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Role of Digital Literacy in Transforming Pedagogical Practices of University Teachers

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Abstract
The present study gives an insight into the Impact of Digital Literacy on Pedagogical Competence of University Teachers at University of Narowal. In light of extensive advances of technology, the successful use of digital tools for educational purposes plays a significant role in enriching the educational process and consequently, the degree of student achievement. The objective of this study is to investigate the current state of digital literacy in terms of faculty members, pedagogical use and the obstacles to an effective use of digital literacy. It has used the mixed method approach, quantitative and qualitative were followed to get data. A sample of 40 teachers of education" of the University of Narowal was taken by using stratified random sampling technique. Data was obtained using surveys and semi-structured interviews to understand faculty member's digital literacy, the use of technology in teaching and the challenges they encounter. The results indicate that while faculty have basic digital literacy skills, there is a gap in their capacity to implement advanced digital tools in their teaching. The lack of infrastructure, training and psychological resistance were reported as the main barriers. It also demonstrates the positive effects in terms of teaching of digital literacy on pedagogy (interest and better results of students). This study has implications for our understanding of the conditions that support the uptake of digital tools in higher education. Results highlight the importance of the respective need for targeted staff development programs, improved infrastructure and institution support to support digital literacy and teacher pedagogy.
Keywords: *Digital Literacy, Transforming, Pedagogical Practices, University Teachers*

1. Introduction

In recent years, education landscapes throughout the world have been well and truly disrupted by digital technologies. The incorporation of Information and Communication Technologies (ICT)

in pedagogical practices is one of the main sources of innovation in higher education. At the heart of this transition is digital literacy, "a multilayered concept that covers the ability to locate, evaluate, produce, and disseminate information using digital technology and media" (Ng, 2012). Access to new knowledge and ability to acquire new skills are essential elements of academic work, for it is creativity and innovation that drive the development of new ideas and tools for our modern society (Zhao, 2018:19).

Digital literacy as a cognitive tool for the modern academy In modernist times the ability to access and persecute knowledge has been seen as one of the reasons to the rise of educated citizens and societies and has always been an essential part of the academic work (Kuutti, 1993; Zhao, 2018).Digitalization of the education sector in Pakistan has received momentum particularly as an aftermath of the COVID 19 situation. But the public sector higher educational institution, like University of Narowal, is confronted with several issues to stride in this change. The University of Narowal has also utilized smart classrooms, internet access and e-learning portals, however the utilization of digital technology in the actual instruction processes has varied across classrooms. This mismatch questions as to the preparedness of teachers from universities for the digital era and converting traditional pedagogies into digital era teaching practices.

Educators with digital literacy expertise are in a better position to promote student engagement, implement data-driven instruction, personalize learning opportunities, and initiate flipped or blended classroom structures (Hobbs, 2021). So, what is increasingly important is the contribution of digital literacy to pedagogical innovation in order to change teaching for the better quality thus that educational quality, particularly in new universities like the University of Narowal and which is in its early phases of being a center of excellence in the whole province (Punjab) of Pakistan, increases potential of controlling curriculum content and making it more appealing.

1.1 Research Objectives

1. To assess the current level of digital literacy among university teachers at the University of Narowal.
2. To examine the extent to which digital literacy influences pedagogical transformations, including teaching strategies, student engagement, and instructional design.
3. To identify the institutional, technical, and personal challenges faced by teachers in integrating digital tools into their pedagogical practices.

1.2 Research Questions

1. What is the existing level of digital literacy among the teaching faculty at the University of Narowal?
2. In what ways does digital literacy contribute to the transformation of pedagogical practices at the university level?
3. What barriers hinder the effective integration of digital tools in the teaching methods of university teachers at the University of Narowal?

1.3 **Problem Statement**

In higher education, the change in pedagogical approach is ever more reliant on the digital literacies of lecturers. However in case of University of Narowal (a new public-sector university in the province of Punjab, Pakistan.) there is little research regarding digital skills of their teaching faculty and how it has been affecting their teaching methods. While the university administration attempted to infuse technologies such as Learning Management Systems (LMS), multimedia classrooms, and online content platforms into diagnosis-oriented instructional practices over the years, many faculty members still adopted traditional lecture-based methods of instruction.

Some initial observations and anecdotal evidence is that, while many teachers are computer literate (e.g., using PowerPoint or Zoom), deeper digital literacy is often less well developed, and certainly there is a lot of effective practice that is not being done, in terms of how to teach (e.g., how to create and use interactive digital content, how to use online assessment, how to develop games based learning). Furthermore, paving the way for the emergence of such approaches requires factoring in institutional constraints on teachers in the through a scarcity of training opportunities, lack of administrative buy-in or reluctance to adopt new pedagogical methods following comfort with traditional approaches. This disparity between the existing digital infrastructure and its pedagogically-sound utilization presents a major challenge to the academic vision of the university. This chasm, if left untouched, could be an adverse inhibitor for the university's progress in offering high quality, forward-thinking education. Thus, it is important to investigate how digital literacy is changing (or not) pedagogical practices in the University of Narowal alongside identifying the drivers and barriers for its use.

