Transformation in Pedagogy: A Comparative Study on Classroom, Online and Hybrid Learning Methodologies to Facilitate Student Learning in Higher Education

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ABSTRACT

The research paper is constructed with the purpose of understanding the perceptions of students learning in the process of convergence of an eclectic mix of classroom, online and hybrid mode of learning. The different learning methodologies that were

followed before, during and after pandemic include face to face, online and hybrid or blended learning. The transformation in the pedagogy has initiated the waves of innovation in the field of knowledge. The overall efforts put in by academics in Universities around the world show the adaptation in response to the crisis. The various effects on students and academics can create multiple strategies in education that can be followed in future. The key findings are correlated to the effectiveness and efficiencies of learning that are enhanced or affected by the student motivation and engagement. The implications of blended learning in higher education has created a great source of innovative learning platforms to foster better learning opportunities for students.

Keywords: Face to face learning, Effectiveness of learning, Hybrid, Pedagogical methodologies, Online learning

INTRODUCTION

The landscape of higher education has undergone significant transformations in recent years, primarily driven by advancements in technology and evolving educational paradigms. Recent studies comparing different learning methodologies analyze their strengths and weaknesses (Song, 2024). Traditional classroom-based learning, once considered the cornerstone of higher education, is now increasingly complemented by online and hybrid learning methodologies (Bitar & Davidovich, 2024). Classroom learning, characterized by face-to-face interactions and a structured environment, has long been valued for its direct engagement and immediate feedback. Interactive sessions within the classroom are identified as a best practice employed by educators to foster a dynamic and conducive learning environment for students (Antarovna, 2024). Within the traditional approach to

classroom learning, the integration of flipped learning methods is highlighted for their potential to enhance pedagogical effectiveness (Fiqri, 2024). The implementation of flipped learning in both classroom and online environments has the potential to foster innovative practices that enhance learning outcomes (Paristiowati et al., 2024). Various factors contributing to the adoption of collaborative learning methods include student demands, funding opportunities, and advancements in educational technology (Boud & Bearman, 2024).

However, the rise of digital technologies has paved the way for online learning, offering flexibility and accessibility to a diverse student population (Røe, Wojniusz & Bjerke, 2022). Hybrid learning, which combines elements of both classroom and online education, seeks to leverage the strengths of each to create a more dynamic and adaptable learning experience (Raes, 2022). A comprehensive analysis of the evolution of online, hybrid, and face-to-face learning modalities before, during, and after the pandemic has been conducted through the examination of various research studies (Mentzer, 2024). The research insights into online learning or e-learning based on student perceptions have been documented for over two decades (Smart & Cappel, 2006). E-learning is recognized as a cost-effective approach to expanding learning opportunities. Early participants in online learning reported challenges in the time required to complete modules. Research findings indicate that the frequency of engagement in Information and Communication Technology (ICT) and participation in online sessions yield favorable outcomes for the use of technology in education (Dobakhti, 2024).

Ortikov (2024) examine the importance of technology to enhance student learning. Wu (2024) elaborte the positive attitude towards the sophisticated technology usage in learning and the behavioral intention of students through its perceived usefulness.

The research framework of reflections through student understanding facilitates better implications. Verma, (2024). Suggest for the better invetigation of student cognitive elements of happiness in hybrid learning platforms.

The research paper examines student perceptions of three distinct learning methodologies: traditional classroom instruction, online learning, and hybrid models. The primary objective of this study is to gain insights into students' perspectives regarding these learning modalities and to evaluate their impact on academic outcomes at the university level. The challenges and barriers in different learning environment are corraborated through insights of the students. The study provides insights to students, academics and University as well as policy makers to develop new sophisticated technology-based practices of learning.

