer and each question was carrying one mark. Based upon the scores of the questionnaire, five categories were used like 1-10 very poor, 11-20 poor, 21-30 average, 31-40 good and 41-50 very good. To analyze the data Frequencies, Percentage, Mean, Standard Deviation (S.D.) and 't' test were used. Results revealed that overall the level of ICT awareness was poor, there was no significant difference in the level of ICT awareness among the male and female trained teachers and there was a significant difference between the urban and rural trained teachers.
9. Challenges for Using ICT in Education: Teachers' Insights Hadi Salehi and Zeinab Salehi This study aims to investigate the teachers' perceptions of the barriers and challenges preventing teachers to integrate ICT in the classroom. Therefore, a validated questionnaire was administered to 30 high school English teachers who were selected from the five main educational districts in the city of Isfahan, Iran. Stratified random sampling was used to select an equal number of respondents from each educational district. The findings indicated that although teachers had a strong desire to use ICT in the classroom, they were encountered with some barriers. Insufficient technical support at schools and little access to Internet and ICT were considered as the major barriers preventing

teachers from integrating ICT into the curriculum. Moreover, the descriptive analysis of the results showed that shortage of class time was another significant barrier discouraging teachers to use ICT into the classroom.

10. ICT –Enabled Rural Education in India by Niraj Kumar Roy includes the overall objective as to improve access to basic information in the rural schools by improving connectivity in the field of education, governance, social inclusion, and health, access to the Internet, and disaster mitigation and control. The main stress is given on development of education level on the basis of ICT in Rural Community. Following are the important objectives that will uplift rural education. To provide employment related education through computer technologies for school students at the standard of 8th to 12th. To integrate various government self employment training institutes to work for the ICT education programmes. To disseminate worldwide current science and technological related information to rural students. To create awareness for effective utilization of local resources for development of economic conditions. To Develop Rural Knowledge Network to enhance the E learning capabilities among rural peoples.To provide a forum for the exchange of knowledge and national experiences in promotion of ICT for development in the rural area through Training Centre. To produce a tested set of resource and training materials on concepts, issues and approaches to promote and realize the access of ICTs for all through Rural Kiosk Machine. Fast and easy access to updated and latest information.

Methodology

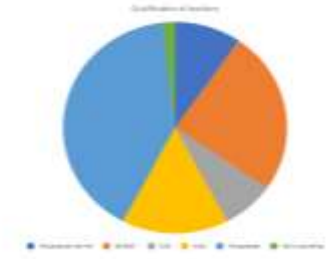
The present study employs qualitative survey method aiming to collect the responses about technology based method used by teachers to deliver lectures in the teacher training institutes, examination of the level of awareness of teacher educators about the usage of ICT based tools used in various disciplines, know the strategies used by teachers to promote educational technology among alumni, the experiences of teacher educators about using ICT tools in their academic career. The target group was experienced teacher educators of various teacher education institutes from North Goa district of the state of Goa. 50 teacher educators teaching the subjects in Science, Arts and Education stream in the 4 years integrated course of BABED and BSCBED were the respondents of the study.

For the purpose of this research, primary data has been collected with the help of a survey questionnaire through google forms to gain in-depth insights from the respondents.

Results

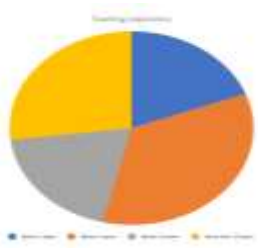
The questionnaire consisted of the following topics. Below is the graphical representation of the responses of the teacher educators to the questions that were asked.

1. Qualifications of the sample selected -



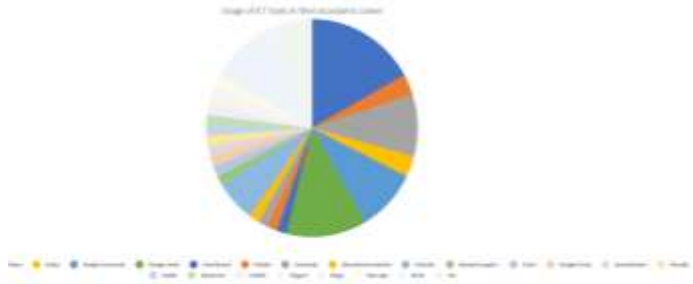
Among the teacher educators surveyed, 9.6% of them have qualified post graduate with Ph.d, 25% of the respondents have cleared their NET/ SET, 7.7% have completed their b.ed degree, 15.4% are qualified with M.ed degree, similarly 40.4% are post-graduate whereas only 1.9% is qualified with MA in counseling.

2. Teaching experience of the sample selected-



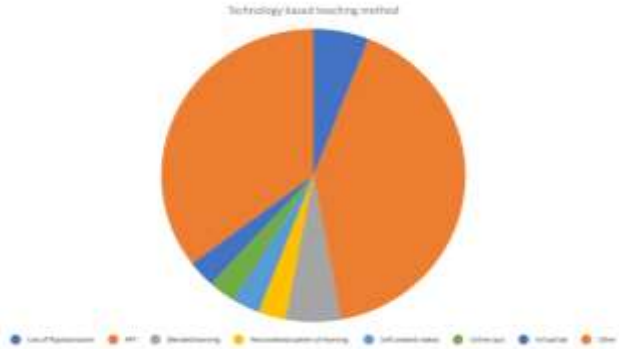
Among the teacher educators surveyed, 34.6% are having below 5 years of teaching experience, 26.9% have experience of teaching more than 10 years, whereas 19.2% are below 1 years of experience, similarly 19.2% have the experience of below 10 years in teaching faculty.

3. Usage of various ICT Tools by the teacher educators in their academic career -



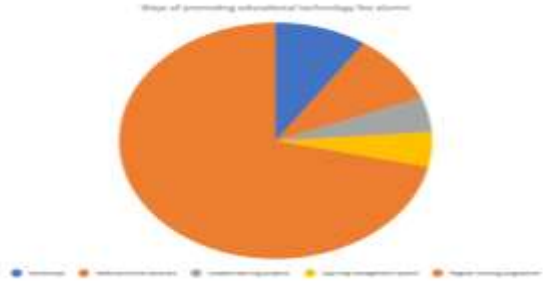
As per the survey conducted, 16.9% of the teacher educators were using PPT as the ICT tool used in their academic career, 12.3% used Google meet, 9.2% used Google classroom, similarly 9.2% used Videos, 6.2% have used Youtube as their ICT resource whereas 3.1% used Projectors, 3.1% used Audios, 1.5% have used Smartboard, 1.5% of the teacher educators used Google Forms, Spreadsheet, Moodle, Padlet, Teachmint, Chalklit, Flipgrid, Blogs, Pear app respectively whereas 10.8% used other tools, 6.2% did not use any ICT tools in their academic career.

4. Technology based teaching methods used by teacher educators to deliver lectures



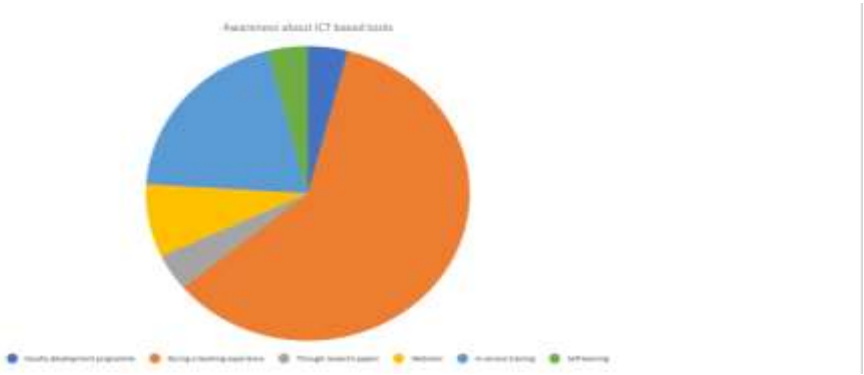
Among the teacher educators surveyed, 41.2% use PPT as their teaching method, 5.9% use Flip classroom, similarly 5.9% use Blended learning as their teaching method, 2.9% use Personalized System of Learning, 2.9% are using Self Created Videos, 2.9% are using Online Quiz, 2.9% are using Virtual lab whereas 35.3% are using other methods for their teaching.

5. Ways of promoting ICT based education among alumni.



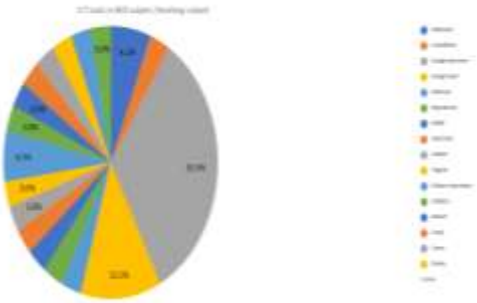
Among the teacher educators surveyed, 71.4% suggested Regular Training Programme to promote ICT in education among alumni, whereas 9.5% suggested Workshops, similarly 9.5% suggested Webinar/Online Seminar, 4.8% opted for the option of Creative learning projects, whereas 4.8% suggested Learning Management System to promote ICT based education among alumni.

6. Awareness about ICT tools among teacher educators -



Among the teacher educators surveyed, 60% of the educators were aware about the ICT based tools during their teaching experiences, 20% during their In-service training, 8% while attending Webinars, 4% through Self learning, similarly 4% through the Research papers, whereas the rest of the 4% were aware about ICT tools during their Faculty Development Programme.

7. ICT tools used by teacher educators in their respective subject transaction



Among the teacher educators surveyed, 33.3% of teacher used Google Classroom as their ICT tools in their teaching subject,12.1% are using Google Meet, 6.1% use Slideshare, 6.1% are using Distavo,

whereas 3% are using Unacademy, E- libraries, Repositories, Padlet, Teachmint, Chalklit, Flipgrid, ORAEDU, Kahoot, CMap, Canva, Diksha, Peardeck, Moodle respectively.

Interpretation of the results

As can be observed in the analysis of the data collected, the teacher educators are well advanced in using different types of ICT based applications such as PPT, Google Classroom, Google Meet, Slideshare, Flip Classroom, Unacademy, Elibraries, Repositories, Padlet, Teachmint,Chalklit, Flipgrid, ORAEDU, Kahoot, CMap, Canva, Diksha, Peardeck, Moodle.

Teacher educators from Goa develop content in various disciplines through various webinars, seminars, workshops, training programmes for the students.

ICT based education is also promoted through alumni so they provide seminars for different schools and promote the importance of using ICT tools in education in their teaching career.

Schools should provide more ICT tools such a Smart board, projectors, speakers, Smart TV for the teachers and students. Teachers should focus more on the use of ICT tools while teaching their particular subject and should also make the students aware about the new technology and their importance. Workshop and seminars should be introduced for promoting ict skills for the teachers. Teaching in ICT through ICT tools should be started at a young age so that students can be familiar with it.

Network access should be made stronger for better communication. For the smooth functioning of the technology, schools must provide enough technical support and internet.

Teachers should have their own laptops for their flexibility.

Recommendations and Conclusion

The paper covered the desired components and objectives with the help of opinions of teacher educators. The investigators felt that there is a need for more research in the field of ICT based education. Therefore some relevant areas on which the research couldn't have been extended in this paper, have been mentioned below. The recommended topics are -

1. Pros and cons of ICT based education
2. Awareness about the techno- field of education among undergraduate students.
3. Continuous professional development strategies and its implementation among the teaching faculty at primary, secondary and higher secondary level.
4. Use of ICT in evaluation
5. Covid effects on ICT based teaching

We all know that techno- based education helps in better understanding and knowledge development of the students. In 2021, under the guidance of the Directorate of Higher education, Goa, a learning management system called as 'Distavo' was introduced and it has helped a lot of students as well as teachers and teacher educators in providing content through videography. The aim of this digital platform is to provide e-learning content for the college students of all courses affiliated through Goa University; they have also started an initiative of converting the videos into regional languages for better understanding of the students.