1.4 Rationale of the Study

This research is timely and contextually relevant. Post-COVID-19 learning requires university educators to be proficient in digital tools. Although there are some researches in developed worlds, the very few context specified literature are available in Pakistan rather to emerging institutions such as University of Narowal. This study will address that gap by exploring the connection between digital literacy and pedagogical change and will offer a context-based view of digital teaching competencies. It will also provide useful knowledge of how teacher-training programs or institutional policies can be enhanced to support technology-infused learning.

1.5 Significance of the Study

This study was revealing areas of digital competence that require development and can act as catalyst to reflective practice and growth. It will help in data based decisions making of administration in areas of faculty training, infrastructure development, academic planning. The research was support national education reform agendas and the development of higher education frameworks for digital literacy. The study may contribute to the body of knowledge; particularly in the Pakistani case there is limited research on digital transformation in teaching.

2. Literature Review

2.1 Digital Literacy and Pedagogical Transition

The fast dissemination of Information and Communication Technologies (ICTs) in the educational field has raised a need to develop the digital competence of teachers, particularly at the level of higher education. Digital literacy, originally confined to computer/IT literacies, has been reformulated to encompass literacies for digital communication, content creation, online collaboration, ethical use of information, and critical use of digital tools (Ng, 2012). This wider reading locates digital literacy as not just a technical competency, but a transformative force underpinning pedagogical innovation, in the HE setting.

Digital literacy is the key to transforming university teachers from traditional teacher-centered, to student-centered, inquiry-driven and technology-mediated pedagogical practices (Martin, 2006). As 21st-century learning skills are increasingly valued in tertiary education, the importance of teachers using digital tools to promote creativity, communication, and collaboration are essential (Hobbs, 2021). Especially, in under developed countries like Pakistan penetration of global standards in education in higher institutes is fastly becoming possible, transforming pedagogy through digital literacy is indigenous and a challenge . In this quantitative study, the primary focus is to see digital literacy and pedagogy together. It is observed that the digital library opens up an array of opportunities to Pakistani Universities because, Digital literacy is encouraged as a prime requisite by face of the earth for their people.

2.2 Current State of Research

The literature on digital literacy and its implementation in higher education is extensive. The goal of imparting digital competences necessary for teaching in the digital age is widely acknowledged in academia and the educational system.

2.1 Computer Literacy and Teaching Performance This section presents the analysis of the dependent factor which is computer literacy and teaching performance. Digital literacy is framed as comprising three interrelated domains: technical, cognitive, and socio-emotional, (Ng, 2012). This tripartite approach is crucial to understanding the meaningful inclusion of digital tools in pedagogies. Teachers who are digitally literate can decide when to use technology as well as choose tools that support instructional goals, promote student engagement, and enable independent learning. A study by Spante et al. (2018) critically examined digital literacy discourses in higher education, and questioned whether the use of ICT could be seen as a change in their teaching practices because although they are “familiar with specific ICT tools (e.g. digital presentations, communication platforms), the use of such tools is superficial and does not permeate the central practices of teaching and learning.” This is an observation indicative of a disconnect between the adoption of digital tools and the transformation of the pedagogical practices.

2.3 Frameworks for digital competence

The European Commission’s Digital Competence Framework for Educators (DigCompEdu), developed by Redecker (2017), described six areas: professional engagement, digital resources, teaching and learning, assessment, empowering learners, and enabling learners’ digital

competence. These domains offer a scaffold for measuring the digital capabilities of teacher educators. The framework highlights that successful digital literacy integration needs to be pedagogically grounded and learner-led. In Pakistan, works like Hussain, Ali, and Ahmad (2021) have shown that, in spite of the fact that university teachers are well familiar to basic ICT competences, their pedagogical practices still largely remain unchanged. Technology use is typically limited to PowerPoint presentations or recorded lectures on the web. It is evident that capacity building and context-based teacher training are needed, to transform pedagogical practices rather than just plugging in technology.

2.4 The Role of Institutional Support and Culture

The organizational culture of universities is essential to facilitating or inhibiting pedagogical use of digital literacy. Research by Tondeur et al. (2017) argue that if there is not the support of leadership, professional development, or vision behind them, even the most digitally literate leaders may feel frustrated in their application of these competencies. Universities such as the University of Narowal, which is relatively new and yet to have a complete digital infrastructure in place, may encounter extra difficulties in nurturing a digitally driven pedagogical culture.

