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Exploring Teaching Strategies Used by University Instructors to Enhance Student Engagement in Academic Subjects

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Abstract. This study explored the diverse strategies employed by university instructors, highlighting the need for adaptive teaching strategies consistent with constructivist theories to enhance student engagement in academic subjects. Because of the changing educational landscape, university instructors face challenges sustaining continuous student engagement. The study aimed to discover proactive measures that foster and stimulate student engagement, contributing to a more inclusive educational environment. Using a qualitative approach, in-depth face-to-face interviews and open-ended online questionnaires were conducted with 16 university instructors from Malaysia and China. The findings revealed the significant role of flexible teaching strategies in overcoming challenges and provided valuable insights for refining instructional practices to address diverse learning styles and cultural backgrounds. The research underscores the necessity of continuous adaptation and innovation to meet the evolving demands of modern education, guiding instructors to create more dynamic and responsive learning experiences.

Keywords: diverse teaching strategies; quality education; student engagement; university instructors

1. Introduction

Understanding the intricate roles of university instructors is essential for enhancing student engagement across various academic subjects. Instructors are required to do more than convey information; they are integral in encouraging critical thinking, adjusting to varied student demands, and constantly refining their teaching strategies to overcome the challenges of modern education (Merellano-Navarro et al., 2020). This aligns seamlessly with the constructivist theory, emphasizing active student engagement and collaborative problem-solving (Wang, 2022).

Despite the shifting educational landscape, maintaining continuous student engagement remains challenging, particularly in online learning environments (Munna & Kalam, 2021). Variations in students' prior knowledge, experience, motivation levels, and interests pose significant hurdles (Zitha et al., 2023). Insufficient engagement in online learning can hinder educational outcomes and degrade the educational experience (Hollister et al., 2022).

This study explored the diverse teaching strategies used by university instructors and assessed their effectiveness in boosting student engagement with a particular emphasis on cultural diversity, teaching approach, and technology integration. Current research highlights the need to adapt strategies to varied learning styles and cultural backgrounds (Strekalova-Hughes et al., 2021). However, gaps persist in understanding the proactive teaching strategies that enhance engagement and motivation. Further investigation is needed to determine how integrating blended learning approaches can provide a deeper learning experience. Aligned with the United Nations' Sustainable Development Goal 4, this research aimed to promote

inclusive and equitable quality education (United Nations, 2015). University instructors are increasingly encouraged to mentor students, guiding knowledge construction rather than solely dispensing information (Saranya et al., 2022). This shift towards a student-centered approach demands a deeper understanding of various strategies that promote engagement and impact learning outcomes. The widespread use of digital technologies in education presents both opportunities and challenges for engagement (Bond, 2020). Multimedia tools and interactive platforms can enhance learning but require adept integration by instructors. Online learning environments pose unique challenges, necessitating innovative methods to create interactive and engaging virtual classrooms (Gamage et al., 2022).

Instructors must understand and respect diverse cultural variations, integrating these perspectives into the curriculum (Hutchison & McAlister-Shields, 2020). Effective teaching strategies should address the behavioral, emotional, and cognitive dimensions of student engagement (Wong & Liem, 2021). In addition, the digital divide and its implications for equitable access to education must be acknowledged (Kormos & Wisdom, 2023). Not all students have equal access to digital tools and resources, leading to disparities in learning opportunities. Instructors need strategies to bridge this gap and ensure all students engage effectively in both online and traditional learning environments. This research fills a gap in the literature by exploring how instructors adjust their strategies to cater to diverse learning styles and cultural backgrounds.

The key objectives of this study are:

- To identify proactive teaching strategies that enhance engagement, leading to a more inclusive educational environment.
- To offer new insights into blending traditional and online teaching methods, exploring how their integration can create a more enriching learning experience.

2. Literature review

Increasing student engagement in academic subjects is essential because of the diverse needs of students, including varying prior knowledge, learning styles, and cultural backgrounds. Diverse teaching styles are crucial to address these differences effectively. Soghomonyan and Karapetyan (2024) emphasized that adapting teaching strategies is vital in today's rapidly evolving educational landscape. Instructors must use varied teaching strategies to accommodate students' needs and enhance engagement. This requires educators to be equipped with appropriate training and resources.

Blended learning and technology integration have gained prominence, particularly since the COVID-19 pandemic, which accelerated the adoption of digital tools. Blended learning, as noted by Iyer and Jain (2021), combines face-to-face and online instruction, offering flexibility and personalized learning opportunities. The fast pace of technology integration in education has been shown to improve learning outcomes

by providing interactive and engaging content through customized learning (Bhat, 2023). Therefore, instructors are encouraged to leverage these technologies to benefit student learning. Abdullah et al. (2022) discovered that online feedback, future relevance, interaction, online teaching effectiveness and personal well-being had a significant impact on student satisfaction during the period of mandatory remote learning among 480 undergraduate students at private universities in Malaysia.