References

Masturan, Azlim, et.al (2015) Utilization of Educational Technology to Enhance Teaching Practices: Case Study of Community College in Malaysia, Procedia - Social and Behavioral Sciences 195 (2015) 1793 – 1797, World Conference on Technology, Innovation and Entrepreneurship. https://reader.elsevier.com/reader/sd/pii/S1877042815038641?token=13145A7500ADDC2C9CB57DC2B2935B02EB4728FCB1B4011B48D070124F9F735FDCD43439FCCB150EA8AA4FC5AE70AEE6&originRegion=eu-west-1&originCreation=20230109094807

Towhidi Afsaneh,2010,Distance education technologies and media utilization in higher education. https://www.itdl.org/Journal/Aug_10/article01.htm

Golas Jennifer, Effctive teacher preparation program : Bridging the gap between educational technology availability and its utilization Marietta Vol. 6, Iss. 1, (2010) https://www.proquest.com/openview/d8c56dbe27b545a8a564f4ce6c634f07/1?pq-origsite=gscholar&cbl=38579

Seidman Steven (1986) A survey of school teachers utilization in media, Educational Technology, Vol. 26, No. 10 (October 1986), pp. 19-23 (5 pages), Published By: Educational Technology Publications, Inc.https://www.jstor.org/stable/44424728

Wasehudin Wasehudin(2021)The utilization of educational technology based on zoom meeting and Google classroom in pandemic era,Conciencia Vol 21 No 1(2021) http://jurnal.radenfatah.ac.id/index.php/conciencia/article/view/8054

Bauer John, 2002, USA, Interpreting teaching practices in educational technology, https://www.proquest.com/openview/a630e29805721c4f44646bd4274afce1/1?pq-origsite=gscholar&cbl=18750&diss=y

IMPACT OF ONLINE TEACHING PLATFORMS ON B.ED STUDENTS IN THE STATE OF GOA

Vijay Tukaram Maulingkar
Trained English Teacher in GPS
B.sc, MCA, MA (English), MA (education) pursuing, B.Ed, YIC

Abstarct

This paper present a study about using on-line teaching platforms in B.Ed classroom teaching learning process and how it will help students to develop web based materials, e-content activities. The information have been collected through survey, interviews and secondary data from B.ed colleges in the state of Goa and identified in which the web based learning, digital learning, computer based learning ,virtual learning ,moodle platform could increase the productivity and learning motivation of the learners. Now a days online teaching platforms become the integral part of teaching learning process. How much the students can develop creative learning and foster their creativity through use of online teaching platform. All the submissions, assessment, evaluation can be done online and improve and upgrade the quality education. The data is analysed using SPSS.

Keywords*: Web-based learning, computer based learning, moodle, virtual learning*

INTRODUCTION

The learning of teaching has improved and made easy access to all through different online teaching platforms. Most of the organizations are understanding the values on online learning since it is more effective, productive and easy access from anywhere. In this research paper we attempt to examine different platforms and tools for teaching learning in B.Ed classrooms. We will be recognizing the benefits of different online platforms. Innovations is the necessity in the teaching learning process. To promote global learning teachers are required to upgrade their skills, competencies and they have to use the integrated approach in teaching learning. Blended learning also helps a lot for learner and the student to innovate new things. Virtual classroom gives a lot of scope for introducing innovation strategies. The use of ICT promotes the innovations in online learning.

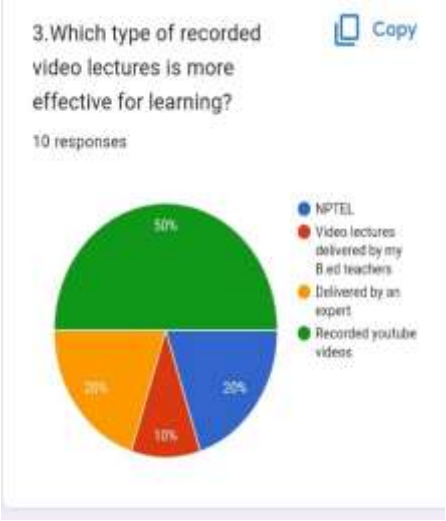
Assessment is a very important tool to support the growth of the student in an online environment. Embed quizzes in between the topics to understand the students where they are and where they need to go. Set a forum for discussion to share their ideas, creativity, invention with others and questions their learning to develop critical thinking. Project work and practice assignments to assess how they are doing and pinpoint areas for further improvement is necessary.

REVIEW OF LITERATURE

Creativity and innovation brings changes in teaching learning due to technology from different virtual channels students can see the real world through their own experience. The benefits associated with virtual schooling are expanding educational access, providing high quality learning opportunities, improving student outcomes and skills, allowing for educational choice and achieving administrative efficiency. The challenges associated with virtual schooling include the conclusion that the only students successful in online learning environments are those who have independent orientations towards learning.

Objective

To find the impact of online platforms among the B.Ed students in the state of Goa and to measure the level of interest for such innovative teaching learning process.

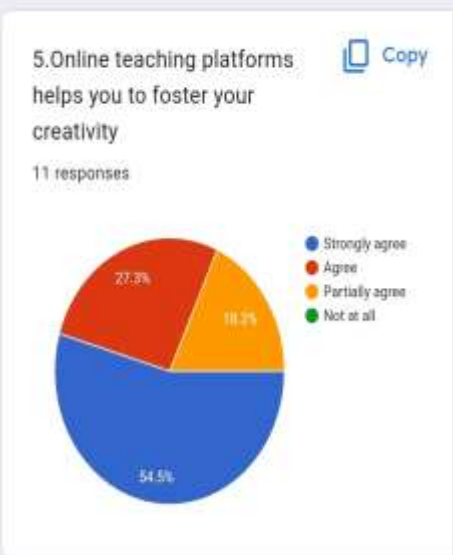


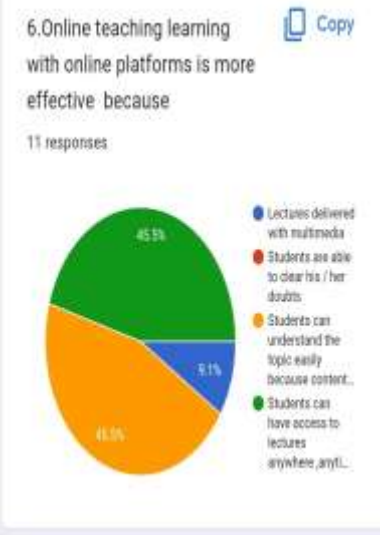
Research Methodology

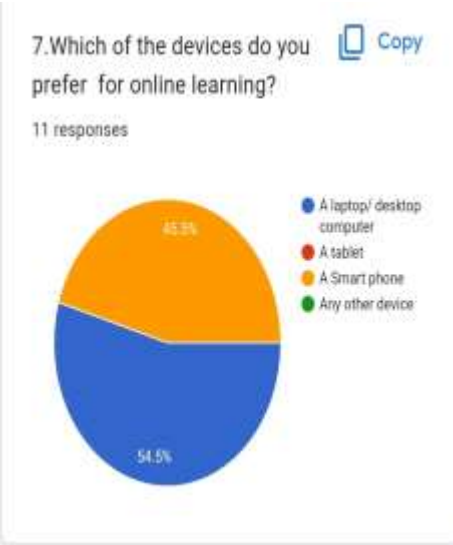
The study reveal the impact of online platforms on students interest learning at B.Ed colleges in the state of Goa. The researchers used quantitative method for the same. The descriptive survey method is adopted for the present study. All the B.Ed students of various institution in the state of Goa were the population. Systematic sampling method was followed to draw the sample from the target population .Questionnaire used as a research tool for data collection. The questions are both open ended and close ended. Data pertaining to student response was collected through online Google forms.

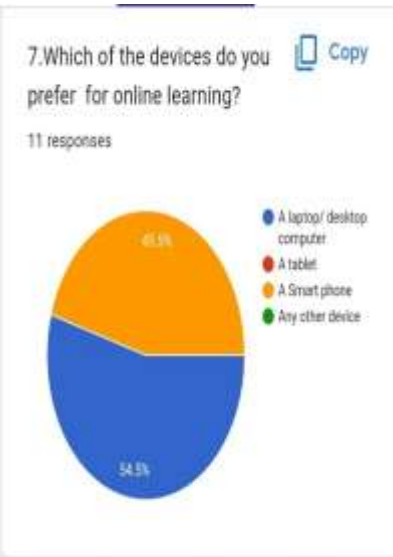
Outcome of the Survey

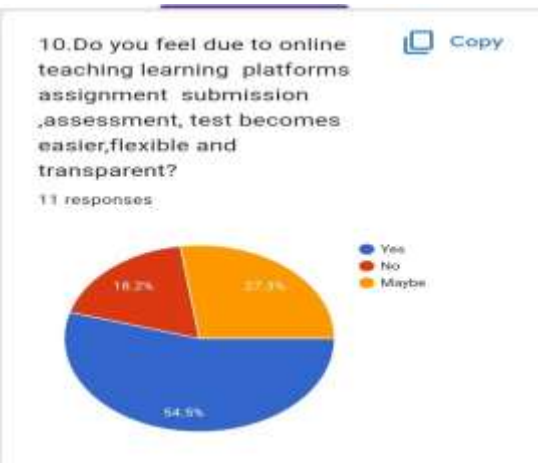
Animations are found to be the best digital methods which self motivate the students to learn. The majority of the students had excellent experience using online learning tools. Most of the students prefer the recorded you tube videos from the expert to learn more effectively since they find that the content is arranged in a systematic manner. Google meet is the online teaching platform which is used by majority of the students since it is easy and good features are available. According to many students they feel online platforms and learning tools help them a lot to foster their creativity and innovation. Almost of the same percentage student feel that online teaching is more effective because student can understand the topic easily because the content is created with audio ,video and slides and they can have access to lectures anywhere ,anytime with ease. Most of the students use laptop /desktop computer, some of them they use smartphone.90.9 % of the students has the internet connectivity at home. Around 70 % of the pupils says they are comfortable to use moodle ,e-content and ppt in learning process. Almost majority of the responses received feel that the online platforms helps assignment submission ,assessment and conducting test in a easy manner. The test and assessment becomes transparent

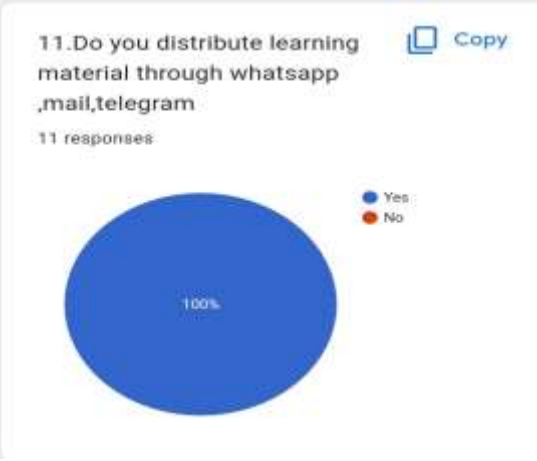

5.Online teaching platforms helps you to foster your creativity
Copy
11 responses
Strongly agree
Agree
Partially agree
Not at all
27.3%
18.2%
54.5%


6.Online teaching learning with online platforms is more effective because
Copy
11 responses
Lectures delivered with multimedia
Students are able to clear his / her doubts
Students can understand the topic easily because content...
Students can have access to lectures anywhere ,anyti...
45.5%
9.1%
45.5%


7.Which of the devices do you prefer for online learning?
Copy
11 responses
A laptop/ desktop computer
A tablet
A Smart phone
Any other device
45.5%
54.5%


7.Which of the devices do you prefer for online learning?
Copy
11 responses
A laptop/ desktop computer
A tablet
A Smart phone
Any other device
45.5%
54.5%


10.Do you feel due to online teaching learning platforms assignment submission ,assessment, test becomes easier,flexible and transparent?
Copy
11 responses
Yes
No
Maybe
18.2%
27.3%
54.5%


11.Do you distribute learning material through whatsapp ,mail,telegram
Copy
11 responses
Yes
No
100%

CONCLUSIONS

Online learning help and motivate the students to do their own work by using the e-content, creativity uploaded on the Moodle. It is found from the survey that online learning tools and platforms enhance the teaching learning process. The students are able to clear their doubts, queries very easily through chat window and forum discussion. Online teaching platforms promote self learning, self motivation and independent learning takes place. Majority of the students are of the opinion that blended learning is also useful for them. Almost all student has the smartphone use of online platforms becomes easier and convenient. Some of the student does not has the high speed network connectivity. Animations are found to be the best teaching methods to develop the interest among the students to learn the new things. Online learning is more effective because they provide ppt, web based learning, e-content.