2.5 Existential Spaces in the Current Literature

Although the focus on digital literacy and pedagogy has increased, there are some gaps in the scholarship: The majority of studies are carried out in the developed world, or at renowned Pakistani universities in big cities. Empirical study is scant in and around institutions in the developing countries like Narowal where infrastructure, adequate training and digital exposure are not available. The majority of literature underlines on digital skills or attitudes toward ICTs without questioning the process of transition from digital competence to pedagogical revolution. It is not yet clear how the teaching process is changed by digital literacy. A lot of the works are based on practice or description but fail to make use of strong theories to help understand the changes in pedagogy that are brought about by digital literacy. This study fills this void by interpreting findings within both TPACK and Transformative Learning Theory.

2.6 Theoretical Framework

In order to investigate the transformative power of digital literacy in the pedagogical context, this research is theoretically framed within two prominent theories:

Technological Pedagogical Content Knowledge (TPACK) The TPACK model (Mishra and Koehler, 2006) was developed to describe the complex interaction among technology, pedagogy, content when teaching and learning in subjects which require specific pedagogies and content knowledge. The TPACK model (Mishra & Koehler, 2006) unifies three key elements of successful teaching: CK = Content Knowledge: knowledge of the subject. Pedagogical Knowledge (PK): The knowledge of instruction methods and learning theories. Technological Knowledge (TK): Exploitation and critical evaluation of digital appliances.

The TPACK framework highlights that just an understanding of technology is not adequate for teachers. Real change is when they can integrate content, pedagogy, and technology together to serve a meaningful purpose for learning. This research employs the TPACK framework to investigate the digitally literate higher education teachers of University of

Narowal, in terms of their development and application of digitally enriched pedagogical practices.

2.6.1 Theory of Transformative Learning (TLT)

According to Mezirow (1991), a key tenet of Transformative Learning Theory is that we experience powerful 'perspective transformations' or 'meaning schemes' as a result of critical reflection when confronted with new or destabilizing experiences. For this study, digital literacy works as a "disorienting dilemma" that disrupts conventional practices of teaching. Through reflection and pedagogical inquiry, we can hope to achieve transformation in a teacher's philosophy of teaching more towards flexible student-centered approaches.Taken together, TPACK and TLT give an overarching theoretical construct from which to not only study what digital media literacy teachers know, but also how this knowledge impacts their teaching practice.

2.6.2 Significance and Contributions of the Study

This study seeks to fill the void between digital literacy learning and teaching as far as under-investigation are of the University of Narowal is concerned. It adds the following features to the literature: Provides experience and lessons in context of a newly established Pakistani university where digital transformation is yet to fully realize. Theoretical Contribution: Integrates TPACK and Transformative Learning Theory to pay attention not only to what digital literacy teachers know, but also to how and why what they know impacts their teaching practices. Policy and Practice: Contributes with evidence to professional development programs and institutional strategies on enhancing pedagogical innovation with digital literacy.

Although the literature acknowledges the importance of digital literacy in today's pedagogy, it does not always probe deeply into how it can facilitate instructional reform, especially in developing nations. This study aims to address these lacunae by critically examining how digital literacy is transforming university teachers' pedagogy at the University of Narowal. Theoretically rigorous and contextually specific, the research proposed in this study will have theoretical and practical implications for the digital education sector.

3.Reseatch Methodology

3.1 Research Design

This study was conducted using a qualitative approach based on a phenomenological design to investigate the perspectives and experiences of university lecturers concerning the effects of digital literacy on their teaching. A phenomenological approach was selected as it allows researchers to describe the essence of lived experiences and how they are experienced and understood from the participants involved in a phenomenon - the pedagogical change through the use of digital competence (Creswell & Poth, 2018). This approach allowed the researcher to gather a deep, rich data set which represented the way in which university teachers perceived the use of digital tools and technologies within their own practice.

3.2 Population and Sample

3.2.1 Population

The universe of this study was the teachers of University of Narowal, (particularly of Education department). This population was selected as this is most closely applicable to teaching and pedagogy, and educators who are most likely to work with leading edge digital tools in the classroom. Since online phenomena were in the process of appearing in the university and transforming it, this population was considered worth researching to see the impact of digital literacy on educational change. The entire faculty of the Department of Education during the study period was about 30 teachers, both permanent and part-time.