Furthermore, contemporary education trends emphasize a student-centered approach (Tang, 2023) – when instructors capture and maintain students’ attention through interactive and relevant content, it significantly boosts engagement. This approach aligns with the need for instructors to create dynamic and responsive learning environments that cater to diverse student needs. Hence, combining culturally responsive teaching with innovative technological tools aligns with the constructivist theory. This integration addresses diverse cultural backgrounds and learning preferences, supporting the creation of an adaptive and inclusive learning environment where students can thrive academically (Kieran & Anderson, 2018).

2.1 Theoretical Underpinning

This study is grounded in constructivist theory, which stresses that learning is a continuous process where students build their knowledge based on their experiences. As explained by Saleem et al. (2021) constructivism focuses on how the student should be addressed and guided in such a way that it reflects their existing knowledge and cultural backgrounds.

According to Strelakova-Hughes et al. (2021), integrating students’ cultural backgrounds into teaching strategies is consistent with constructivist principles. This approach recognizes and expands students’ existing knowledge and experiences, resulting in a more inclusive learning environment. Liu et al. (2021) support this further, noting that culturally responsive teaching can result in a more inclusive classroom environment. This approach helps reduce achievement gaps and promotes educational equity by preparing students for a diverse and multicultural society, as outlined by Tanase (2021).

In online learning environments, constructivist principles are reflected in strategies that foster engagement. Berges et al. (2021) recommended using open-ended questions and establishing clear communication rules to foster engagement, which aligns with constructivist approaches that focus on interactive and student-centered learning. Muir et al.’s (2022) work entitled “Using interactive online pedagogical approaches to promote student engagement” demonstrates that multimedia resources and interactive tools significantly enhance engagement, reinforcing the constructivist belief that varied and dynamic learning experiences improve understanding.

The constructivist theory supports the use of technology to enhance student engagement through collaborative and individualized learning experiences. As

noted by Derya Isik (2018), technology, when aligned with constructivist principles, can significantly boost student interest and participation. Carstens et al. (2021) and Christopoulos and Mystakidis (2023) highlighted that gamification and adaptive learning technologies foster motivation and personalized learning. These technologies allowed students to engage actively with content and reflect on their learning processes.

3. Methodology

This research employed a qualitative method, using similar questions for both in-depth face-to-face interviews and open-ended online questionnaires. This method aimed to gain comprehensive insights into the teaching strategies employed by university instructors. Qualitative methods are effective for exploring complex phenomena and providing rich, detailed data (Lanka et al., 2021; Ugwu & Eze, 2023). This approach is particularly suited for educational research where understanding instructors' nuanced experiences and viewpoints is essential.

3.1 Sampling and Participants

A total of 16 participants participated in the study, representing both Malaysia and China. The 16 participants were selected through purposive sampling, with an emphasis solely on university instructors. A deliberate attempt was made to ensure diversity across all aspects, including backgrounds, country of origin, subjects taught, and years of teaching experience. The study employed qualitative methods, with seven participants engaging in face-to-face interviews to facilitate nuanced expressions and eye contact. The remaining nine participants participated in online interviews. This approach ensured a comprehensive exploration of teaching strategies while maintaining a focus on qualitative data collection. Table 1 presents the demographic and professional details of the participants.

Table 1: Demographic and professional details of study participants

Participants	Country of origin	Gender	Subject taught	Years of teaching
P1	China	Female	Software Engineering	2 years
P2	China	Female	Arts and Design	3 years
P3	China	Female	Fine Arts	1 year
P4	China	Female	Ideological and Political Education	15 years
P5	China	Female	Tourism Management	5 years
P6	China	Female	Chinese Literature	10 years
P7	Malaysia	Female	Information Technology	1 year
P8	China	Male	English language	10 years
P9	China	Female	Computer Science	4 years
P10	China	Male	Physical Education	1 year
P11	China	Female	Control Science and Engineering	1 year

P12	China	Male	Military theory	1 year
P13	China	Male	Economics	8 years
P14	China	Male	Civil Engineering	15 years
P15	Malaysia	Female	Psychology	20 years
P16	Malaysia	Female	Business Management	More than 30 years

3.2 Research Instruments

The interviews were conducted using detailed interview protocols, which included well-prepared questions, a structured interview format, and clear interviewer instructions to ensure a systematic and consistent approach. The questions were organized into three sections: cultural diversity, teaching approach, and technology. Table 2 presents details on the research instruments and how validity was ensured.

Table 2: Research instruments and their validity

Question	Description	Development	Validity
Cultural diversity: 1. How do you customize your teaching approaches to accommodate: i) Different learning styles? ii) Various cultures?	Explore how strategies for teaching are tailored to different learning styles and cultural backgrounds.	Content Validity: Reviewed by experts. Improved through pilot testing feedback.	Content Validity: Reviewed by experts. Enhanced by pilot testing feedback.
Teaching approach: 1. What teaching methods do you find to be most effective in engaging and retaining the students' interest in your subject? Why do you say so? 2. How do you stimulate active involvement and interest among your students during class? Please share your experience.	Identify effective approaches to teaching and the justifications for their effectiveness. Gather insights on strategies for enhancing student engagement and interests.	Content Validity: Reviewed by experts. Improved through pilot testing feedback.	Content Validity: Reviewed by experts. Enhanced by pilot testing feedback.
Technology: 1. How do you incorporate technology into your lessons? Please share your experience.	Investigate strategies for integrating technology into learning while acquiring firsthand knowledge.	Content Validity: Reviewed by experts. Improved through pilot testing feedback.	Content Validity: Reviewed by experts. Enhanced by pilot testing feedback.