REFERENCES

Bennett, S, Marsh D and Killen , C(2007). Handbook of online education . Continuity includes the international Publishing Group.

Preethi Sheba Hepsiba Darius, Edison Gundabattini and Darius Gnanaraj Solomon . " a survey on the effectiveness of online teaching-learning Methods for University and College Students.

Agrawal,H, and Pandey, GN 2013. Impact of e-learning in education . International Journal of Science and Research (IJSR).

Bonk,C.J. & Graham, C. R (Eds).(2005). Handbook of blended learning : Global perspectives , local designs .San Francisco, CA:Pfeiffer Publishing.

GAME BASED LEARNING VS TRADITIONAL APPROACH IN SECONDARY SCHOOLS: COMPARATIVE STUDY

Mr. Vishwesh S. Fatrekar[1], Kashimbi Khailaigar[2], Prajwali Dalvi[3], Krutika Malvankar[4], Samiksha Gurkha[5]

[1]Assistant Professor, Ganpat Parsekar College of Education- Harmal

[2-5]Fo.Y B.Sc B.Ed Students Ganpat Parsekar College of Education- Harmal

Abstarct

Some educators have started using online learning support platforms to enable students to participate in online learning activities and discuss with other students. However, while online and collaborative learning can improve students achievement, it can be difficult to motivate students to learn. Therefore, how to arouse students' interest in the course and their willingness to spend time learning the course content has become an important research issue. Technological development and innovation have brought many challenges to secondary School education. We are growing up in a digital native society exposed to a digital environment from their birth. Recently, the focus has shifted from traditional teaching methods to finding innovative methods and how to attract students. Developing skills instead of memorizing them is now called for. To help students solve real-world problems and prepare for the future, it's important that secondary education institutions focus on equipping students with their 21st century skills .Creativity, problem solving, critical thinking and more. Game-based learning is gaining momentum and becoming a popular educational tool because it is learner-centered and fosters creativity.

Keywords*: Game-based learning, Traditional Teaching approach, Secondary Schools.*

1. INTRODUCTION

Educators have understood long back that the interactive dynamic of games has the potential to benefit teaching and learning, and recent years have seen considerable activity surrounding the use of game mechanics in secondary education. Efforts to use such activities to improve learning include overlaying gaming elements onto a course, creating gaming activities that deliver content, and, in some cases, structuring an entire course as a game. The result is a diverse matrix of approaches that use gaming principles, fully developed games, or other aspects of what some describe as "gameful learning" to increase engagement, enhance learning, and explore new models of education.

Secondary school students are the students studying in Std 9 to 12. Students are constantly being pulled to multi-media devices, which provide a level of entertainment that is difficult to match in the classroom. Consequently an emphasis has been placed on developing teaching strategies to improve student engagement including Active Learning, Flipped Classroom, and, the focus of this research, Game-Based Learning (GBL).

Traditional learning involves a teacher-centric rather than student-centric approach. In a traditional approach the role of a teacher is limited to dissemination of knowledge rather than acting as a facilitator. The mode of teaching is usually the chalk and talk method in which more emphasis is placed on theoretical understanding. The assessments revolve around rote learning rather than competence building. There is limited collaboration and peer learning with no proper alignment of objectives, activities and assessments. Studies have found that traditional classroom learning does not work well with young minds. According to a research study by Massachusetts Institute of Technology (Plass, Mayer, & Homer, 2020), brain behaviour of a young nineteen year old boy was found to be zero while attending traditional classroom learning which was similar to watching television.

Using games for learning purposes is hardly a new innovation. Gaming has, in one form or another, been a part of education since its inception. Today, we consider game-based learning (GBL) as simply the integration of games or gaming mechanics into the educational experience. Educators who

implement game-based learning do so because of its capacity to create interactive and enjoyable learning opportunities. Video games are a natural fit for game-based learning because of their interactivity, capacity for collaboration, and built-in achievement system. They can be designed to teach a certain subject, expand concepts, reinforce development, understand historical events, or assist in acquisition of skills. Development of digital game-based learning (DGBL) has taken traction over the last several years with a growing number of companies and products appearing on the market. Research in the area is also expanding with over 12000 articles published this year alone. Journals and conferences dedicated to DGBL have also emerged giving further evidence to the growth of this field. As video game technology progresses, so does the capacity for video game developers to create immersive learning environments. This doesn't necessarily mean an 8-bit game such as Oregon Trail has any less capability to teach as a modern online game such as Little Big Planet. However, recent innovations such as massive online environments, the integration of social communities, badges and other achievement systems, bring with them new possibilities for creative developers of DGBL. By no means have efforts to integrate education and video games been without failure or controversy.

2. OBJECTIVES

1. To provide an insight to the concept of game-based learning as an instructional tool in secondary schools.
2. To provide a theoretical framework of game-based learning.
3. To differentiate game-based learning from traditional learning.
4. To understand the competence building process through game-based learning.
5. To understand the various game based learning platforms for secondary school students.
6. To highlight the benefits, drawbacks and challenges of game-based learning.

3. CONCEPT OF GAME –BASED LEARNING

Early ages we know that Game based learning has good impact on learning of child. There are also attempts to bring game-based learning to Seconday education. One example would be surgical skill acquisition through a virtual reality simulator for shoulder arthroscopy (Gomoll et al., 2007; Rebolledo et al., 2015). Positive impacts of the use of virtual learning environments were shown on other occasions, for instance using the game 'Deal or No Deal' to introduce expected value in a statistics course (Chow, Woodford and Maes, 2011) or the game 'Virtual Singapura' to solve inquiry-based problems related to historical disease epidemics (Kennedy-Clark and Thompson, 2011). There is also evidence that, in comparison to conventional lectures, game-based lessons have beneficial impacts on deep learning and higher-order thinking (Crocco, Offenholley and Hernandez, 2016). Consequently, we cannot come up with a reasonable argument that the potentials of game-based learning may be restricted to a certain age group.

There are good and universal arguments to implement games in a broad variety of educational contexts. For instance, game-based learning, gaming elements, and technology were observed to facilitate learning processes and enhance knowledge transfer (Gee, 2003; Prensky, 2007; Connolly et al., 2012; Li and Tsai, 2013; Perrotta et al., 2013; Wouters et al., 2013; e.g. Boyle et al., 2016). From a theoretical point of view, four core arguments in favour of game-based learning were summarized by Plass and colleagues (2015). First, and mostly referred to, is (i) the motivational capacity of gaming environments. Incentive elements in the form of trophies, stars, or leader boards as well as certain game mechanics are argued to 6 stipulate situational interest and are widely used in and known from entertainment games. Closely related is (ii) the player's engagement, which can be facilitated for instance by integrating physical movements or interactions as part of the playing experience. Learner's engagement can also be moderated by (iii) making the game adaptive to meet, for instance, players' capabilities or his/ her

specific situation. This for example can result in personalized feedback or scaffolding according to players' achievements and interactions (see e.g. Chen & Law, 2016; Kao, Chiang, & Sun, 2017). Lastly, (iv) digital games can create a save environment where it is allowed to make errors, known as graceful failure – alleviating the negative consequences of failing while unfolding the motivational potential of the learning environment. From this it's clear that Game based learning can be adapted in Secondary schools in our country.

Game based learning is where game characteristics and principles are embedded within learning activities. Here, learning activities promote student engagement and motivation to learn. Components of game-based learning include points systems, badges, leader boards, discussion boards, quizzes and classroom response systems. Points may come with academic rewards such as having an extra week to submit an assignment once reaching a certain point threshold. Badges can be given if students reach a certain success level while classroom response systems like Kahoot or Top Hat encourage participation through points.

Game based learning is also an active learning technique where games are used to enhance student learning. Here, the learning comes from playing the game and promotes critical thinking and problem solving skills. Game based learning can be accomplished with digital or non-digital games and may include simulations that can allow students to experience the learning first hand. Game-based learning can also take place either in the classroom setting/off-line mode as well as in the online mode. It is often assumed that the game-based pedagogy is adopted only in the online mode. But this is not the case. Even in the classroom setting traditional games are used to impart the knowledge to the students. Usually in the online mode, when game-based learning is integrated into the curriculum digital games are preferred. A teacher's role becomes very important in game-based learning as the teachers need to design the game-based curriculum content in such a manner that it caters to the diverse needs of the learners. The effectiveness of game-based learning depends on the type of the game that has been designed, the stage at which it is introduced and the learning outcomes that are to be achieved. Further the efficacy of a game-based learning also depends on the level of student participation.

4. GAME-BASED LEARNING - A THEORETICAL FRAMEWORK

With the emergence of sophisticated and immersive technologies, games can be an effective learning tool. The foundation of the game-based learning is based on four underlying theories and these are cognitive, behavioural, affective, and socio-cultural engagement.

i. **Cognitive Theory**: In this theory, learners initially try to understand what the game is all about. Then the process of organizing verbal and visual information begins. At the end, the visuals are integrated based on the previous understanding and perception. There are different ways through which cognitive processing can be done and those are 'Scaffolding and Feedback', 'Situatedness Learning', 'Dynamic Assessment', 'Interaction Design' and so on (Plass, Homer, & Kinzer, 2015).

ii. **Behavioural Theory**: Behavioural theory is effective when game based learning mechanisms are viewed from a motivational perspective. It focuses on the ability of the game to occupy and motivate the students by providing experiences that would develop the sense of enjoyment and want to continue the game. It has been observed that during the academic games if participants are interacting with each other and try to understand the challenges faced by others, it fosters and improves the learning process (Zusho, Anthony, Hashimoto, & Robertson, 2014)

iii. **Affective Theory:** This theory focuses on the experienced emotions, beliefs and aims to understand how game environments influence the affective state of the learners through affective engagement. There are several ways through which affects can be incorporated into

games and those are aesthetic design, musical score and so on. Emotion can be induced in players with the help of the ability of specific games. The objective of the affective theory is to influence the learner's experience of different emotions such as boredom, fear, happiness, frustration, anxiety and so on (Craig, Graesser, Sullins, & Gholson, 2004).

iv. **Socio-Cultural Theory**: The social and cultural perspective is not much different from the other theories discussed above. However, the objective of social and cultural attributes is to develop opportunities for these factors to influence learning through creating a socially enriched and a meaningful activity. In the real world, game play is embedded with observations based on social actions. Here, design principles emphasize more on motivational and empathetic opportunities than the specific instructions (Plass, Homer, & Kinzer, 2015).

