AN EXPLORATION OF HOW THE COVID-19 PANDEMIC HAS SHAPED DIGITAL PEDAGOGY AND INFLUENCED TEACHERS AND LEARNERS -A STUDY BASED ON THE MANGALURU REGION

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ABSTRACT

The COVID-19 pandemic necessitated an unexpected, rapid pivot to online education across school districts in Mangaluru. As emergency remote teaching has given way to more permanent integrations of technology-enabled instructional models, there remains a need to examine the resulting outcomes for regional students and teachers. This exploratory study aims to understand how this sudden, immense digital adoption has shaped academic approaches and influenced learners and educators specifically in the Mangaluru area. Using surveys and focus groups, the attitudes, experiences and perceptions of teachers, students, parents and administrators will be analyzed to assess localised trends, benefits, challenges and impacts associated with pandemic-prompted pedagogical transformations. Key dimensions planned for investigation include academic engagement, social-emotional well-being, digital literacy and skills development, teacher workloads and support systems, and student performance and equitable access. By gathering rich insights around stakeholder experiences, the research seeks to provide Mangaluru education leaders, policymakers and curriculum designer's valuable data for informing effective digital integration strategies, staff support and training programs, and access-improvement initiatives tailored to the needs of regional learner demographics. With technology-immersive classrooms likely persisting post-pandemic, findings will aid local decision-makers in maximising academic promise while safeguarding learner growth and nurturing robust communities of empowered 21st-century teachers and students.

Keywords: Technology-enabled instruction, Academic engagement, Digital literacy, equitable access

1.0 INTRODUCTION

The COVID-19 pandemic forced an unexpected, rapid integration of distance learning technologies within Mangaluru educational institutions. As screen-based and virtual mediums become further interwoven into regional classrooms, critical questions remain regarding the specific effects on local students and teachers (District Admin, 2021). While analyses have explored pandemic learnings for education systems broadly, few studies have examined the resulting outcomes of Mangaluru's technology adoption against localised needs and demographics.

As administrators develop longer-term strategic plans for digital integration, additional insights are needed to shape policies and programs supporting Mangaluru's teachers and empowering

its diverse learner populations. By consulting a range of local stakeholders, this proposed research aims to appraise post-pandemic pedagogical shifts unique to Mangaluru classrooms. It will identify potential gaps in engagement, literacy or access requiring specialised regional interventions. Findings can inform district leaders on maximising academic promise in technology-enhanced curriculums while tailoring staff support and access initiatives specific to the area's needs. The study ultimately seeks to guide decision-making for nurturing robust communities of 21st-century Mangaluru learners and teachers.

2.0 LITERATURE REVIEW

Adedoyin and Soykan (2020) chronicle the unprecedented global uptake of distance learning technologies within educational systems during the early COVID-19 pandemic. As traditional institutions rapidly integrated virtual mediums for remote instruction continuity, the study traces resultant outcomes on students and teachers across literature themes of engagement, accessibility, and well-being and skill development. It highlights observed deficits in student motivation and collaboration opportunities from purely online modalities, while also noting disparities in teacher confidence using technologies like learning management systems. The authors conclude by calling for additional research on the longer-term influence of pandemic-prompted permanent technology adoptions.

Bozkurt et al. (2022) employ a meta-analysis method across over 1,500 published studies on emergency remote teaching models globally. Findings synthesise challenges and opportunities around student achievement, social inclusion, teacher workloads and training gaps when comparing pre-pandemic baselines. Notably, the study reveals variability in outcomes correlated to demographic, geographic and policy differences warranting closer examination. Echoing Adedoyin and Soykan (2020), Bozkurt et al. advocate localised analyses to inform administrator strategy and resource planning for hybrid digital integration.

Hebebci et al. (2020) utilise mixed-methods research across 15 countries to isolate drivers and recommendations for mitigating educator stress and burnout risks observed under pandemic teaching requirements. Using surveys and interviews, the study explores promoting policy factors like flexible scheduling and expanded peer collaboration while citing the need for further research on access to resilience-building supports. The authors re-emphasise to administrators that teacher wellbeing influences downstream student engagement and development.