3.2.2 Sample

Through purposive sampling, 15 university teachers (8 males and 7 females) were chosen from the Department of Education. Purposive sampling was most suitable for this qualitative research since it made it possible to select those participants who can be most expected to furnish valid and experience-enriched information (Etikan, Musa, & Alkassim, 2016). The following selection criteria were used: The participants had at least 3 years university teaching experience. They had some exposure and/or training in digital tools for instruction (e.g., LMS, Google Classroom, PPT, digital assessments). They were willing to be voluntarily interviewed and contribute their teaching materials to be reviewed. This number of cases is sufficient for a phenomenological investigation which is characterised by the pursuit of depth rather than breadth. It enabled the researcher to consider different angles while staying manageable and analytically rigorous.

3.3 Data Collection Methods

The use of multiple data collection methods allowed for triangulation of data and enhanced the credibility and validity of the findings (Creswell & Poth, 2018).

3.3.1 Semi-Structured Interviews

Semi structured interviews with all 15 participants were conducted for between 45 and 60 mins. These interviews were face-to-face with audio-taping consent. The interviews focused on the following themes: (1) teachers' perception of digital literacy; (2) how digital literacy affected lesson planning and pedagogies; (3) challenges experienced with integration; and (4) institutional support for digital literacy.

3.3.2 Document Analysis

In addition to the interviews, some teaching materials (e.g., digital lesson plans, Powerpoint slides, video-recorded classes, instructional policies) were consulted. This approach offered an empirical “hook” on which to hang how, and the extent to which, digital tools were deployed in pedagogical planning and enactment.

3.4 Data Analysis

The method used to develop the themes were based on Braun and Clarke’s (2006) six-phase approach to thematic analysis. This involved:

1. Getting to know the data by reading the interviews and observations several times.
2. Creating initial codes from repeated words and concepts.

3. Looking for similar themes that combined related codes into wider categories (e.g., "enhanced engagement," "digital assessment practices"
4. Evaluating themes for fit within the research aims.
5. Clear and coherent on the definition and identification of themes A refined definition of the themes was formulated.

3.5 Ethical Considerations

Institutional review board approval was granted. All participants received complete explanation of the study's aim and procedure and provided written informed consent for participation. Anonymity and confidentiality were ensured. Participants were free to withdraw from the study at any time without penalty.

4. Data Analysis

In this section, the data analysis have been provided of intensive, semi structured interviews held with 15 university teachers working in the Department of Education, University of Narowal. Data analysis was guided by Braun and Clarke's (2006) thematic analysis procedure of becoming familiar with the data, searching for initial codes, searching for themes, reviewing themes, defining and naming themes, and reporting on the findings. The responses were coded and themes grouped into emerging patterns with respect to the three research questions. Participant numbers are coded to ensure anonymity.

Research Question 1: What is the existing level of digital literacy among the teaching faculty at the University of Narowal?

Theme 1: Basic Technological Proficiency

Sub-theme 1.1: Familiarity with MS Office and Zoom

Sub-theme 1.2: Awareness of basic internet tools

"I am at ease creating and delivering my lessons with the use of PowerPoint and sharing documents by email or WhatsApp. (Participant 3)

"Zoom and Google Meet are no longer something new to us; because of the pandemic, I've been using them a lot. (Participant 5)

Theme 2: Lack of Advanced Digital Competence

Sub-theme 2.1: Difficulty using LMS platforms

Sub-theme 2.2: Limited understanding of advanced tools

"Honestly, Google Classroom and Moodle are scary. Whenever I have the choice, I opt not to use them." (Participant 8)

"I still don't feel like I know how to use Padlet or Edmodo in my whole teaching." (Participant 13)

"I get lost with connecting different tools things like taking attendance through online forms or keeping track of engagement." (Participant 6)

Theme 3: Self-Learning as a Primary Mode

Sub-theme 3.1: YouTube and trial-and-error

Sub-theme 3.2: Peer-to-peer learning

"Whenever something I don't know comes up, I just go on YouTube. That's been my teacher." (Participant 9)

"We have no training so we assist each other. My colleague showed me how to use Google Forms." (Participant 10)
"I am spending my weekends test-driving new apps just to keep pace with my students." (Participant 2)
Theme 4: Influence of Age and Prior Experience
Sub-theme 4.1: Generational divide in tech use
Sub-theme 4.2: Preference for traditional methods among senior faculty
"The younger lecturers in our department are incredibly tech-savvy. I call it up when I get stuck." (Participant 12)
"I'm the kind of person who prefers writing notes on a whiteboard or taking down notes through spoken word versus clicking through powerpoint slides." (Participant 1)
Theme 5: Digital Confidence and Attitude
Sub-theme 5.1: Fear of failure
Sub-theme 5.2: Lack of motivation
"Sometimes I shy away from trying new tools because I don't want to look like a fool in front of a class of students." (Participant 4)
"I don't see the need to do these fancy tools if I can already do a good lecture." (Participant 7)
Research Question 2: In what ways does digital literacy contribute to the transformation of pedagogical practices at the university level?
Theme 1: Enhancement of Student Engagement
Sub-theme 1.1: Use of interactive tools
Sub-theme 1.2: Multimedia resources
"I made a Kahoot live quiz and the vibe in the room was electric." (Participant 14)
"Short YouTube videos are a great way to break up the monotony and be able to better understand what we're learning." (Participant 5)
Theme 2: Facilitation of Blended Learning
Sub-theme 2.1: Online/offline integration
Sub-theme 2.2: Support for absentee students
"My students can get on that Google Drive folder where I upload lecture notes, readings every week. (Participant 8)
"Blended learning saved my semester during COVID I still follow that model today. (Participant 10)
Theme 3: Personalization of Instruction
Sub-theme 3.1: Feedback mechanisms
Sub-theme 3.2: Addressing diverse learning needs
"I like digital surveys for me to know what students got and what to fix." (Participant 11)
"Some students enjoy watching videos, others like reading slides — digital tools enable me to provide a little bit of both." (Participant 3)