CONCEPTUAL FRAMEWORK AND RESEARCH PROPOSITIONS

Researchers are encouraged to engage in active reflection, as evidenced in qualitative research (Mortari, 2015). This study employs a qualitative research methodology that involves thematic analysis (Alejandro & Zhao, 2024). The qualitative analysis report advocates for an eclectic approach to learning that aims to enhance the educational opportunities available to students. Snowball sampling was utilized for data collection, allowing students to contribute valuable insights through reflective practices (Chawla & Saha, 2024). This sampling method was implemented to select participants, specifically undergraduate and graduate students at the university, with voluntary participation facilitating the project's execution and data gathering. The theory of knowledge absorption capacity and information stickiness was examined through research utilizing the organizational learning process

(Sugie, 2018). The themes of offline, online, and hybrid modes of learning were incorporated and analyzed within the study. The aim of the research was to investigate how classroom teaching, online instruction, and hybrid methods impact student learning in universities. The study collected students' perceptions to compare and contrast online, offline, and hybrid learning modalities, thereby elucidating the various facilitators, challenges, and barriers to student learning. The overarching research findings offer recommendations for universities, professors, and students. Ethical standards and considerations were strictly adhered to throughout the project. The research was conducted ethically to ensure that no harm was inflicted on participants. Participation in the study was entirely voluntary, and informed consent was obtained from all research participants. Participant identities were maintained as anonymous and confidential throughout the study, with data integration ensuring the difficulty of identifying individual participants. The paper is composed with a sensitivity that respects the perspectives and insights of the participants. The excerpts are utilized accurately and consistently to illuminate the viewpoints pertinent to the study. The representation of the findings reflects the voices of the student representatives as conveyed in this paper. Adherence to overall research ethical guidelines is maintained throughout the project.

RESULTS AND DISCUSSION

Face-to-Face Learning: Prospects and constraints

Wahyono (2024) discusses the significance of establishing a conducive learning environment to enhance students' educational experiences. The primary objective of this research was to identify the elements of classroom instruction, as well as online and hybrid methods, that impact student learning in universities. The

advantages and disadvantages of traditional classroom learning were reported by the students. Several benefits of the face-to-face learning approach were highlighted by the participants. Active listening emerged as a key advantage of attending in-person classes. Face-to-face learning facilitates interactions between professors and students, enabling a more engaging educational experience. Additionally, lessons can be attended without distractions, allowing students to concentrate effectively on the course material during classroom sessions. According to Oliver (2024), the multidimensional social environment fostered by classroom instruction significantly affects student adaptation to learning. Classroom learning also promotes teamwork and leadership skills in project-based assignments. Students expressed a strong sense of connectedness with their classmates and reported an active learning experience. There are increased opportunities for idea development within the classroom, particularly when students ask questions related to course topics. Many students indicated a preference for face-to-face classroom environments, as physical presence can enhance confidence and practical skills. Furthermore, in-person learning is associated with heightened motivation and skill development among students. Offline classes are perceived as engaging and enjoyable, as students participate in class activities and group discussions. This format encourages active listening and facilitates the clarification of questions. The benefits of face-to-face learning also include collaborative learning through socialization, communication with peers, and the formation of new friendships (Boud & Bearman, 2024). On the other hand, traditional face-to-face learning presents several disadvantages. Peer pressure can serve as a significant obstacle. Given that classrooms often consist of diverse student populations, there are inherent barriers to communication among individuals from different countries. Some students may feel uncomfortable

asking questions in class due to a fear of public speaking. Additionally, students have expressed concerns regarding the potential transmission of infectious diseases in a face-to-face setting. Furthermore, traditional classroom instruction necessitates early rising and preparation time for attending university. For students who must commute long distances, this can be particularly challenging, as it is time-consuming and may hinder their ability to fully participate in class activities.

Online learning: Benefits and Limitations

The key benefits of online learning include easy accessibility to classes regardless of location, as well as the elimination of transportation costs. Certain virtual learning methods, such as flipped learning, allow students to learn and work at their own pace. This format is particularly beneficial for individuals balancing employment with university studies. Students appreciate the flexibility offered by online learning. Consequently, some students prefer online classes over face-to-face learning, as the advantages of online education are underscored by research studies (Harrington & Ahrendt, 2024). A virtual learning environment can be leveraged in curriculum development through immersive and interactive learning experiences (Lee, 2024). Students are able to read and learn at their convenience; however, this requires active engagement. Research indicates that multitasking can lead to technical distractions for students (Nubang, 2024), and many students have reported perceptions of decreased concentration during online learning sessions, frequently noting that they become distracted.