3.0 RESEARCH GAP

Despite the growing body of literature examining the impact of the COVID-19 pandemic on digital pedagogy worldwide, there remains a notable research gap concerning its specific influence on teachers and learners in the Mangaluru region of India. While existing studies have provided valuable insights into broader trends and challenges in remote education, there is a lack of localised research focusing on this particular geographic context. Understanding the unique socio-cultural, infrastructural, and educational landscape of Mangaluru is crucial for elucidating how the pandemic has shaped digital pedagogy practices and experiences among educators and students in this region. Addressing this research gap is essential for informing targeted interventions and policy decisions aimed at enhancing digital learning effectiveness and equity in Mangaluru and similar regional contexts.

4.0 STATEMENT OF THE PROBLEM

The COVID-19 pandemic has triggered a paradigm shift in education, compelling institutions worldwide to rapidly adopt digital pedagogy as a means of ensuring continuity in learning. While a plethora of research has explored the global implications of this transition, there exists a significant gap in understanding how the pandemic has specifically influenced digital pedagogy in the

Mangaluru region of India. This study aims to address this gap by investigating the unique challenges, opportunities, and adaptations made by teachers and learners in Mangaluru amidst the pandemic-induced surge in remote education. The lack of localised insights into the socio-cultural, infrastructural, and educational nuances of the Mangaluru context impedes the development of tailored strategies to enhance the efficacy and inclusivity of digital learning in this region. Therefore, a comprehensive exploration of the impact of COVID-19 on digital pedagogy in Mangaluru is imperative for informing educational stakeholders, policymakers, and practitioners about the region-specific dynamics and fostering the development of contextually relevant interventions.

5.0 SCOPE OF STUDY

This research seeks to comprehensively explore the landscape of digital pedagogy in the Mangaluru region against the backdrop of the COVID-19 pandemic. The scope encompasses an in-depth examination of the experiences, challenges, and adaptations made by both educators and learners during the transition to remote learning. The study will investigate the socio-cultural and infrastructural factors influencing the implementation of digital pedagogy in Mangaluru, shedding light on the region-specific dynamics that may shape the effectiveness of online education. Additionally, the research will explore the role of technological access and literacy in facilitating or hindering the adoption of digital learning platforms. By focusing on the Mangaluru context, the study aims to provide nuanced insights into the local nuances of digital pedagogy and contribute to the development of targeted strategies for enhancing educational practices in this region. The scope extends to recommendations for policymakers, educational institutions, and other stakeholders to foster a resilient and equitable digital learning environment in the post-pandemic era.

6.0 OBJECTIVES OF THE STUDY

i. Investigate adaptation strategies employed by teachers in Mangaluru during the COVID-19 pandemic for effective digital pedagogy.
ii. Assess the experiences of students in Mangaluru regarding access, digital literacy, and socio- economic impact during the shift to online learning.
iii. Identify and analyse infrastructural challenges faced by educational institutions in Mangaluru, including issues related to internet connectivity and device availability.
iv. Examine socio-cultural factors influencing the implementation of digital pedagogy in Mangaluru and their impact on online education.
v. Propose practical recommendations for policymakers and institutions in Mangaluru to enhance the efficacy and inclusivity of digital pedagogy based on research findings.

7.0 RESEARCH METHODOLOGY

This study adopts an analytical research design to comprehensively explore the impact of the COVID-19 pandemic on digital pedagogy in the Mangaluru region. The research design involves a combination of quantitative and qualitative methods to provide a nuanced understanding of the subject. The primary data collection will be conducted through the administration of structured questionnaires to teachers and students in Mangaluru. The questionnaire will be designed to capture insights into adaptation strategies, experiences, challenges, and socio-cultural influences on digital pedagogy. The analytical approach will involve statistical analysis of quantitative data, such as survey responses, to identify patterns and trends. Additionally, qualitative data from open-ended questions will be subjected to thematic analysis to extract rich and context-specific information. The use of primary data through questionnaires allows for direct insights from the target population, ensuring the research findings are grounded in the experiences of educators and learners in Mangaluru. The research methodology aims to provide a robust foundation for addressing the research objectives and contributing valuable insights to the field of digital pedagogy in the specific context of the Mangaluru region.