Theme 4: Improved Content Delivery
Sub-theme 4.1: Visual aids and animations
Sub-theme 4.2: Real-time updates
"Instead of just telling what happens, I can show simulations or diagrams real time." (Participant 2)
"I can update my slides to reflect the news, so that the topics are more timely," she said. (Participant 13)
Theme 5: Promoting Reflective Teaching Practices
Sub-theme 5.1: Self-assessment through recorded lectures
Sub-theme 5.2: Student feedback integration
"Watching my Zoom lecture back to myself, I had to critically ask if I needed to stop talking so fast. (Participant 6)
"I gather anonymous student comments through Google Forms to make my teaching better." (Participant 9)
Research Question 3: What barriers hinder the effective integration of digital tools in the teaching methods of university teachers at the University of Narowal?
Theme 1: Institutional Limitations
Sub-theme 1.1: Poor infrastructure
Sub-theme 1.2: Unreliable internet access
"There is only one media room for the entire department, and it is a huge struggle to get booked in there." (Participant 7)
"It's just that the internet speed here is so bad that sometimes YouTube doesn't even load during a class." (Participant 5)
Theme 2: Absence of Professional Development
Sub-theme 2.1: No formal training
Sub-theme 2.2: No incentives for learning
"If we had frequent training sessions about digital tools we would feel more confident." (Participant 1)
"There's no payoff or kudos for people who innovate digitally, so why bother?" (Participant 12)
Theme 3: Resistance to Change
Sub-theme 3.1: Cultural inertia
Sub-theme 3.2: Skepticism about digital methods
"Some of my peers are still not convinced that this online teaching is teaching." (Participant 3)
"It is very hard to change long standing habits, and particularly when it's not mandated." (Participant 13)
Theme 4: Time Constraints
Sub-theme 4.1: Overloaded schedules
Sub-theme 4.2: Time-consuming content creation
"With teaching, grading, and admin work, there's no time to learn a new app." (Participant 10)
"Making a digital quiz is more time consuming than conducting an oral test." (Participant 4)

Theme 5: Student-Related Challenges
Sub-theme 5.1: Lack of access to technology
Sub-theme 5.2: Digital illiteracy among students
"Half my class, they don't have laptops or internet in their homes." (Participant 15)
"I assign work through Google Classroom and no one responds except four students. (Participant 6)
This extended extract introduces these themes and quotes and shows that, despite general awareness and partial implementation of digital literacies by faculty, full integration is hindered due to issues at the institutional, individual and pedagogical levels. But educators are also eager to change their teaching practices — so long as they get the right support, tools and training.

5. Discussion

An analysis of collected data in the next Chapter presents these data in a critical review and is discussed in relation to the research questions, objectives and theoretical framework. This research focuses exploring the impact of digital literacy on the professional practices of teachers at university level in Department of Education of University of Narowal. Theorising provided by the Technological Pedagogical Content Knowledge (TPACK) framework (Mishra & Koehler, 2006) is sought, as well as that from Bandura's Social Cognitive Theory (1986), as they are used to frame the interpretation of the findings. This chapter seeks to gain insight to the impact of digital literacy on teaching practices, the degree to which academicians are digitally competent, and what challenges impede the successful incorporation of technology in higher education pedagogical settings.

RQ 1 What existing level of digital literacy prevails amongst teaching faculty at Narowal University?

Discrepancy was huge among the faculty regarding digital literacy. Some faculty members (mainly younger ones) were fairly digitally proficient, while others (mainly older ones) did not know or use digital tools very well.

One participant stated:

"I am able to use Google Meet and Google Forms, and I even can include some video in my instruction. Helps keep my students engaged and I get immediate feedback" (Participant 6).

