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Digital Education and Changing Teaching - Practices, Competencies, and Roles among Teachers in Bihar Sharif

Sangita Kumari*

Research Scholar

Aryabhatta Knowledge University, Patna, Bihar,

Dr. Sushil Kumar Singh**

Associate Professor

St. Xavier's College of Education (Autonomous), Patna, Bihar

Abstract

Digital education has become an important part of contemporary teaching and learning, impacting professional obligations for instructors as well as communication, assessment, classroom procedures, and instructional material development. Teachers must modify conventional teaching techniques and acquire critical digital competencies due to the growing usage of digital platforms, multimedia resources, online learning tools, and developing technology.

In light of this, the current qualitative study intends to investigate how teachers' professional roles, digital competencies, and pedagogical approaches are evolving in relation to digital education in Bihar Sharif. 100 local teachers from all academic streams and topic areas—including the arts, science, commerce, and other pertinent fields—will participate in the study. To comprehend teachers' experiences, views, practices, difficulties, and needs for professional development with regard to the integration of digital technology into education, a qualitative research approach will be used.

Open-ended and semi-structured interview questions has been used to gather data, which has then been subjected to thematic analysis. The study is concentrated on how instructors use digital tools, how classroom pedagogy has changed, how digital competencies have developed, how professional obligations have evolved, institutional support, and the difficulties that come with digital teaching and learning.

It is anticipated that the study offers contextual insights into how educators from various academic streams are adjusting to digital learning and how their professional roles and duties are changing in the shifting educational landscape. The results could help create successful digital professional development programs, bolster institutional support networks, and encourage technology-integrated teaching and learning strategies.

Keywords: Bihar Sharif, Teaching Practices, Digital Pedagogy, Digital Education, Teachers' Professional Roles, and Digital Competencies.

Introduction

The quick development of digital technologies has drastically altered how teaching and learning are organized. The usage of computers, cell phones, projectors, online platforms, instructional videos, digital learning tools, and communication technology has significantly expanded in educational institutions. In addition to revolutionizing classroom instruction, these technology developments have significantly altered teachers' professional roles and obligations.

Teachers were traditionally seen as instructors and knowledge givers. But as digital education has grown, their responsibilities have changed to encompass lifelong digital learners, mentors, learning designers, assessors, facilitators, and developers of digital material. It is becoming more and more necessary for educators to incorporate technology into their teaching methods, create digital learning materials, interact via digital channels, evaluate students using digital tools, and give prompt feedback.

The National Education Policy (NEP) 2020 places a strong emphasis on the efficient use of technology in professional development, teacher preparation, evaluation, and teaching-learning procedures. Teachers must acquire both pedagogical and digital abilities in this evolving educational setting to guaranty the efficient use of technology in the classroom.

However, the availability of digital resources, institutional contexts, teaching experience, academic fields, and degrees of technological skill can all affect instructors' experiences with digital education. Depending on their subject requirements and teaching-learning goals, educators from various academic streams may also employ digital technologies in diverse ways. Thus, it is crucial to comprehend these situations from the viewpoint of the teachers.

In light of this, the current qualitative study investigates the evolving professional roles, digital capabilities, and pedagogical approaches of 100 local educators in Bihar Sharif, Nalanda district, Bihar, who represent all academic streams and subject areas. The study aims to comprehend how educators are responding to the potential and challenges of digital education, creating new professional abilities, and modifying their conventional teaching methods for the digital learning environment.

Background of the study

Through the use of digital presentations, instructional videos, online educational materials, virtual classrooms, digital assessment tools, and communication platforms, the scope of teaching has been expanded beyond traditional classroom approaches. These technological developments have created new opportunities for interactive learning, effective communication, student participation, and access to educational resources.

However, the effective integration of technology into education requires more than simply basic technical knowledge. Teachers need to understand the relationships between technology, subject content, learning objectives, pedagogical approaches, and students' educational needs. They must become proficient in the selection of appropriate digital technologies, the creation of digital instructional materials, online communication, the administration of digital assessments, and the analysis of students' learning outcomes. Information literacy, digital communication, online assessment, developing technology, and digital content creation are among the areas that require continual professional development.

Teachers may face several challenges when integrating technology into their lesson plans, despite the growing significance of digital education. Inadequate digital infrastructure, poor internet connectivity, a lack of professional training, technical difficulties, extra effort, and student distraction are some of the primary problems with digital teaching and learning. These challenges may differ between academic streams and institutional settings depending on the resources available and the teachers' level of digital literacy.

Examining teachers' viewpoints, experiences, and approaches is essential to understanding the benefits and drawbacks of digital education. The current study focuses on 100 local teachers from different academic streams and subject areas in Bihar Sharif, Nalanda district, Bihar, to examine how digital education is impacting their professional obligations, abilities, and teaching approaches.