5. GAME BASED APPROACH VS. TRADITIONAL APPROACH

Traditional learning involves a teacher-centric rather than student-centric approach. In a traditional approach the role of a teacher is limited to dissemination of knowledge rather than acting as a facilitator. The mode of teaching is usually the chalk and talk method in which more emphasis is placed on theoretical understanding. The assessments revolve around rote learning rather than competence building. There is limited collaboration and peer learning with no proper alignment of objectives, activities and assessments. Studies have found that traditional classroom learning does not work well with young minds. According to a research study by Massachusetts Institute of Technology (Plass, Mayer, & Homer, 2020), brain behaviour of a young nineteen year old boy was found to be zero while attending traditional classroom learning which was similar to watching television. On the other hand, game-based learning involves a student-centric approach wherein a teacher uses games as teaching tools for better student engagement. This has a significant impact on the students'performance as it involves 'learning by doing' at their own pace which is beneficial to both slow learners and fast learners. Students can move to advanced levels of problem solving only after mastering the basic level of understanding in the game based approach. Immediate and continuous feedback on their performance enables them to rectify their mistakes and helps them improve their performance. A study conducted by Traci Sitzmann (Sitzmann, 2011) proves that GBL increases self-confidence of learners by 20%, improves concept related knowledge by 11%, learning retention up to 90% and generated task completion by 30%. Table-1 highlights the distinction between Game-based learning and Traditional learning.

6. DISTINCTION BETWEEN GAMES BASED LEARNING VS TRADITIONAL LEARNING (TABLE -1)

Criteria		*Game –based learning*	*Traditional learning*
Learning by doing		Learners learn through action while playing new concepts learnt are applied immediately in the gaming environment.	Learners learn theoretically. They apply knowledge after they are out of classroom.
Creativity		Encourages learners to think differently.	May not inspire learners to think out of the box.
Innovation		It does have a fixed set of rules but scope for innovation is much higher.	It usually has a fixed structure which reduces innovation considerably.

Engagement level		Fun in learning increases attention span of learners. Game based learners get completely engrossed in games.	It is difficult to keep the engagement level up because of fun element missing in this approach.
Retention and recall		Faster	Slower
Assessment		It is easy to record and analyze learners reaction in game based learning	Assessment in traditional approach cannot gauge learners understanding very well
Feedback		Immediate & continuous feedback	Delayed feedback
Competence building		Helps in developing real life competence building involving critical thinking & problem solving skills	Emphasis is on rote learning rather than skill development.
Learner's styles		Suited to all learner types such as slow learners and fast learners	Less suited to slow learners
Cost		Requires high investment initially but its cost Is written off over the long term. It is more environment friendly as it reduces the use of papers.	Requires recurring investment over a long period as printed materials are used throughout learning by learner and mentor

7. GAME-BASED PEDAGOGY FOR COMPETENCE BUILDING IN SECONDARY SCHOOL EDUCATION

The most significant change in the curriculum of Secondary Education in recent times worldwide has been the introduction of competence based curriculum. Competence based education, which is commonly understood as the learning based outcome, describes the competency and proficiency of a student (Choudaha, 2008). It specifies what a Secondary student is expected to know, understand and would be able to do at the end of his/her program of study. These expected competencies are used as reference points to establish the relationship between education and the world (Kouwenhoven, Howie, & Plomp, 2003). When specific competencies such as innovation, creativity, problem solving, critical thinking, collaboration and self-management among others are developed through the curriculum design, students after passing from Secondary Schools are considered better 'work-ready' and are readily accepted by the industry. So occupation-specific competencies in the curriculum design reduces the unemployment and under-employment gap (Sudsomboon, 2007). The importance of implementing competency based curriculum in serves two purposes: (i) competencies that are linked with an academic degree become the basis of assessment of the course. (ii) Linking specific competencies to a program helps faculty, students, employers and other international institutions understand the specific skills and knowledge acquired by the students as a result of their learning experience. Amongst several pedagogical approaches used for teaching learning in secondary education, the application of game based pedagogy cannot be ignored. Game based education not only addresses higher-order cognitive

skills but also promotes creativity, innovation, critical thinking and problem-solving skills among students to a great extent. In traditional classroom settings, especially in developing countries such as India, not much attention is paid to building non-cognitive skills like patience, motivation, self-control and perseverance.

Figure 1; Key highlights of the game based pedagogical tool

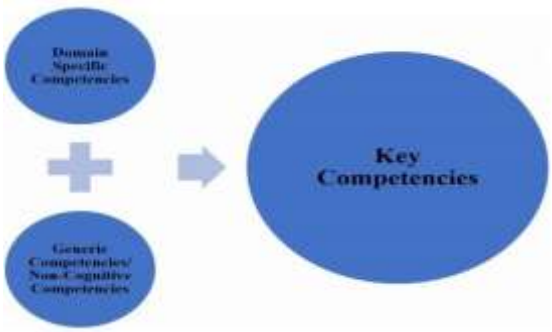


Figure 2; Competence building through game based pedagogy

8. Game based learning platforms

a) Kahoot

Kahoot as an online quiz maker and game based learning platform, Kahoot! uses visually appealing Traditional Learning elements to maximize engagement and ensure higher completion rates among learners. Your learners can access these interactive games and quizzes, which are uniquely called "Kahoots", via a web browser or a mobile app. The best part is that they can be presented on a shared screen and answered by a group of "players" all at the same time through any video conferencing platform. Alternatively, you can set Kahoots as a self-paced challenge to be completed by each team member asynchronously. This platform also provides trainers with reporting and analytics so that knowledge gaps can be addressed and feedback can be provided.

b) Archy learning

Archy learning is an all-in-one Traditional Learning training software and eLearning platform that you can use to host global classroom, perfect for those who are training remote teams across the globe. With

its intuitive user interface, you can easily copy and paste Youtube links or upload classroom notes, PDFs, and other digital resources that your learners will need to complete their training. You can even design learning paths by incorporating custom course quizzes, mixed media exams, homework, interactive video modules, and personalized games. Course certificates are also available to motivate learners to complete their lessons. The tool's school tracking and head office features are designed to give you insight into each of your learners' course progress and assessment results.

c) Centrical

Centrical is a powerful Traditional Learning training software that allows you to design gamified microlearning content. With its intuitive user interface, you'll be able to create polished game-based learning materials without needing advanced technical design skills. On the platform, you can customize learning challenges, set prize-winning competitions, or design quest-based game narratives to help your employees adopt the right behaviors, practice skills in a risk-free virtual environment, and improve the overall knowledge and skills they need to succeed.

d) Hurix Digital

Hurix Digital is an end-to-end digital content solution provider integrating different content creation and delivery platforms designed for modern-day learning. Among these platforms is a custom LMS that enables organizations to deliver training content through immersive training modules. It includes engaging videos, Traditional Learning, simulations, and scenario-based learning that are accessible across multiple devices. With this tool, you can customize your LMS according to your organization-specific training workflow. Its game-based learning strategy incorporates puzzles, problem-solving games, strategic games, challenge-based games, and many more.

e) Quizlet

Quizlet is an online quiz maker that is well known for its flashcard format. Its game-show style content can be used in educational settings and employee training. You have access to a library of pre-made flashcards stacks for easier quiz game authoring. Otherwise, you can create your own from scratch. The flashcards you make can also include audio and visual content. This tool is available for free, but if you want access to analytics and customization options, you'd have to get their paid service. QuizletPlus has a free 7-day trial .

f) EdApp

It is a game based learning platform that integrates different engagement elements to help you increase course completion rates while ensuring an effective learning experience for your learners. Additionally, this platform has a group of instructional designers available to create your game-based courses. Microlearning is one of EdApp's core strategies which breaks down overwhelming training information into bite-sized modules. It focuses only on key elements of a topic, allowing your learners to complete courses in just a couple of minutes. This strategy can be combined with gamification, which transforms regular training modules into casual smartphone games so it doesn't feel like doing another work task.

g) Gametize

Gametise is an enterprise-grade game based learning platform and LMS solution that enables organizations to enhance their employees' training experiences, whether they are going through onboarding or upskilling programs. With this tool, you can easily design your own gamified content by choosing from a vast library of game templates, which are divided into project categories like employee engagement, learning and development, talent acquisition, and many more. You can also boost training engagement and completion rates using flashcards, quizzes, and interactive challenges. Similar with other gamification software, Gametize uses leaderboards, badges, and rewards to drive motivation and

foster healthy competition within teams. Other advantages of this tool include results tracking and analytics, player moderation, and team collaboration.

h) Raptivity

Raptivity is an interactive eLearning solution that you can use to design engaging and visually stimulating online learning materials. The tool features a growing library of pre-made responsive interactions that include parallax displays, panning slides, and 360 interactions. Even with no design expertise, anyone can customize interactive quizzes, games, simulations, flashcards, and brainteasers through the tool's user-friendly interface. Whether you're a teacher or an instructional designer, you can maximize the tool's many capabilities to keep your learners engaged and motivated throughout their learning journey. But it is important to note that it has a few feature limitations and you might need to download add-ons to design a well-rounded eLearning course.

9. BENEFITS OF GAME-BASED LEARNING

The discussions have often revolved around understanding the intrinsic educational value of game-based learning to develop the inter-personal and analytical skills of students. It has also enabled them to combat absenteeism, boredom and reluctance, leading to academic achievement. However, it is found that while game based learning exhibit certain positive effects in the learning experience of the students, they also helps instructors to gain substantial teaching experience. Games have high educational potential, and studies have shown a positive correlation between gaming activities and learning. Researchers have studied and described games based on their qualities as situated activities rather than artefacts of how it is applied.

All discussions on the topic related to the potential educational value in using game based education as a pedagogy has frequently highlighted games intrinsic educational value and its experiential nature and their ability to encourage players to master certain domains through games design framework (Egenfeldt Nielsen, 2008).When students participate in a web-based simulation game there is deeper cognitive understanding of the subject related content. It enables them to reflect and get actively involved which in turn leads to faster and better retention. A web-based simulation also helps students to have better learning experience and help them strategize their learning efficiently. Game based learning will help an average student to become an advanced learner as it provides him/her a better learning experience. Teacher must take into consideration the requirements of the slow learners and accordingly design games by reducing the challenge perception or promoting the skill perception.

The teachers attain learning outcome by correlating the concepts with games in order to achieve not only the higher order learning but also attitude building and generic skill development. This would enable students to face the real world challenges. The role of the instructor is to act as a facilitator and foster learning particularly where higher order skill development is involved. (Rutten, Joolingen, & Veen, 2012). When teachers adopt game based learning strategy, it helps in improved student's engagement and involvement, building greater interest in the course. Such flexible learning environment created by the faculty encourages peer interaction, better motivation towards learning, supporting pedagogy and autonomy and self-directed learning amongst students.