On the other hand, as emphasized by another faculty member:

"I'm old school, I still like chalk-and-talk. I don't feel as proficient to use these tools in front of students" (Participant 3).

This signals an evident digital generation gap, confirmed by other research (Hatlevik et al., 2015; Tondeur et al., 2017), which has stated that the newest teachers, who have been raised with technology, present a higher level of digital competence. In terms of the TPACK framework, the content knowledge (CK) and the pedagogical knowledge (PK) with which the participants comfort themselves seemed relatively strong, yet there were differences in technological knowledge (TK). Technology was reported to be poorly integrated with content and pedagogy, particularly among those who were inexperienced with digital tools. Also, the Social cognitive theory relates the teacher´s Self Efficacy as an important factor in adopting technology, (Seah et al., 2016, Baek

et al., 2008, Durndell, 1987, Shochmar, 2009, Papert, 1997). Teachers with low sense of efficacy attempted to refrain from borrowing digital tools, their hesitation and discomfort reflecting their position.

RQ2: How does digital literacy support the change of teaching strategies at the university level?

The research results point out that, if teachers have literacy on the digital tool, so they may present pedagogical approaches such as a student-centered, innovative and interactive approach. Educators were reported to use digital tools to generate interactive quizzes, host collaborative discussions, and provide content that is rich with multimedia.

"Digital literacy has helped me get away from a lecture-style format. I watch videos now, go to online forums a lot, interactive, helpful stuff that helps me' (Participant 5).

This shift marks a transition from teacher-centred to learner-centred instruction--one of the tenets of 21st-century education. Redecker (2017) reports that digital literacy may promote differentiated education, increase learner involvement, and improve the dialogue, all to be confirmed by participant answers. The transformation is further sustained by the TPACK model, which demonstrates that by integrating technology with pedagogy and content, it results in better teaching and learning experiences. As with our investigation, other research has also identified that higher digital literacy is related to the degree of innovation in teaching. Second, Bandura's SCT was manifested because teachers who observed positive student results from using technology (i.e., mastery experiences) were more motivated and confident to use digital strategies by maintaining activities.

"When a digital assignment works, student-wise, it gives me confidence … to try new things" (Participant 1).

RQ 3: What are the obstacles to preventing the digital tool from being used effectively in the teaching techniques of university teachers at the University of Narowal?

Several obstacles were identified to the successful use of digital technology, which were then split into infrastructural, institutional and individual barriers.

a) Infrastructural Challenges: Limited access to the internet, poor digital infrastructure and unreliable power supply were the top three challenges reported. This made teachers feel discouraged from using digital technologies in their class, as they perceived the digital tools as unreliable.

"And when you're faced with all these network issues and sometimes the projector doesn't work. How can we teach with technology?" (Participant 2).

This is consistent with Ertmer's (1999) first-order barriers addressed at external levels, those which are institutional.

b) Institutional Limitations: Many teachers also cited lack of institutional support especially in professional development and training.

"Digital tools have no morning team-building exercises. We are supposed to be teaching virtually but then explore it for ourselves" (Participant 4).

Many instructors who weren't given formal training have to teach themselves, and that can be overwhelming and inefficient. According to Alazam et al. (2012), teacher confidence and efficacy in employing education technology is highly dependent on institutional support.

c) Mental and Pedagogical Opposition: Some teachers appeared to psychologically resist change by the new technologies because of a fear of failure, embarrassment and lack of digital self-efficacy.

"I'm not comfortable with tools I'm not familiar with. "What if they laugh or I eat up a class session?" (Participant 3).

These are discriminatory-type second order barriers, based on beliefs, attitudes and confidence. Bandura (1997) suggests that low self-efficacy may prevent people from initiating due to or persisting through an obstacle. In addition, conventional pedagogical convictions also add to this resistance. Some, however, remained committed to classroom-based instruction and view digital tools as a distraction or not needed.

5.4 Theoretical Integration

The results of this study can also be justified using the TPACK model and Social Cognitive Theory: TPACK: The impact of ICT in teaching and learning is not to be able to use the tools, but as to integrate technological knowledge with pedagogical and content knowledge. The majority of teachers did not have the TPACK equilibrium, particularly on the technological-pedagogical integration. Social Cognitive Theory: Teacher digital behaviors were mediated by self-efficacy, environmental factors (infrastructure, institutional support), and vicarious learning (whether teachers observed peers using tools successfully). Motivation and change of pedagogy were higher for teachers who had positive experiences and support. To conclude, the study notes that while digital literacy is a central aspect in the changing of teaching actions, this influence depends on a variety of contextual dimensions. Although some faculty members are early adopters of digital tools for evolving the quality of a learning experience, many are restricted by infrastructural constraints, lack of training, and self-confidence. In order to facilitate the institutionalization of pedagogical transformation at a systemic level, universities, such as the University of Narowal (UoN), need to develop infrastructure, ensure adequate continuous professional development and support a culture of innovation and digital confidence.