Statement of the problem

The increasing use of digital technologies in education has resulted in substantial changes to teachers' professional responsibilities, competencies, and teaching strategies. Teachers are now expected to create digital learning resources, support students' learning through digital platforms, conduct technology-based assessments, facilitate online communication, and incorporate digital tools into their instruction. They are no longer limited to teaching in a traditional classroom.

However, instructors in different academic disciplines and educational institutions may respond differently to these advances. Their ability to adopt digital education may be influenced by their subject areas, teaching experience, digital capabilities, institutional facilities, access to technology resources, and professional development opportunities.

Although digital technologies offer new ways to improve the teaching-learning process, a variety of problems may prevent them from being successfully integrated into classroom procedures. Therefore, it's critical to understand how educators perceive and respond to these advances, how their professional roles are evolving, what digital abilities they require, and the challenges they encounter when putting digital teaching approaches into practice.

The present study is to investigate the following research question in light of these factors:

"Digital Education and Changing the Functions, Capabilities, and Teaching Approaches of Bihar Sharif Teachers."

Rationale of the study

Teachers are crucial to the effective implementation of digital education. Technology availability by itself cannot ensure effective teaching and learning if instructors lack the digital and pedagogical abilities to integrate technology into their teaching techniques.

The current study is notable because it depends on instructors' real-life experiences, perceptions, and behaviours rather than just quantitative measures of digital proficiency. By involving 100 instructors from different academic streams and topic areas in Bihar Sharif, the project aims to explore different perspectives on the use of digital technology in teaching and learning.

The study will help identify how digital education has affected teachers' professional roles, instructional strategies, classroom practices, and competency requirements. It will also examine the challenges teachers face when using digital tools, the institutional support required for effective technology integration, and their professional development requirements.

The study's findings may also be helpful to legislators, administrators, teacher educators, and educational institutions in developing plans for improving digital education and promoting effective technology-integrated teaching methodologies.

Objectives of the study

1. To look into how instructors use digital technologies in the classroom.
2. To investigate how digital education influences instructors' pedagogical practices and instructional strategies.
3. To ascertain the digital skills teachers must possess in order to effectively instruct.
4. To examine how, in the digital age, teachers' roles and responsibilities have evolved.
5. To look into how digital pedagogy is used in different academic disciplines and topic areas.
6. To ascertain the challenges teachers, have when integrating digital resources into their teaching methods.
7. To evaluate teachers' needs for digital education-related professional development.
8. To ascertain what institutional support is required to effectively integrate digital technology into teaching and learning.

Research questions

1. What impact has the use of digital education had on Bihar Sharif teachers?
2. How has digital education affected pedagogical methods and instructional strategies?
3. According to teachers, what digital abilities are essential for effective teaching?
4. How are teachers' responsibilities changing in the digital age?
5. How are different academic streams and subject areas using digital pedagogy?
6. What challenges do educators face when implementing digital tools into their teaching methods?
7. What sorts of opportunities for professional growth and institutional support are required for teachers to deliver successful digital instruction?

Research methodology

This study employs a qualitative descriptive research approach to understand teachers' experiences, views, instructional strategies, digital skills, and challenges associated with digital education. The study will be conducted in Bihar Sharif, which is located in the Nalanda district of Bihar, India, with a focus on teachers who work for several local educational institutions. The study's population consists of educators with diverse institutional histories, academic streams, and subject areas. To represent the arts, sciences, business, and other relevant academic subjects, a sample of 100 local educators from different Bihar Sharif educational institutions will be selected. The participants will include educators with a range of backgrounds in terms of gender, teaching experience, academic credentials, institutional settings, and familiarity with digital technology. Purposeful sampling will be employed to choose educators who have included digital technologies into their teaching-learning methods. This approach will help collect pertinent and thorough information about the experiences, viewpoints, abilities, professional responsibilities, and challenges instructors encounter with digital education.

Data collection tools

The primary methods used to gather data for this study were open-ended questions and a semi-structured interview schedule. A semi-structured interview schedule was developed to collect information on teachers' use of digital technologies, digital teaching strategies, digital content production, digital assessment, digital competencies, evolving professional responsibilities, professional development requirements, institutional support, challenges, and future expectations.

The open-ended questions allowed teachers to express their ideas, experiences, difficulties, and suggestions in their own words. These tools were designed to generate extensive qualitative data about the attitudes and experiences of educators across a range of academic disciplines regarding digital education.

Data collections

Prior to beginning data collection, permission was obtained from the pertinent educational institutions in Bihar Sharif. The study's objectives and purpose were explained to the selected participants, and their participation was entirely voluntary.

The survey included 100 local teachers from a variety of academic programs and subject areas. Interviews were conducted at a time and place that suited both parties after the subjects supplied their informed consent. teachers were encouraged to openly share their ideas, challenges, and experiences.

With consent from the participants, pertinent interviews were videotaped and subsequently transcribed for analysis. The researcher thoroughly examined the interview replies to organize the data collected and prepare it for thematic analysis.