As aforementioned the pedagogical shift from teacher-centric to the student centric active learning through web-simulation and other game based activities helps in achieving greater engagement to both student and instructors. Students are better equipped to handle their emotions, nervousness, uncertainty and so in through gaming experience. On the other hand faculty as motivators and continuous mentors are able to transfer the knowledge in a more rewarding way to the students which leads to an improved learning experience.

10. DRAWBACKS OF GAME-BASED LEARNING

In most cases, teachers are not so techno-savvy and may lack game based literacy, that makes it highly unfeasible for them to adopt game-based learning. Another difficulty faced by teachers is the time constraint in preparing for classroom gaming sessions. Similarly individual students have their own learning styles, preferences, subject matter knowledge, motor-skills and motivation to engage in the learning process leading to reluctance amongst students towards online gaming.

While discussing the viability and efficacy of digital games as tools for learning, games as an educational tool has heavily emphasized on their artefacts and the relationship between players. Hence the games ability to produce learning outcomes, do not reveal much about their viability and usefulness as teaching tools in formal settings. It is used as a tool for the fulfilment of pre-defined learning objectives as an effectiveness parameter but this does not allow developers and researchers to see unexpected and unintended changes in practice that occur as a result of the e-learning program.

There has been several attempts to examine how e-learning and games affect teachers' and students' processes of working and learning. It is very rare to find any empirical work undertaken to analyse the practical situations involved in using educational games including the kind of appropriate tasks that teachers need to perform while integrating games into formal educational contexts. (Alkind Taylor & Backlund, 2012)It would be a misnomer to consider that students always prefer virtual learning to a traditional classroom setting. Varying results have shown that the cognitive perceptions relating to simulations presents a difference in comprehending and application of knowledge relating to serious gaming. (Riemer & Schrader, 2015).

It is true that game based learning provides a stimulating and fun-filled experience. However, there is a lack of consistent evidence to show that games lead to efficacious results. Studies have also shown that students do not view the integration of online games as an effective learning method (Bolliger, Mills, White, & Kohyama, 2015). Research has shown that many students and educator have expressed uncertainty over the use of virtual simulations, games as tools for learning. A stronger connection needs to be established between the curricula and games, even when the benefits of a gaming have been highlighted (Pløhn, 2013).

11. CHALLENGES OF GAME-BASED LEARNING

One of the challenges of game based learning is to address the affective outcomes which involve attitudes, motivation and values. Online players would look for a 'challenge' in game based learning as a top-ranked motivation. In doing so they have no concern for gender or number of players in the game. In spite of the advantages of the implementation of games and simulations effective and positive outcomes, there exists a doubt regarding motivation as the only contributing factor for a game based learning environment. There is no significant difference when it comes to motivation being used in either solitary or a team environment while approaching gaming as an experience (Chen, Wang, & Lin, 2015).

Students who have used online gaming have constantly attained high scores when compared to students who do not use gaming as a learning tool. It is noticed that female students do not display the same enthusiasm as their male counterparts while spending more time playing digital game (Hainey, Connolly, Stansfield, & Boyle, 2011). The reason for this is that the male students are more inclined and familiar with computers and web-based technologies, while female students have less interest towards digital game based learning methods due to gender bias leading to poor scores. Further, professional experience of the player's matters when it comes to high scores in any game based application (Riemer & Schrader, 2015). Learners with no gaming experience have shown that they could achieve high test scores when they used a web-based gaming tool because of their familiarity

with modern technological tools. Inclusion of certain features which would enable learners to instantly process the educational content in a game can motivate students to view gaming as positive tool. The major factors in enhancing secondary education learning objectives are engagement and motivation. To realise the potential of the game based learning to be part of higher level Bloom's taxonomy, a combination of elements such as confidence and relevance has to be in-built as a cognitive mechanism (Connolly, Boyle, MacArthur, Hainey, & Boyle, 2012).

A shift has started to emerge in educational games research, where the structures and components that surround the game artefact are getting more attention. They have started to focus more on the understanding as to how organizational cultures and teachers' literacies needs to be supported if game-based learning and other e-learning solutions are to be seen as accessible for all teachers and institutions. It is pertinent that educators have to seek a game-based learning project which should discuss what kinds of gaming sessions their schedule and curriculum would allow for. The demands and the availability of hardware would determine both the choice of game and the plans of how gaming sessions could be scheduled.

There is an increasing need to address the knowledge gap, and provide a pragmatic explanation of the lack of widespread game integration in the education sector since games are laborious and resource intensive to use. There are hardly any few standards which have been established to guide through the complex process of integrating games into working environments. It is a challenge to examine the roles that teachers have performed in order to implement and using computer games in their course activities in the classroom. This would also include creating an educational environment and processes, implementing the chosen game into their environment, and conducting maintenance between and during gaming sessions. Each of these phases consisted of several smaller activities such as maintaining software and hardware equipment.

12. CONCLUSION

Competence building is one of the key indicators of an effective learning mechanism. Game-based pedagogy can be adopted as an effective tool for competence building in secondary education institutions. In this chapter the concept and related aspects of game based learning has been delved into. The distinction between game-based learning, Traditional Learning and traditional learning has also been drawn out to adduce clarity. The theoretical framework of game-based learning has been explored to understand its importance as a pedagogical tool for competence building both from the teachers and learners perspective. In order to understand the implementation of game-based learning in our country in different subject domains, studies involving digital game based learning techniques have been discussed. In this context a various online gane based learning platforms has been proposed for secondary school students and discussed. The benefits, drawbacks and challenges of game-based learning in secondary education have also been highlighted.

REFERENCES

Alkind Taylor, A. S., & Backlund, P. (2012). Making the Implicit Explicit: Game-based Training Practices from an Instructor Perspective. In 6th European Conference on Games Based Learning (ECGBL'12) (pp. 1-10). Cork, Ireland: European Conference on Games Based Learning.

Baek, Y., & Whitton, N. (2013). Digital Game Based Learning: Methods, Models and Strategies. IGI Global. doi:10.4018/978-1-4666-2848-9

Bolliger, D. U., Mills, D., White, J., & Kohyama, M. (2015). Japanese Students' Perceptions of Digital Game Use for English-Language Learning in Higher Education. Journal of Educational Computing Research, 53(3), 384–408. doi:10.1177/0735633115600806

Bourgonjon, J., De Grove, F., De Smet, C., Van Looy, J., Soetaert, R., & Valcke, M. (2013). Acceptance of Game-Based Learning by Secondary School Teachers. Computers & Education, 67, 21–35. doi:10.1016/j.compedu.2013.02.010

Byun, J., & Loh , C. S. (2015). Audial engagement: Effects of game sound on learner engagement in digital game-based learning environments. Computers in Human Behavior, 46, 129–138. doi:10.1016/j. chb.2014.12.052

Cachia, R., Ferrari, A., & Punie, Y. (2010). Creative Learning and Innovative Teaching. Final Report on the Study on Creativity and Innovation in Education in the EU Member States. JRC Scientific Technical Reports, 1-55.

Chen, C. H., Wang, K. C., & Lin, Y. H. (2015). The Comparison of Solitary and Collaborative Modes of Game-Based Learning on Students' Science Learning and Motivation. Journal of Educational Technology & Society, 18(2), 237–248.

Choudaha, R. (2008). Competency-based curriculum for a master's program in Service Science, Management and Engineering (SSME): An online Delphi study [Dissertation Thesis]. University of Denver, Proquest Dissertation Publishing.

Clark, D., Nelson, B., Sengupta, P., & Angelo, C. D. (2009). Rethinking science learning through digital games and simulations: Genres, examples, and evidence. Academic Press.

Greipl, Simon; Moeller, Korbinian; Ninaus, Manuel (2020): Potential and limits of game-based learning. Loughborough University. Journal contribution. https://hdl.handle.net/2134/13621973.v1

EXPANDING THE VISTAS FOR ENGLISH TEACHING - LEARNING EXPERIENCE.

Andria Ruby Antao
B.Ed Teacher Trainee

Abstarct

Over the last decade, learning has undergone exponential change and so has the teaching - learning process. There is a shift from unidirectional learning to a more personalized and diversified learning experience. The surge in digital platforms and engagement on these platforms has opened opportunities to expand avenues that aid the teaching - learning process. The paper examines the various devices, e-tools, and their incorporation to aid English language acquisition, and learning lessons and grammar. The focus of the paper lies on the Planning, Execution, and Testing of lessons using various tools. The paper also considers and examines ways to engage learners through the use of simulation to visualise concepts and scenarios for better facilitation and receptiveness of learning. Techniques for improved retention for a better learning experience through online platforms are also dealt in the paper.

Keywords*: learner, learning, digital, English, and Grammar.*

Introduction:

Widespread use of ICT has brought along with it an increase in the use of technology by teachers. The recent upsurge in digital platforms opens up the horizon allowing teachers to expand the purview of teaching. The integration of resources to increase student engagement is a diversion from the traditional chalkboard teaching experience**.** The paper discusses teaching learners through the use of digital resources. Arora and Baregama opine that "India is second in the world in the use of digital tools in the field of education" (Baregama and Arora). They further state that digital tools are changing the "way of learning concepts, and theory". They define digital tools as the "use of a combination of technology, content, and instruction in the education system to make the education more 'effective and efficient'" (emphasis added). In order to question the effectiveness and efficiency of learning English language various e – tools such as flippity.net, wordart.com, gamestolearnenglish.com, Quizziz.com, Kahoot.com, Memtimeter.com, websites for grammar like British Council Org, and Grammarly.com, Infographics, mind maps, Wordart.com, and presentations are discussed upon briefly in the paper. Quizziz, gamestolearnenglish.com and British Council Org were studied using a sample group to understand the effectiveness of these e-tools in learning English.

With India launching its first National Digital University the option of earning 50 percent credits from different HEIs and getting a degree will soon be open. (Deccan Herald). Furthermore, with the spread of digital tools like SWAYAM, SWAYAMPRABHA, Diksha, National Digital Library, e- Gyan Kosh, etc India is heading towards digital education. The idea that education can be obtained from anywhere brings the added advantage of considerable flexibility in time, and location as learning takes place across places. In addition to these, it promotes active learning and caters to individual student needs, and the lack of teachers, and physical infrastructure.

Content Based Instructional Materials:

According to British Council Org, Content-Based Instruction approach helps teachers in planning, which is the first phase of teaching focused on in the paper. Teachers have to find answers to questions such as: What is the content of your learning material/course? What is the rationale behind the learning material/course and the objective of the course? Who will be the learners? (a school, or cluster of schools) What do you expect your learners to demonstrate after learning the content? What are the learning Outcomes? What will be the duration of the learning material/course?

Content-Based Instruction focusses on the subject matter or the topic. The flexibility in the topics such as scientific, mechanical, social, etc helps learners to learn the topic through the target language rather than their native tongue, helping them develop linguistic ability in learning the language (British Council Org). British Council suggests choosing a topic that is of interest to the learners and supplementing it with sources that deal with the topic (websites, audio, video, etc). It can be used to teach ELT (English Language Teaching) and EFL (English Foreign Language) where English is taught as a foreign language. The disadvantages of this approach may include a lack of interest among monolingual students who know the target language, students lacking focus, and students who engage in copying may not benefit from this method. British Council suggests providing resources in a language known to the learner (native language) and providing options of presenting it in the target language or vice versa.