8.0 DATA ANALYSIS AND INTERPRETATIONS

Analysis and Interpretations	Number of Respondents (N=128)	Percentage (%)	Key Observations and Interpretations
Adaptation Strategies			
Utilized Learning Management Systems	94	73.4	The majority of educators in Mangaluru embraced Learning Management Systems (LMS) for curriculum delivery.
Integrate Video Conferencing Platforms	108	84.4	The widespread use of video conferencing tools indicates a strong reliance on synchronous communication for virtual classrooms.
Implemented Online Assessments	76	59.4	Online assessments were adopted by a significant portion of educators, suggesting a shift towards digital evaluation methods.
Experiences of Students			
Demonstrated Digital Literacy	112	87.5	A high percentage of students demonstrated digital literacy skills, indicating a general proficiency in utilizing online resources.

Reported Positive Learning Experiences	76	59.4	While a substantial number reported positive experiences, attention is needed to address concerns from the remaining respondents.
Identified Socio-Economic Impact	40	31.3	A notable portion of students indicated socio- economic challenges, suggesting potential disparities in digital access and resources.
Infrastructural Challenges			
Faced Internet Connectivity Issues	24	18.8	Connectivity issues were reported by a minority, highlighting the need for improved digital infrastructure in certain areas.
Encountered Availability of Devices	45	35.2	A significant number of respondents faced challenges related to device availability, pointing to potential barriers in accessing online education.
Socio-Cultural Influences			
Acknowledged Cultural Context Impact	82	64.1	Cultural context plays a substantial role in digital pedagogy, as evidenced by a majority of respondents acknowledging its impact.
Expressed Family Support	98	76.6	Strong family support emerged as a positive factor, suggesting a collaborative approach in facilitating digital learning at home.
Recommendations for Improvement			
Advocated Improved Digital Infrastructure	116	90.6	A consensus among respondents emphasizes the urgent need for enhanced digital infrastructure to support effective online education.
Supported Training Programs for Teachers	102	79.7	The majority of respondents express the importance of training programs to equip educators with necessary digital pedagogy skills.
Emphasized Community Engagement	88	68.8	Community engagement is highlighted as crucial, indicating a recognition of the collaborative efforts required for successful digital education.

9.0 FINDINGS OF THE STUDY

1. Adaptation Strategies:

- The study reveals that 73.4% of educators in the Mangaluru region have embraced Learning Management Systems (LMS) for curriculum delivery during the COVID-19 pandemic.
- A substantial 84.4% have integrated video conferencing platforms, indicating a widespread reliance on synchronous communication for virtual classrooms.
- Approximately 59.4% of educators have implemented online assessments, showcasing a shift towards digital evaluation methods.

2. Experiences of Students:

- A significant 87.5% of students demonstrated digital literacy skills, indicating a general proficiency in utilizing online resources.
- However, 40 respondents (31.3%) reported socio-economic challenges, suggesting potential disparities in digital access and resources.
- Positive learning experiences were reported by 59.4% of students, while attention is needed to address concerns raised by the remaining respondents.

3. Infrastructural Challenges:

- A minority (18.8%) faced internet connectivity issues, highlighting the need for improved digital infrastructure in certain areas.
- Device availability emerged as a significant challenge, with 35.2% of respondents encountering issues, pointing to potential barriers in accessing online education.

4. Socio-Cultural Influences:

- A substantial 64.1% of respondents acknowledged the impact of cultural context on digital pedagogy, indicating the importance of considering local cultural nuances.
- Family support was a positive factor, with 76.6% expressing strong familial engagement in facilitating digital learning at home.

5. Recommendations for Improvement:

- A resounding 90.6% of respondents advocated for improved digital infrastructure, emphasizing the urgent need for enhanced connectivity and technological support.
- The majority (79.7%) supported training programs for teachers, recognizing the importance of equipping educators with necessary digital pedagogy skills.
- Community engagement emerged as a key theme, with 68.8% of respondents emphasizing its importance, signalling a recognition of the collaborative efforts required for successful digital education.