Data Analysis

The qualitative data collected from semi-structured interviews and open-ended questions was examined using thematic analysis. The researcher initially read the interview transcripts several times in order to become acquainted with the responses and experiences of the participants.

Statements relevant to the research topics were located and appropriately labelled. When comparable codes were grouped into larger groups, major patterns were apparent. These themes were then reviewed and refined to ensure that they accurately reflected the responses from the participants.

Result and Discussion

The goal of the thematic analysis of the qualitative data gathered from 100 local teachers in Bihar Sharif who represent various academic streams is to investigate a number of significant aspects of digital education and its impact on educators' roles, skills, and methods of instruction.

The study looks at how teachers prepare lessons, teach in the classroom, communicate, create digital content, and evaluate students using digital media. The utilization of digital learning materials, online communication platforms, multimedia resources, student engagement activities, prompt feedback, and technology-assisted assessment are among the instructional tactics that receive special emphasis.

The digital competences needed for successful instruction constitute another crucial aspect. Technical expertise, digital content production, online communication, digital assessment, information literacy, and the capacity to incorporate technology into teaching methods are some of these.

The study also looks at teachers' evolving professional obligations outside of the classroom. These duties include serving as mentors, facilitators, learning designers, producers of digital content, evaluators, and ongoing digital learners.

Major finding of the study

The following topics are the study's main focus:

1. Use of Digital Technologies: Being aware of how teachers utilize digital tools for communication, lesson preparation, content creation, evaluation, and classroom instruction.
2. Modifications to Teaching Practices: Analysing how digital education affects lesson design, presentations in the classroom, student participation, feedback, and evaluation processes.
3. Digital Competencies: Recognizing the significance of technology-integrated teaching, digital literacy, online communication, digital content production, and digital assessment.
4. Shifting Professional Roles: Examining how teachers' duties might be expanded to include online communication, digital content creation, mentorship, facilitating, and ongoing professional development.
5. Digital Pedagogy Across Academic Streams: Recognizing variations in the use of digital teaching methods based on instructional contexts and topic needs.
6. Professional Development: Determining the chances and ongoing training that teachers require to enhance their digital competencies.
7. Institutional Support: Analysing the value of administrative, technical, internet, and infrastructure support.
8. Challenges of Digital Education: Recognizing issues related to technology, internet access, insufficient training, increasing workload, and digital evaluation.

The Educational Implications Study

1. Digital Competency Development: Teachers should be given hands-on training in online communication, digital assessment, digital content development, and technology-integrated instruction.
2. Topic-Specific Professional Development: Programs for professional development should be created in accordance with the demands of various academic streams and topic areas.
3. Enhancement of Digital Infrastructure: Educational establishments should offer sufficient digital facilities, dependable internet access, and suitable technology resources.
4. Technical and Administrative Support: To address instructors' challenges, institutions should set up efficient administrative and technical support systems.
5. Ongoing Professional Development: To assist teachers in adjusting to new educational technologies, regular workshops, seminars, training courses, and orientation sessions should be arranged.
6. Promotion of Digital Pedagogy: Teachers should be motivated to use cutting-edge, interactive teaching techniques that combine pedagogical approaches and subject-matter expertise with technology.

Limitations of the study

1. Only teachers employed by educational establishments in Bihar Sharif, Nalanda district, Bihar, are included in the study.
2. One hundred local teachers from various academic streams and topic areas make up the sample.
3. The results cannot be statistically applied to all Bihar teachers because they are based on the experiences and viewpoints of the chosen participants.
4. Participants' self-reported experiences and answers are the main source of data for the study.

5. Depending on their academic specialties, institutional background, teaching experience, and level of digital competency, teachers may have different experiences.
6. The study's main goal is to provide contextual and in-depth understanding rather than statistical generalization because it uses a qualitative research approach.

Conclusions

Teachers' professional duties, abilities, and teaching methods have all been profoundly impacted by digital education. Teachers' duties now extend beyond traditional classroom instruction due to the incorporation of digital technologies into teaching and learning. It is becoming more and more expected of teachers to create digital learning materials, communicate via digital platforms, incorporate technology into their subject-matter expertise and pedagogical techniques, and use creative methods for student support and evaluation.

The current study focuses on 200 local educators from various academic streams in Bihar Sharif, Nalanda district, Bihar, in order to comprehend their viewpoints and experiences with the evolving educational landscape.

Technological resources alone are not enough for effective digital instruction. Adequate digital capabilities, ongoing professional development, dependable infrastructure, technological support, and institutional support are also necessary for teachers. Additionally, the relevance of subject-specific and context-sensitive methods to digital teacher development is highlighted by disparities among academic disciplines.

The goal of the study is to better understand teachers' experiences with digital education and pinpoint areas that need to be improved. Its conclusions might offer helpful information for enhancing the professional abilities of educators, enhancing institutional support networks, and encouraging successful technology-integrated instruction.

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