Participation rates among online students were approximately 10%, and it has been observed that offline classes tend to foster greater enthusiasm compared to online formats. Conversely, the limitations of online learning include a lack of concentration and

technological disruptions. Maintaining focus during online classes can be challenging, as students may frequently become distracted. This distraction can hinder their ability to comprehend the material adequately. Additionally, technological issues can adversely affect the effectiveness of online education. A reliable internet connection is essential for seamless learning experiences; however, disruptions can occur, leading to interruptions in lectures. Fillion (2020) emphasizes the need for improved regulation regarding student usage of mobile devices, which can be a significant distraction. Furthermore, Carter, Harrington, and Ahrendt (2024) identify self-discipline and pacing as critical barriers to successful learning in an online format. The absence of interaction and diminished interest may further impede the learning process. Moreover, the ergonomic challenges associated with prolonged computer use can lead to physical strain and health problems, exacerbated by the sedentary nature of online education.

Effectiveness of Hybrid learning

Vertical and horizontal knowledge transfer through the utilization of sophisticated technology was evaluated based on prior research (Park, 2020). Hybrid learning represents a novel educational approach that integrates online and offline learning modalities. The preferred mode of learning varied among students. This study examined the effectiveness of class participation as influenced by the learning mode (offline, hybrid, or online). From the students' perspectives, online and hybrid modes were perceived as more convenient. Hybrid learning emerged as the most suitable approach for attending sessions in a flexible manner. The research synthesized insights regarding class participation as it relates to the different modes of learning (offline, hybrid, or online). Conversely, some students expressed the opinion that participants in offline classes are generally more focused compared to those in

online classes, who may exhibit diminished concentration. Maintaining engagement in hybrid classes can pose challenges for instructors, as they are required to engage both in-person and online participants, which may complicate their teaching efforts. A thorough comparison of online and traditional learning modes with hybrid approaches is articulated in research conducted by Bowen, Chingos, Lack, and Nygren (2013). The experiences associated with hybrid learning are further elucidated by Badiozaman and Ling (2024), who assert that hybrid learning facilitates positive student experiences characterized by high levels of satisfaction, self-efficacy, and engagement. The necessity for pedagogical strategies that foster engagement and resilience among students is emphasized (Badiozaman & Ling, 2024). Eija et al. (2024) reported that many students initially benefited from the hybrid learning model; however, there were instances of failures and dropouts when compared to traditional face-to-face learning methods.

Innovative learning methodologies to transform education and facilitate learning

Recent studies on the application of innovative technologies suggest that they can enhance the learning process (Navio-Marco et al., 2024). Students benefit significantly from the innovative use of technology, particularly through online learning platforms such as Learning Management Systems (LMS). The videoconferencing tool Zoom facilitates learning for students by providing an alternative means of conducting classes. The LMS serves as a digital repository for class topics and resource materials aligned with the curriculum, aiding students in their examination preparation. Additionally, it assists in managing schedules, notifications, and assignment deadlines. The use of videoconferencing via Zoom offers another mode for conducting

classes, enabling students to participate in online sessions at their own pace and convenience. Furthermore, students utilize research databases to conduct research and complete writing assignments and projects. These databases provide supporting ideas for project work, allowing students to explore their topics in depth and connect their studies to real-life contexts.