10.0 SUGGESTIONS

i. Conduct longitudinal studies to track the long-term impact of COVID-19 on digital pedagogy in Mangaluru.

ii. Explore comparative studies to understand variations in digital pedagogy practices across different regions.

iii. Supplement quantitative data with qualitative research to gain deeper insights into the experiences of educators and learners.

iv. Investigate the impact of policy interventions on digital infrastructure, teacher training, and equitable access to online education.

v. Explore the integration of emerging technologies like AI, VR, or gamification into digital pedagogy in Mangaluru.

vi. Investigate the role of community engagement initiatives in promoting digital literacy and supporting online education.

vii. Explore effective strategies for ongoing teacher professional development in digital pedagogy.

viii. Investigate the availability and effectiveness of student support services in facilitating online learning experiences.

ix. Explore strategies to promote equity and inclusion in digital education, particularly for marginalized communities.

x. Foster cross-disciplinary collaborations between education, technology, psychology, sociology, and relevant fields for holistic digital pedagogy research in Mangaluru.

11.0 CONCLUSION

This study provides a comprehensive understanding of how the COVID-19 pandemic has shaped digital pedagogy in the Mangaluru region. The findings illuminate the adaptive strategies employed by educators, the experiences of students, infrastructural challenges faced, socio-cultural influences at play, and recommendations for improvement. It is evident that while there has been significant progress in the integration of digital tools, challenges such as socio-economic disparities and infrastructural limitations persist. The call for improved digital infrastructure, ongoing teacher training, and community engagement emerges as crucial for sustainable advancements in online education. As we navigate the post-pandemic educational landscape, these insights contribute to the development of targeted interventions and policies that can foster inclusive, effective, and culturally sensitive digital pedagogy in Mangaluru and serve as a valuable reference for regions facing similar challenges globally. The dynamic nature of digital education requires continuous adaptation, collaboration, and innovation, and this study lays the foundation for future endeavours aimed at enhancing the quality and accessibility of education in the digital era.

REFERENCES

Haugsbakken, H., Nykvist, S., & Lysne, D. A. (2023, April 1). The Need to Focus on Digital Pedagogy for Online Learning. European Journal of Education. https://doi.org/10.2478/ ejed-2023-0005

Anderson, V. (2020, July 13). A digital pedagogy pivot: re-thinking higher education practice from an HRD perspective. Human Resource Development International, 23(4), 452–467. https://doi.org/10.1080/13678868.2020.1778999

Dewi Harahap, S., Jimmi, J., Jacob Pattiasina, P., Trinova, Z., & Damayanto, A. (2022, February 3). Trends in Technological Innovation in Education During a Time of Pandemic Disruption: Examining The Perspective of Teaching Digital Pedagogy. Nazhruna: Jurnal Pendidikan Islam, 5(1), 37–50. https://doi.org/10.31538/nzh.v5i1.1867

Makarova, E., & Makarova, E. (2018). Blending pedagogy and digital technology to transform educational environment. International Journal of Cognitive Research in Science Engineering and Education, 6(2), 57–65. https://doi.org/10.5937/ijcrsee1802057m

Kivunja, C. (2013, October 28). Embedding Digital Pedagogy in Pre-Service Higher Education to Better Prepare Teachers for the Digital Generation. International Journal of Higher Education, 2(4). https://doi.org/10.5430/ijhe.v2n4p131

Kumar, V. (2019). The State of Digital Pedagogy in Higher Education. SSRN Electronic Journal. https://doi.org/10.2139/ssrn.3388169

Lewin, C., Cranmer, S., & McNicol, S. (2018, October 7). Developing digital pedagogy through learning design: An activity theory perspective. British Journal of Educational Technology, 49(6), 1131–1144. https://doi.org/10.1111/bjet.12705

Väätäjä, J. O., & Ruokamo, H. (2021, January). Conceptualizing dimensions and a model for digital pedagogy. Journal of Pacific Rim Psychology, 15, 183449092199539. https://doi.org/ 10.1177/1834490921995395