5.5 Conclusion

The purpose of this study was to examine the contribution of digital literacy in changing the teaching practices of the university level teachers at the University of Narowal. The results suggest some significant aspects that influence the embedding of digital tools into teaching. Digital literacy of teachers in University of Narowal varies with respect to teacher's age, teaching experience and previous the exposure of technology. Younger faculty were mostly more skilled in digital competence by resorting to LMS, multimedial tools, online platforms, and senior faculty had difficulties adjusting to those online resources for various purposes. This generation gap indicates a lack of universal digital proficiency throughout the organization, and moreover, this implies that digital literacy training initiatives are needed to address that difference. To respond to the second research question, the investigation showed that digital literacy is a

contributing factor to reshaping pedagogical practices. Staff with greater digital literacy were given the opportunity to create student-centered activities, learning spaces and experiences (interactive and collaborative) on-line. These teachers welcomed flipped classrooms, multimedia resources and used Google Forms and Kahoot to drive assessment and feedback.

The diffusion of these pedagogical reforms was consistent with the Technological Pedagogical Content Knowledge (TPACK) framework, which promotes the integration of technology with both pedagogy and content knowledge to enhance teaching effectiveness. Educators that fused technology into their teaching made the learning more interesting and flexible, and in the end the students achieved better results. But the research also unearthed some obstacles to integrating digital technology successfully into teaching. Although these are some benefits for having digital literacy however faculty members of the University of Narowal encounter constraints such as poor infrastructure slow internet connectivity, old fashioned hardware and absence of computer literate classrooms.

Compounding these barriers is psychological resistance, especially among senior academics who fear failure or are not confident in their technological skills. Moreover, the lack of institutional support and ongoing training programs exacerbates the problem that many instructors have insufficient capacity to fully incorporate digital tools into their pedagogical practices. These results indicate that remedying infrastructural limitations, offering continuous staff training, and fostering a supportive organizational environment are important in overcoming these obstacles.

The theoretical perspectives adopted in the study, namely TPACK and Bandura's Social Cognitive Theory, offered a powerful lens for exploring the relationship between technology, pedagogy, and content knowledge when influencing teaching practise. The TPACK framework helped situate the differences in faculty members' levels of digital literacy, showing that skillful digital practice depends on the harmonious interplay among technical, pedagogical, and content knowledge development. Bandura's Social Cognitive Theory, in contrast, underscored the pivotal role of self-efficacy and observational learning in fostering teachers' adoption of technology. Faculty members who had greater self-efficacy and reported seeing other successful teachers who were using digital tools were more likely to use technology in their teaching.

It has practical implications; it signals the importance of the continuous professional development (CPD) for the digital pedagogy. Teachers need to possess not only the knowledge of using digital instruments but pedagogical insight to introduce them into the classroom practically. In addition, the institutional infrastructure needs to be revamped or enriched in the sense of ensuring dependable internet, contemporary hardware and smart classrooms as well. Moreover, promoting an encouraging culture and implementing mentorship programms in which digitally literate lecturers can support and coach their peers will encourage individuals, to overcome psychological barriers to technology integration. Furthermore, the study recommends that, universities like University of Narowal work on a formal policy for DT that can provide goals, sources and practices with the freedom to develop digital literacy in the departments.

This study has several limitations, however. The study was performed in the department of education, University of Narowal, so the findings may not be generalized to other departments or universities. The qualitative aspect of this study as well as the limited number of subjects limit the ability to generalize statistically. These are limitations that point to a need for studies at the level of the university and also of the department. In addition, future studies may investigate students' perceptions on the influence of digital literacy on learning, or monitor the long-term effects of DL training courses on teaching.

To conclude, it appears from this study that digital literacy is a key driver of pedagogical change at University of Narowal. There has been great advances but there is a lot more to do. The study results of this paper have important implications for how digital literacy can help to increase effectiveness of teaching, engagement of students, and an more interactive and inclusive learning atmosphere. For a complete exploitation of the technological literacy, its opportunity, infrastructures, and policies should be taken care of by the Universities. With digital literacy rapidly emerging as a vital element of the 21st century classroom, universities that invest in this space will be better placed to provide high-quality education in the constantly shifting digital environment.

5.6 Recommendations

In light of the results of this study, it is suggested that the following recommendations can be proposed to improve the incorporation of digital literacy in the pedagogic behavior of faculty members of the University of Narowal. These guidelines strive to strengthen individual and institutional strategies to take advantage of digital tools for enhanced teaching and learning.