Determining Text Complexity points out three defining factors to accessing instructional materials before providing them to learners. A three-part model for measuring text complexity includes "qualitative dimensions of text complexity", "quantitative dimensions of text complexity" and "reader and task considerations". Qualitative dimensions refer to "those aspects of a text complexity (which are) best measured or only measured by an attentive human reader, such as levels of meaning or purpose; structure; language conventionality and clarity; and knowledge demands" (pg.4). Quantitative dimensions focus on "complexity such as word length or frequency, sentence length, and text cohesion". The last dimension takes into account the "motivation, knowledge and experiences" of the reader and the complexity of the task. Examining the text for these three variables allows a teacher to choose the best textual sources for Content-Based Instructional learning.

The teacher breaking up the group of students and assigning research tasks furthermore helps learners collaborate and learn in novel ways that are stimulating. The matter researched is then discussed with other groups. This can be conducted through platforms like Zoom using the option of 'breakout rooms'. This approach aids students to learn additional skills like note-taking, comprehension, summarising, and extracting key points for presentation. Contextualised learning helps learn language embedded in content sources across fields.

Instructional scaffolding for English learning:

Bennett Colette is of the opinion that instructional scaffolding can help teachers teach English textual content better. The word scaffold originates from the Old French word *eschace which* means "a prop, support". Instructional scaffolding does the same to the students, it provides instructional support in learning. He recommends teachers should include in each step of the teaching process some 'illustrations or models' (emphasis added) before moving to more complex concepts. He states English teachers should provide the vocabulary for a passage before commencing reading. A 'review' of words and use of metaphors and graphics he highlights would tackle the issue of students being inundated by difficult vocabulary. For better retention of vocabulary brainstorming can be used. The teacher may ask the learners to provide 'synonyms' or related words when teaching vocabulary (Bennett). Utilising word clouds from sites like Memtimeter.com for such exercises allows instantaneous feedback. Teaching can be further aided with charts and infographics for vocabulary using 'prefixes' and 'suffixes'. The learners with active internet connection and a login device of their choice can successfully participate in such learning.

Through scaffolding, teachers can break up a concept into fragments which can provide a comprehensive understanding of the topic taught. Instructional scaffolding when done using models, objects or props aids the 'kinesthetic learners'. For instance, while teaching the novel *Murder of Roger Ackroyd*, a murder mystery by Agatha Christie the teacher may use objects like a radio, a chair

(positioned as described in the novel), a bottle of poison, a ring, quail feather, and other clues and allow students to interact with the props. This changes the classroom to mimic the setting of the novel. When taught online teachers may use pictures, animations, and charts to engage students in learning. For writing exercises such as letter writing, teaching the students through 'modelling the process' through a demo can provide students insight into the writing process and the subsequent revision, and editing before producing the final product. Another instructional scaffolding technique used for comprehension involves the teacher 'thinking aloud'. This includes the teacher verbalizing what he or she understands or is aware of in a given passage. This can be done through graphs, pictures, videos, gifs, and animations. Thinking out aloud the decisions, reasoning behind the decision and details allows the students to 'think' and arrive at conclusion through 'contextual clues' (emphasis added) in the textual matter.

Digital tools to teach English:

Utilising infographics and presentations prepared during the planning phase can have a significant impact on learners. National Library of Medicine (NLM) underlines four different types of learners according to the Learning Style Questionnaire (LSQ) developed by Honey and Mumford. Learners according to Honey and Mumford are "**activists**" (learn primarily by experience), **reflectors** (learn from reflective observation), **theorists** (learn primarily by experience), and pragmatics (learn from doing or trying with practical outcomes)" (Bird). By visualising concepts in grammar like prepositions or figures of speech the 'reflectors' can benefit. Digital tools such as Canva, Slidesgo, and Google slides for presentations, whiteboards, videos, posters, infographics, and aids such as MindMeister.com and webwhiteboard.com for mind maps can be used. Eliot and Maier opine that some "colour stimuli are presumed to be solely due to repeated pairing of colour and particular concepts, messages, and experiences" (Elliot). Using colours such as red can result in a different response than using the colour blue. Slidesgo and Canva offer paid and free templates which can be customised according to colours. Although the former provides an option for downloading as Google slides or PowerPoint, the latter requires the user to use the site or the app for presentations. Slides go and Microsoft PowerPoint provides slides with themes that can be adapted for better planning to execute teaching subject matter in the second phase.

According to EU Business School, the attention span of students is on a decline as indicated by a study by psychologists Karen Wilson and James H. Korn (EU Business School). In order to effectively execute the lesson, it can be aided with the help of games. A claim supported by National Library of Medicine. Bavelier et. al are of the opinion that "attention and working memory abilities can be enhanced by cognitive training games as well as entertaining videogames" (Bavelier et. al.). Using flashcard generators instead of the traditional questioning-and-answer method can help engage students better. Websites like gamestolearnenglish.com, Cambridgeenglish.org, and learnenglishkids.britishcouncil.org help students build their vocabulary and form grammatically correct sentences. Sharing games through platforms like Google classroom and Classdojo encourages learners to participate in content-learning games. The learners can be taught verbs, words such as likes, have/has, can/can't, is/are, comparisons, items of clothing, positions, using going to, if then, that, and because appropriately. Learn English Kids by British Council is a digital platform that provides the categories 'listen and watch', 'read and write', 'speak and spell', 'grammar and vocabulary', and 'fun and games'. Under 'listen and watch' the learners can avail content on songs, short stories, poems, video zone, and how-to videos, the learners' vocabulary can be expanded under the grammar section with 'magazine, your turn, reading practice and writing practice' option, 'speak and spell' provides the sub-categories sounds, speak, spell and tricky words, 'grammar and vocabulary' has under it 'grammar practice',

'grammar videos', 'grammar chants', 'word games' and 'word of the week' and the fun and games category has games, jokes, and tongue twisters. The 'grammar practice' section caters to and provides a comprehensive understanding of grammar with fun, stimulating games and exercises. These exercises and games can be clubbed with English Grammar concept learning websites such as grammarly.com or dictionaries like Oxfordlearnersdictionaries.com.

Websites such as flippity.net helps to make online teaching interesting with digital aids such as flashcards, quiz show, Random name picker, randomizer, virtual breakout, board game, manipulatives, matching game, connecto game, bingo, timeline, spelling words, word search, crossword puzzle, scramble, Snowman, Wordmaster, progress indicator, word Cloud, fun with Fonts among others. Other tools such as Memtimeter.com makes getting feedback from the students easy.

Teaching English novels, stories online:

Teaching lessons, stories, poems, and novels may prove to be difficult in online mode. This can be solved effectively by using the Stanislavski technique. Stanislavski technique is used by actors across the world since first developed by the Russian theatre practitioner Konstantin Stanislavski. It focuses on the "art of experiencing" allowing the performer to "internalize the character's inner life, including their motivations and emotional states" sympathetically and indirectly (MasterClass). Live online reading would require the noise and distraction to be minimised. The teachers additionally using audiobooks (especially those read by the author/poet) will help students grasp the tone and have a better understanding of the textual matter.

Providing evaluation tasks that involve oral recitation and speaking additionally makes the student the 'producer' and learning is furthermore made learner-centric. This is possible through digital aids like device recorders, vocaroo.com, and newer platforms like Spotify's podcast. The teacher can initiate thinking at LOTS (Lower Order Thinking Skills) and HOTS (Higher Order Thinking Skills). HOTS which include analysing, evaluating and creating in Bloom's Taxonomy allows the students to think critically. According to Kuniawan a study of tests (given to ten high school graders) by Wardany shows how questions requiring HOTS are not attended to (Kuniawan).

Evaluation through online mode:

Testing, the last phase depends upon the retention of information by the students and/or learning through practice. Digital tools such as Quizziz, Kahoot, crossword labs, etc can be utilised for the same. Quizziz provides the dual option of quiz and lesson. The questions for the latter can be formed using the website or imported using Google drive. Under Quiz it allows the teacher to choose multiple choice questions, match the right answer, reorder, fill in the blank and the newer options of 'drag and drop' and 'drop down'. Badran Maj quotes Pruce et.al who are of the opinion that digital tools make writing less intimidating and more meaningful for students (Badran). However, he brings out a concern of 'middle school teachers' that students are losing the ability to express, develop, articulate, and organize their thoughts. Quizizz.com provides options to cater to HOTS through 'draw', 'open–ended', 'video response', and 'audio response'. The options to import questions from Google forms, spreadsheet among others makes it user-friendly. Kahoot.com allows the teachers to create 'informative assessments', 'spark discussions with polls', ' teach with slides', ' practice spelling and adjectives with puzzles', and 'introduce new topics with a 'blind' Kahoot' and 'template inspired by a higher ed instructor'. Social Media platforms such as Instagram, and Facebook when utilised effectively help to teach grammar in particular and English in general. *Bookstagram* accounts and reels on Instagram are a way to catch the attention of viewers while also engaging/teaching them in a short span. Other social media or media platforms such as blogs, Spotify, and YouTube channels can be hyperlinked to the account which provides a lucid flow of viewers from one platform to another.

Findings of the study:

In order to examine the effectiveness of using digital tools a sample group of 85 learners was taught using various English learning e – tools on Google Meet. The learners in the sample group ranged from the age of 10 – 17 years. Sixteen students participated from class V, seven from class VI, eighteen from class VII, eleven from class VIII, twenty-three from class IX, and ten students from class X. The students were asked to form basic sentences using words provided. Jumbled words for framing sentences were orally spoken out and students were asked to form sentences. Students were made to indicate when they felt bored. At 4 minutes 27 seconds the same was indicated using 'raise of hands' options. When the same questions were administered using a game of 'joining the word bubble' a majority of students indicated they felt bored 6 minutes from commencing. It was noted that the participation of students increased when the questions were administered through the game. A colourful digital word art was shown displaying various elements of grammar and learners were then taught adjectives through the website British Council Org. A total of 8 questions as provided by the website were answered and then students were accessed using Quizziz.com. Feedback from the students was taken through Google forms. Of the 85 students 84.9% preferred learning English through games online. A total of 15.1% of learners felt teachers teaching orally was better. A total of 82 learners did not find it difficult to play the grammar game online, 3 students found it difficult. It was found that 3 students had connectivity issues that hindered playing the game, 9 learners had connectivity issues that were soon resolved and 73 students did not have any network-related issues. Of the 85 learners 1 student did not find it interesting to learn English through games, and 84 students found English learning through gaming interesting. Although 13 students chose teachers teaching orally as a preferred method of teaching, it was noted that learning English through gaming experience was preferred by 84/85 participants.

Although there exist disadvantages to teaching online such as lack of physical proximity, network problems, and lack of paralinguistic cues as feedback to educators, digital platforms provide impetus to learning, providing a personalised experience that is unique. With a wave in digitalization collaborative efforts from educators, content creators, and policymakers may pave the way to a more digitalised, personalised learning experience in the future.

References:

Baregama, Shipra and Arora, Rita. "Analysis of Digital Tools of Learning". International Journal of Interdisciplinary Research. Vol 10, Issue 4(2), Apr. 2021. http://s3-ap-southeast-1.amazonaws.com/ijmer/pdf/volume10/volume10-issue4(2)/27.pdf. Accessed on 28 Dec. 2022.

Bavelier, Daphne et. al. "How to Assess Gaming-Induced Benefits on Attention and Working Memory". Games for health journal vol. 1,3 (2012): 192-198.

Bennett, Colette. "How Scaffolding Instruction Can Improve Comprehension". ThoughtCo. https://www.thoughtco.com/ways-to-scaffold-instruction-in-grades-7-12-4147435. Accessed on 2 Dec. 2022.