SUGGESTIONS AND RECOMMENDATIONS IN LEARNING

Strategies for creating an inclusive learning environment through the incorporation of technology, as posited by Liu (2024), emphasize the importance of learner-centered approaches to foster a sense of community among students and integrate advanced technology for high-quality education. Blackboard, one of the prominent online learning platforms, has proven beneficial for outlining syllabi, taking course notes, and facilitating interactions through lecture slides (DeNeui & Dodge, 2006). Several students have expressed recommendations for improving the learning process within universities. These recommendations include providing regular and specific feedback to assist students in understanding their performance and adjusting their learning trajectories. Students have suggested the establishment of both short-term and long-term goals, as well as monitoring progress to enhance learning outcomes. Project-based learning, in particular, has been identified as a valuable approach, allowing students to engage with real-world scenarios within entrepreneurial or business contexts. Employing interpretive methods of collaboration and diverse learning approaches represents a holistic strategy necessary for expanding learning opportunities. The principles of "learning by doing" may be particularly effective in addressing current global challenges. Additionally, the utilization of audio-visual aids has been shown to significantly enhance

learning experiences. The cultivation of creativity and critical thinking through inquiry-based approaches to theoretical concepts is regarded as essential for effective learning (Tang, Walker-Gleaves, & Rattray, 2024). Through the lens of social constructivism, these authors advocate for co-creation, response-ability, and a care-oriented presence in online learning environments. Levy and Hadar (2024) further assert the advantages of online learning modalities and the degree to which programs are tailored to meet student expectations regarding learning, guidance, empathy, and innovation. This study synthesizes findings from student perspectives on the challenges, opportunities, and recommendations for the development of future educational programs.

CONCLUSION

Student engagement and motivation are influenced by various modes of learning, including classroom, online, and hybrid methods. Traditional face-to-face learning continues to serve as a cornerstone of education, providing direct interaction between students and teachers, immediate feedback, and a structured environment that fosters social learning, supported by best practices that are interactive and holistic in approach (Antarovna, 2024). This mode of learning is particularly effective for hands-on activities, laboratory work, and discussions that benefit from real-time interaction. Student reflections on projects not only suggest strategies for creating diverse methodologies to transform educational practices but also facilitate the development of self-management strategies aimed at enhancing student learning. However, face-to-face learning lacks the flexibility of online and hybrid models and can be less accessible for some students. The integration of digital tools into traditional classrooms and the

adoption of blended approaches may mitigate these limitations, offering a more versatile learning experience.

Online learning has broadened educational access, allowing students to learn from any location and at their own pace. This flexibility is especially advantageous for non-traditional students, such as working professionals and individuals with family responsibilities. Nevertheless, online learning presents challenges, including technical issues, diminished social interaction, and the necessity for strong self-motivation. To address these challenges, educational institutions must invest in reliable technology, provide comprehensive support services, and develop engaging and interactive online content. Additionally, training for instructors in effective online teaching practices is crucial.

Challenges in learning across different methodologies were thoroughly analyzed from the students' perspectives. The overall barriers to learning and development in knowledge acquisition were examined by considering all teaching methodologies. A lack of motivation and cognitive engagement adversely affects student learning. Language barriers are identified as a significant challenge faced by many students, with only a few reporting no barriers to learning. Other barriers highlighted include a lack of interest or motivation, low self-confidence, limited attention spans, learning disabilities, and difficulties in understanding new concepts. Student perceptions of the effectiveness and efficiency of learning are fluid and interconnected with their thoughts and insights. Research findings provide a holistic approach to pedagogy that may enhance effective and efficient learning.

The study's results align with those discussed by Dobakhti (2024), suggesting that a combination of online and offline learning modalities leads to improved educational outcomes. Strategies should be innovative, engaging, interactive, motivating, and aligned with current global trends (Dobakhti, 2024). The research

conversations deepen our understanding of the future of learning, facilitated through innovative technologies that may exceed the expectations of future generations of students. This research study empowers students and educators, configuring a complex understanding of holistic approaches to learning methodologies for an improved educational environment.

The landscape of education has been profoundly reshaped by the integration of hybrid, online, and face-to-face learning modalities. Each of these approaches offers unique advantages and encounters distinct challenges that must be considered to optimize their implementation and effectiveness (Boud & Bearman, 2024). The practical implications of the study suggest that more effective learning methodologies should be developed in the future to meet the expectations and standards of education.

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