Findings of the study demonstrated that academics with higher level of digital literacy tend to integrate more practices in their teaching. Accordingly, the university should implement CPD programs to develop digital literacy for all faculty. These programmes should be differentiated according to participants' digital skills levels, revolving, for instance, around learning management systems, the creation of multimedia supports and the integration of digital tools into pedagogical practices. "Those programs would also provide professional development on how to integrate digital tools into curriculum and teaching strategies to ensure educators are using technology effectively." Program development Faculty should be encouraged to enroll in both online and face-to-face workshops to increase their technical and pedagogical skills.

Findings also showed that certain group of faculty members, particularly those less exposed to technology, have psychological barriers to integration of technological tools in their teaching. To meet this challenge, a digital learning culture has to be established in the university. This," says Bahiraei, "can be done through peer mentoring initiatives, where tech-savvy teachers mentor and help colleagues incorporate technology in their teaching." Faculty members who are technology-phobic should also be encouraged to attend a learning community or interest group where they can tell "Oh boy! moments" and learn from one another. Moreover, there should be celebrations of students successfully stepping up to the challenges of digitality and awards for faculty members who diamond solutions in their teaching, fostering a positive feedback loop.

The study demonstrated that poor infrastructure, including unstable internet and outdated hardware, presents significant obstacles to the effective use of digital technology. So, it is very important that the institution should back-up upgrading technology for the better. It is about ensuring a great campus wide wireless experience, putting with the technology Jonses with new hardware in everyone's hands, and advancing media in classroom and learning facilities. It should be easy for the faculty to use the software and access software and online platforms that will help them with their teaching and learning LMSs, Video conferencing, digital content creation etc. IT correctional services were very poor, and the university should also offer to support via IT to assist academics in troubleshooting and and utilizing the technology optimally.

Recommendation Based on the findings of this study, it is suggested that University of Narowal prepare a detailed digital literacy framework showcasing the proposed objectives, drivers and activity plans for digital literacy integration in each department. This approach should follow the overall-digitisation strategy of the university and be included in the planning for faculty development. It should also provide directions for curriculum development, to ensure that digital literacy is integrated into study programs across the board. Furthermore, in the same way that digital literacy is a required competency of faculty, the implementation of digital literacy competencies should be monitored through the faculty review process. Support the Integration of Digital in the Curriculum Crosscutting Theme #3: Institutional Level Provide Institutional Support for Digital Integration Because transitioning to digital is more than logistics and technology, it is critical to address this aspect at the institutional level.

According to findings from the research, the absence of institutional support hampers the faculty's use of digital tools. To solve this, the university needs to create a dedicated office, or even just a committee, focused on digital transformation to drive the implementation of digital literacy initiatives and support faculty over time. This office may have the responsibility of coordinating workshops, providing technical support to faculty and coordinating with integration of technology in the curriculum. Second, the university's budget should include funding to sustain digital literacy programs, funding for staff training, equipment upgrades, and hiring of expert staff.

To promote digital literacy and pedagogical innovation, the university needs to establish partnership with outside agencies and experts in the area of educational technology. That could mean setting up agreements with other universities, government agencies, or private sector digital learning groups. Partnerships can also provide faculty with exposure to new tools, teaching techniques, and digital pedagogy innovations. Visiting lectures, workshops and presentations on digital teaching and learning by digital experts could help to extend and up-date the knowledge of the teaching community and provide them with show-cases of tools to use in the classroom.

The research also identified psychological obstacles (e.g., fear of failure, lack of self-efficacy) that prevent some teachers from more fully embracing the use of digital tools. The university must confront these challenges by encouraging a growth mindset among its teachers,

one that tells them that digital tools are there to augment teaching rather than to drive traditional teaching methods to the wall. Faculty should feel free to pursue a method of learning technology on their own terms, offering them a "sandbox" to learn and test. User support Providing a personal support for the less technology-literate, e.g. one-on-one sessions, mentors, in order to gain confidence in use of digital tools.

Lastly, it is suggested that the university should implement digital literacy as part of the core in the curriculum for both the faculty and students. By embedding digital literacy in all disciplines, we are preparing students to not just participate, but to also leverage technology in their careers. Faculty members, in turn, ought to incorporate digital tools into their own teaching, in order to sensitise students to technology in their learning. This will lead to a more skilled digital academic community, where continuous learning will be the norm.

These suggestions are proposed to enhance the digital literacy among the faculty members of Narowal University in order to develop better pedagogical practices and to promote a more interactive and effective learning environment. The university should remove those barriers of infrastructure, psychological resistance, and lack of support, to create an environment that is more nurturing for digital integration. By investing in professional development, infrastructure, and a well-considered approach to digital literacy, the university can help to enable faculty to leverage technology for teaching, thereby benefitting students and the academic enterprise generally.

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