Bird, Eleanora et. al." Learning Styles: A Review of Theory, Application, and Best Practices". National Library of Medicine. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2690881/. Accessed on 28 Dec. 2022.

British Council Org. "Content-based instruction". https://www.teachingenglish.org.uk/article/content-based-instruction. Accessed on 27 Dec. 2022.

Badran, Maj. "Digital Tools and Language Learning". Faculty of Education and Society". https://www.diva-portal.org/smash/get/diva2:1490406/FULLTEXT01.pdf. Accessed on 27 Dec.2022.

Determining Text Complexity. "The Standards' Approach to Text Complexity". ISBE. https://www.isbe.net/Documents/5-determining-text-complexity.pdf. Accessed on 2 Jan. 2023.

Elliot, Andrew. "Color and psychological functioning: a review of theoretical and empirical work". Frontiers, Apr 2015. https://www.frontiersin.org/articles/10.3389/fpsyg.2015.00368/full. Accessed on 27 Dec. 2022.

EU Business School. "The Truth about Decreasing Attention Spans in University Students". https://www.euruni.edu/blog/the-truth-about-decreasing-attention-spans-in-university-students/. Accessed on 27 Dec. 2022.

"India to launch first National Digital University". Deccan Herald, Jan 01. 2023. https://www.deccanherald.com/national/india-to-launch-first-national-digital-university-1176938.html. Accessed on 1 Jan. 2023.

Kuniawan, Ahmad. "The Implementation of Teaching LOTS and HOTS in English Teaching-Learning Process in Senior." Open Journal System. Vol 6 No, 2018. https://ejournal.unesa.ac.id/index.php/retain/article/view/24294/22219. Accessed on 2 Jan. 2023.

Kurniawan, Riza. "Critical Thinking Skill Enhancement and Learning Outcomes through the Application of Model Problem Based Instruction Course Evaluation of Teaching". ResearchGate, Nov 2013. https://www.researchgate.net/publication/317184315_Critical_Thinking_Skill_Enhancement_and_Learning_Outcomes_through_the_Application_of_Model_Problem_Based_Instruction_Course_Evaluation_of_Teaching. Accessed on 28 Dec. 2022.

MasterClass. "Stanislavski Method: Acting Guide to the Stanislavski Method". https://www.masterclass.com/articles/stanislavski-method. Accessed on 30 Dec. 2022.

"The Importance of Content Rich Texts to Learners and Teachers". Oxford University Press, 2015. https://oupeltglobalblog.com/2014/11/06/the-importance-of-content-rich-texts-to-learners-and-teachers/amp/. Accessed on 3 Jan. 2023.

"Understanding Text Types". Learning For Justice. https://www.learningforjustice.org/classroom-resources/teaching-strategies/exploring-texts-through-read-alouds/understanding-text. Accessed on 27 Dec. 2022.

"What is Challenge-Based Learning All About". University of Twente. https://www.utwente.nl/en/cbl/what-is-cbl/. Accessed on 28 Dec. 2022.

TOY-BASED LEARNING: AN INNOVATIVE APPROACH IN TEACHER EDUCATION (FUTURE OF B.ED. BEYOND CLASSROOM TEACHING)

Dr. Sachin Dhanaji Salgar[1], Mr. Umesh Dhanaji Salgar[2]
[1-2] Assistant Professor, P.E.S's College of Education, Farmagudi Ponda-Goa.

Abstarct

*The present research paper is an attempt of throwing light on the importance of Toy Based Learning in the today's education system. The curricular and pedagogical structure and the curricular framework for school education will therefore be guided by a **5+3+3+4** design. As we all are undergoing through a drastic change in the educational system, Toys will play a crucial role. They have existed in India since the Indus Valley Civilisation. Toy-based Learning comes under the broad gamut of Play-based Learning. Play is a process, while board games, toys or field games are objects on which play operates. Children play for fun and enjoyment, and in this process they also learn. An applied use of toys in the teaching learning process will help in developing skills, logical thinking, receptive power and competencies in children. The values of sharing, empathy, love, care etc. and the skills of decision making, team-building, problem solving etc. are developed in children through toys and games. The implementation of school curriculum is in the hands of the teachers. For this, the teachers not only need to develop a mindset but also necessary skills to implement toy-based pedagogy in the schools.*

Keywords: *Toy Based Learning, Teacher Education.*

Introduction

The curricular and pedagogical structure of school education will be reconfigured to make it responsive and relevant to the developmental needs and interests of learners at different stages of their development, corresponding to the age ranges of 3-8, 8-11, 11-14, and 14-18 years, respectively.

The curricular and pedagogical structure and the curricular framework for school education will therefore be guided by a **5+3+3+4** design, consisting of the Foundational Stage (in two parts, that is, 3 years of Anganwadi/pre-school + 2 years in primary school in Grades 1-2; both together covering ages 3-8), Preparatory Stage (Grades 3-5, covering ages 8-11), Middle Stage (Grades 6-8, covering ages 11-14), and Secondary Stage (Grades 9-12 in two phases, i.e., 9 and 10 in the first and 11 and 12 in the second, covering ages 14-18).

The Preparatory Stage will comprise three years of education building on the play, discovery, and activity-based pedagogical and curricular style of the Foundational Stage, and will also begin to incorporate some light text books as well as aspects of more formal but interactive classroom learning, in order to lay a solid groundwork across subjects, including reading, writing, speaking, physical education, art, languages, science, and mathematics.

The Foundational Stage will consist of five years of flexible, multilevel, play/activity-based learning and the curriculum and pedagogy. ECCE ideally consists of flexible, multi-faceted, multi-level, play-based, activity-based, and inquiry-based learning, comprising of alphabets, languages, numbers, counting, colours, shapes, indoor and outdoor play, puzzles and logical thinking, problem-solving, drawing, painting and other visual art, craft, drama and puppetry, music and movement. It also includes a focus on developing social capacities, sensitivity, good behaviour, courtesy, ethics, personal and public cleanliness, teamwork, and cooperation. The overall aim of ECCE will be to attain optimal outcomes in the domains of: physical and motor development, cognitive development, socio-emotional-ethical development, cultural/artistic development, and the development of communication and early language, literacy, and numeracy.

The Middle Stage will comprise three years of education, building on the pedagogical and curricular style of the Preparatory Stage, but with the introduction of subject teachers for learning and

discussion of the more abstract concepts in each subject that students will be ready for at this stage across the sciences, mathematics, arts, social sciences, and humanities. Experiential learning within each subject, and explorations of relations among different subjects, will be encouraged and emphasized despite the introduction of more specialized subjects and subject teachers.

The Secondary Stage will comprise of four years of multidisciplinary study, building on the subject-oriented pedagogical and curricular style of the Middle Stage, but with greater depth, greater critical thinking, greater attention to life aspirations, and greater flexibility and student choice of subjects. In particular students would continue to have the option of exiting after Grade 10 National Education Policy 2020 12 and re-entering in the next phase to pursue vocational or any other courses available in Grades 11- 12, including at a more specialized school, if so desired.

The above-described stages are purely curricular and pedagogical, designed to optimize learning for students based on the cognitive development of children; they will inform the development of National and State curricula and teaching-learning strategies at each stage, but parallel changes to physical infrastructure will not be required.

Objective

To analyze the concept of Toy Based Learning in teacher education.

Historical background Toy Based Learning

'When I bring to you coloured toys, my child, I understand why there is such a play of colours on clouds, on water, and why flowers are painted in tints...when I give coloured toys to you, my child'

- Rabindranath Tagore

Toys play a large part in the early development of children, certainly in the more developed countries of the world. In such countries the commercial production of toys is in the league of big business. Toy Fairs are held, both national and international, and the range of toys and games cross international boundaries in their popularity. From the domestic point of view itis probable that, in a family with children, the festive seasons provide the greatest impetus to the giving and receiving of toys and games. This is by no means a new phenomenon. Archaeological finds have indicated that toy making existed over 4000 years ago, and many of the toys used at that time are still being used today in one form or another.

Toys have travelled a long way to arrive at their present form. They have existed in India since the Indus Valley Civilisation. Unlike the fancy, expensive toys gaining popularity today, traditional Indian toys and games were simple and took inspiration from nature. Toymakers, while designing these toys, thought about how a child would react to it and how it would apply to real life. Currently, the majority of children do not have access to these costly toys. Even schools are also not able to provide them with adequate toys to play with. Moreover, locally available toys have slowly been vanishing due to lack of demand.

Concept of Toy Based Learning

Toy-based Learning comes under the broad gamut of Play-based Learning. Play is a process, while board games, toys or field games are objects on which play operates. Children play for fun and enjoyment, and in this process they also learn. Given the interest, children take part in play naturally, play is often used in the education system for enhancing learning of the children. Though the description of play-based learning as given in literature takes care of toys and puppets yet it broadly can be seen as an overarching process which is very flexible and can be understood in different forms- role play, art-integrated learning, experiential learning etc.

Importance of Toys in Education

Toys help children inculcate various values and skills. The values of sharing, empathy, love, care etc. and the skills of decision making, team-building, problem solving etc. are developed in children through toys and games. It has been observed that teaching-learning with suitable and appropriate toys across all the stages supports growth and development of children. A study was conducted to gauge the impact of toys and the following findings were obtained (Children's University, 2018).

• Children's attendance improved.
• They developed liking towards academic subjects that they once found difficult.
• They became more organized.
• They began caring for, sharing and respecting each other.
• They understood the importance of hygiene.
• Their decision-making ability improved.
• They developed new and creative ways to solve problems.
• Above all, they developed the virtues of honesty, the spirit of sportsmanship and patience.
• They learned to accept defeat and laud the winner.
• Their logical thinking got encouraged and observation and memory skills got enhanced.
• Their readiness to face challenges increased.
• Their spatial awareness enhanced.
• Problem solving, matching and sorting skills got improved.

Toy-based Pedagogy in Teacher Education

The implementation of school curriculum is in the hands of the teachers. For this, the teachers not only need to develop a mindset but also necessary skills to implement toy-based pedagogy in the schools. It is required to revisit teacher education curriculum at two levels; Pre -service and in-service. Some guidelines for creating a space for toy-based pedagogy in teacher education are as follows:

- **Pre-service Teacher Education Curriculum**

The children's world of toys not only provides for recreational or fun moments but also the process of maturing. Toys equally act as a medium for imparting a rudimentary level of wisdom to our children just 11 like books do in school. Hence, instead of undermining their significance in the development of our children, there is a need to include them as core components in the process of child-development. Hence, the pedagogy courses in pre-service teacher education programme need to include content and activities related to experiential learning and toy-based pedagogy, so that from the pre-service level itself, the teachers will get well-versed with this pedagogy.

- School-internship programmes must guide student-teachers on taking classes integrating toy-based pedagogy.
- Community work in teacher education programmes need to include survey by the student-teachers on toy-pockets in the local area and also understanding about the local toys and their manufacturing.

For curriculum at the post-graduate level in teacher education, the course on curriculum development needs to provide adequate space to the development of school curriculum integrating toy-based pedagogy. Also, research (dissertation) needs to be conducted on toys and their educational values, toys for children with special needs and use of toys for addressing the cross-cutting issues.

In-service Teacher Education Curriculum

Pedagogy modules for different subject areas across the stages need to integrate toy-based pedagogy as a part of experiential learning in the form of activities related to a variety of indigenous toys, games and puppets.

The sessions in in-service teacher capacity building programme must include creating cost effective toys, games and puppets, mapping of toys with learning outcomes, etc.

Multidisciplinary perspective of toy-based pedagogy needs to be given space in modules for teachers at the secondary stage, for example, a single game may be created in a manner such that it can be used for different subject areas. A game like Snakes and Ladders may be created to learn various concepts in Mathematics and also the periodic table in Chemistry.

Challenges of Implementing Toy-based Pedagogy

The majority of preschools and schools in the country lack suitable play materials such as puzzles, blocks, dolls, outdoor play equipment etc. In the absence of toys and play materials there would obviously be difficulty in adopting child centred, play based, and activity-based approach to learning which leads to an adherence to rote learning where the child remains a passive learner and not an active and joyful learner.

As mentioned earlier, the mindset of a majority of teachers and parents still does not allow them to look at toys for their pedagogic value. This is a major challenge in the implementation of toy-based pedagogy, which can be addressed through awareness and advocacy programmes.

Existing templates of textbooks create very less space for toys and games, which lead towards information-oriented pedagogy rather than experiential learning.

Increasing popularity of tech-based toys and games is another challenge, as many a time children become addicted to them.

Addressing the Challenges of Implementation of Toy-based pedagogy

- **Changing Mindset towards Indigenous Toys and Games**

If a teacher or parent says, ‘toys will waste your time’, it reflects their negative mindset towards the use of toys. Toys, though an integral part of our childhood, need to be promoted in schools as pedagogic objects besides their fun and entertainment value.

- **School Walls**

Schools can identify toys being manufactured locally and also some of the toys which are the specialty of the district or the state.

- **Research**

In view of the lack of appropriate research in the area of toy-based pedagogy, it is of utmost importance that research must be conducted in the following manner.

Action research by teachers to observe impact of specific local toys and also of DIY toys on the development of various competencies and concepts in different subject areas.

- **Popularisation of Toy-based Pedagogy**

There are some annual events such as Kala Utsav, State level and National level Science Exhibitions. In these events Toys and Games may be kept as themes to provide children opportunities to create models.

- **Capacity Building of Teachers and Teacher Educators**

Capacity building of teachers and teacher educators at every stage on Toy Based Pedagogy needs to be ensured by the concerned organisation, paintings, etc.

Discussion

It has been proved that role of toys in the cognitive development of children and igniting creativity and problem-solving skills in them. Toy as a teaching-learning resource has potential to transform pedagogy, and that toy-based pedagogy can be easily used by the parents to make their children learn. Toys help in understanding the cultural heritage of our country, and at the same time, strengthen the psychomotor and emotional development of their personality.

Our Prime Minister Shri Narendra Modi also envisaged the role of introducing toy-based pedagogy in the upcoming NCF. Importance of toys and games in the Indian tradition and raised concerns over games such as Shatranj or Chess that have been discovered in India and are now losing hold on Indian children. NEP 2020 is also mentioning that it has provided for a definitive shift by focusing on play-based learning for the foundational and preparatory years. The development of a "school readiness module" as mentioned in the NEP 2020 that is entirely based on activities and games and making of toys by children to develop their creativity, critical thinking, 21st century skills, and competencies.

An applied use of toys in the teaching learning process will help in developing skills, logical thinking, receptive power and competencies in children. For example, toys help in developing coordination and cooperation among students, in understanding the so called "difficult subjects." Hence, the Toy based learning will become a milestone in education in the light of New Education Policy 2020.

References:

Guha S. & Murthy K. (2017) Understanding the Role of Toys in Child Development: Special Focus on Traditional Channapatna Toys. Indian Journal of Applied Research. Vol, 7, Issue 7, 406-410

MacDonell A. A. (1898). The Origin and Early History of Chess. The Journal of the Royal Asiatic Society of Great Britain and Ireland , pp. 117-141 . Cambridge University Press Stable URL: https://www.jstor.org/stable/25207939

Misra, S., & Gupta, P. (2015). Toys and Safety Regulations. Centre for Consumer Studies, Indian Institute of Public Administration, New Delhi. Available at https:// consumeraffairs.nic.in/sites/default/files/file-uploads/consumer_information/Toy. Pdf

Cheng, C., H.; Chung, H., S. (2012). A Game-based learning system for improving student's learning effectiveness in system analysis course.

UNESCO International Bureau of Education (IBE). 2022. Glossary of Curriculum Terminology. Geneva: UNESCO IBE. Available at http://www.ibe.unesco.org/en/ glossary-curriculum-terminology/

Frossard, F., Barajas, M. and Trifonova, A. (2012). A Learner-Centred Game-Design Approach. Impacts on teachers' creativity. In: Digital

Education Review, 21, 13-22. [Accessed: 25/05/2014] http://greav.ub.edu/der

Perrotta, C., Featherstone, G., Aston, H. and Houghton, E. (2013). Game-based learning: Latest evidence and future directions (NFER Research

Guideline to the Contributors

SRJHSEL invites high quality research papers, Critical Analysis of Philosophies, Policies, Reports and issues from all parts of the globe providing meaningful insights to research scholars.

General Instruction for Submission

SRJHSEL strongly recommends following format of manuscripts. The first page of the submission should include the title of the article, the name of the **author(s), institutional affiliation, email address (es) Title:** Times New Roman, bold, 14 pt., space 6 above and 6 below, centered. **Name of the Author(s):** Times New Roman, 12 pt., bold, centered, below the title. **Author(s) affiliation, email address (es):** Times New Roman, 10 pt., italic. **Abstract:** Abstracts of no more than 10 lines summarizing the primary argument(s) and finding(s) in the article should be included at the beginning of the article. Times New Roman, 10 pt., italic, not exceeds than150-200 words. **Keywords:** Times New Roman 12 pt., maximum 5 keywords. Articles should be between 2,000 and 4,000 words in length. The pages of the typescript should be numbered in consecutive sequence, with Justify alignment. **Page numbering:** position right, Times New Roman, 12 pt. All articles must be typed in a **Microsoft Word** file. **Subtitles** (sub-headings) use Times New Roman, 12 pt., bold, left justified. **Main text** font use Times New Roman, 12 pt., justified. Articles should be single spaced and have 2.54 cm (1 inch) margins. Please separate paragraphs by one empty line (touching „enter" key once). All abbreviations and acronyms should be defined at first mention. To facilitate reader comprehension, abbreviations should be used sparingly/carefully. Article should be free from spelling and grammatical mistakes. **APA style** of referencing should be used for article referencing. **Tables & Figures:** Number tables / figures are consecutively as they appear in the text. Center tables / figures close in the text where they are first mentioned. Do not split tables / figures across two pages. If there is not enough space at the bottom of a page, continue your text and place the table at the top of the next page. Each table / figure must have a label (title) beginning with the table number and describing the contents. The label needs to inform the reader what the table / figure presents (coefficients, means, percentages, rates, etc.), the time frame, and the geographical coverage. Each row and column of a table must have a heading. If the contents of a table / figure are drawn or adapted from a published source, note that as footnote to the table. **Major Elements of Paper: Title:** It should be short, precise. **Authors:** Name, Address, qualification, and institutional affiliations etc. should be provided

beneath to the title. **Abstract:** The Abstract should be informative and completely self-explanatory, which should briefly present the topic, state the scope of the experiments, indicate significant data, and point out major findings and conclusions. The abstract should not be exceeds than 100 to 200 words in length. Complete sentences, active verbs, and the third person should be used, and the abstract should be written in the past tense. **Introduction:** It should be not a long review of the subject area and details of history. It should pertain to specific area. **Research Method:** It should be covers Population, Sample, Tools for data collection, Statistical techniques. Methodology should be provided separately after the research method. **Results:** It should relevant facts only, data, may be given preferable in the form of tables or occasionally in figure/text but do not repeat same data in more than one form. **Discussion:** This is important aspect of the paper, should be drafted carefully. Stating what answers we got, then in individuals paragraphs discussing these in light relevant past work and finally, try to answer: what does it means in the conducting part. In some situation section of Results may be combined with Discussion so as to avoid repetition. **Acknowledgement:** It should be short not exceeds than 150 words, which should include essential facts given at the end of the paper but not necessary. **References:** References must be arranged according to APA style of referencing.

Book

Best, J.W., & Kahn, J.V. (2006).*Research in Education*. New Delhi: Prentice Hall of India.

Book with Two Authors

Garrett, H. E. and Woodworth, R. S. (1981).*Statistics in Psychology and Education.* Bombay: Vakils, Feffer and Simons Ltd.

Book with More than Two Authors

Robert, H. et. al., (1982).*Instruction Media & New Technologies of Instructions Computer.*New York. NY: Mac Millan Publishing Company.

Edited Book

Gupta, M. (1989).*Two Strategies of Computer Assisted Instruction in Chemistry*. In Mukhopadhaya, M. &Khanna, K., Parhar (Eds.), *Educational Technology*. Year Book, New Delhi: All India Association for Educational Technology.

Article

Netragaonkar, Y. (2009). *Pedagogical Aspects of Computer Assisted Instruction. Techno learn International Journal of Educational Technology*. Page 137 to 145. 2011, June.

Proceedings from Conference

Netragaonkar, Y. (2011). *Tablet PC: Superb Innovation of 21st Century*. A Paper presented at Prabuddhan International Conference on Elevating Learning. 3– 4 Dec, 2011.

A Commission Report

National Knowledge Commission, *Report to the Nation*, 2006. (2007). New Delhi: Govt. Of India

An International, Peer Reviewed, Refereed & Quarterly

Scholarly Research Journal's

Scholarly Research Journal's is an **International blind peer reviewed, refereed, indexed & possessing high Impact Factor** Journal published online bimonthly and Printed Quarterly with an aim to provide a platform for researchers, practitioners, academicians and professional from diverse areas of all disciplines

SCHOLARLY RESEARCHJOURNALS FOR INTERDISCIPLINARYSTUDIES

ISSN (E) 2278-8808 (P) 2319-4766

IMPACT FACTOR SJIF 2021 = 7.380

PERIODICITY (Bimonthly Online Six Issues: Jan-Feb, March-April, May-June, July-Aug, Sept-Oct, and Nov-Dec.

PERIODICITY (Printed)

Jan-March, April- June, July-Sept, Oct-Dec

Scholarly Research Journal's & Amitesh Publishers and Company is Joint venture project. We also publish Thesis, conference proceedings Project Reports with ISBN

www.amiteshpublishers.in

WEBSITE:**www.srjis.com**

E-mail:**srjisarticles16@gmail.com**

An International, Peer Reviewed, Refereed & Quarterly

Scholarly Research Journal's

Scholarly Research Journal's is An **International blind peer reviewed, refereed, indexed & possessing high Impact Factor** Journal published online bimonthly and Printed Quarterly with an aim to provide a platform for researchers, practitioners, academicians and professional from diverse areas of all disciplines

SCHOLARLY RESEARCH JOURNAL FOR HUMANITY SCIENCE & ENGLISH LANGUAGE ISSN (E) 2348- 3083 (P) 2349-9664

IMPACT FACTORSJIF SJIF 2021 = 7.278

PERIODICITY (Bimonthly Online Six Issues): Dec-Jan, Feb-March, April-May, June-July, Aug-Sept, Oct-Nov

PERIODICITY (Printed):
Jan-March, April- June, July-Sept, Oct-Dec

Scholarly Research Journal's & Amitesh Publishers and Company is Joint venture project. We also publish Thesis, conference proceedings Project Reports with ISBN

www.amiteshpublishers.in

WEBSITE**:www.srjis.com**

E-mail**:dryashdnet@gmail.com**