2. What issues have you encountered when using technology-based initiatives to increase student interest?	Identify the challenges of using technology in the classroom and how it influences student engagement.		
3. Which is more effective in your opinion, online learning or traditional face-to-face? Please provide specific examples or scenarios that have influenced your perspective.	Compare the efficiency of online learning to face-to-face training.		

3.3 Data Collection Methods

This research involved interviewing university instructors from diverse backgrounds, encompassing various countries, subjects instructed, and years of teaching experience to gain a comprehensive understanding. Augmented reality (AR) codes were integrated to enhance participant engagement and data accuracy (Arena et al., 2022). These QR codes were distributed to participants through WhatsApp and WeChat, facilitating easy access to the online questionnaires for the open-ended questions. These questions were designed to capture rich, detailed responses from participants. Both online and face-to-face interviews offered bilingual options in English and Mandarin, ensuring accessibility and inclusivity across participants with different educational backgrounds. This approach allowed all participants to contribute their perspectives comprehensively, ensuring a thorough qualitative analysis of their experiences and insights.

3.4 Confidentiality and Ethical Considerations

Participants' data was used strictly for academic purposes. The study adhered to high ethical standards, ensuring trust, and integrity throughout the research process. This approach is consistent with best practices in qualitative research, as noted by Kang and Hwang (2021). It stresses the integration of various data collection methods, catering to participant preferences and upholding ethical standards. To ensure ethical reliability, all participants were given a written informed consent form outlining the purpose of the study and procedures before the interviews. This adherence to ethical practices and participant-centered approaches ensured the robustness and integrity of the research.

4. Results

4.1 Teaching Strategies and Student Engagement

4.1.1 Adapting teaching approaches to diverse learning styles

The results revealed that all 16 participants recognized and addressed the diverse learning styles within their classrooms. They tailored their teaching strategies by employing various methods, including providing individualized tutoring to students needing extra support, adapting to students' personalities, and integrating research and training plans. Participant 3 noted, *"I adapt my teaching to suit different learning styles and cultures."* Participant 4 highlighted their commitment to accommodating different cognitive levels, stating, *"I adjust my teaching method based on the subject and ensure that my students understand. I tailor my approach to match my students' cognitive level."* Participant 14 emphasized the importance of student-centered learning, saying, *"Student-centered learning improves critical thinking and problem-solving skills."* This reflects a dedication to engaging with students to understand their individual needs. Regarding group activities, Participant 7 shared their view on their effectiveness: *"Group discussions make the classroom lively and engaging, maximizing student enthusiasm and participation, which enhance teaching quality and learning outcomes."* Participant 11 added, *"In group work, they can learn from each other."*

In exploring effective teaching strategies, eight of the 16 participants emphasized the importance of tailoring approaches to diverse learning styles such as using charts and pictures for visual learners, hands-on experiments for physical learners, and engaging discussions for auditory learners. This approach aligns with established educational theories. For instance, Hernández Chérrez and Galora Moya (2018) highlighted that visual aids like charts and images are beneficial in enhancing learning for visual learners by helping them understand and retain information, improving overall comprehension. Similarly, Iyamuremye et al. (2023) identified hands-on experiments as essential for kinesthetic learners, as they engage learners through active, experiential learning. Engaging in discussions benefits auditory learners as learning is significantly influenced by social interaction and cultural context, as noted by Vygotsky in the study by Orim et al. (2023). Participant 7 emphasized, *"Understand students' learning methods, and then use diversified teaching methods to provide differentiated teaching for different types of students."* This perspective underscores the necessity of a flexible approach to address individual learning needs. Furthermore, recent research by Lobo et al. (2024) titled "Is video-conferencing helpful for physical education classes in the new normal? A PLS-SEM analysis adopting the technology acceptance model" indicated that videoconferencing tools can deliver high-quality instructions in real-time, enhancing the learning experience for diverse student groups. Platforms like Zoom positively affect students' perceived ease of use and usefulness, enhancing engagement and resulting in positive learning outcomes. This evidence supports integrating technology with traditional teaching methods to accommodate diverse learning styles and needs.

4.1.2 Adapting teaching strategies to embrace cultural variations

A crucial aspect of teaching is embracing cultural variations (Strekalova-Hughes et al., 2021). Participant 1 noted, *“Students are more engaged when teachers use up-to-date teaching methods that align with current trends.”* Interestingly, among the 16 participants, only participant 10 reported not encountering diverse cultures in her classroom, highlighting that cultural diversity is the norm and necessitates a tailored approach due to its widespread presence.

Insights from the feedback of the 16 participants revealed that recognizing and accepting cultural differences could help instructors enhance the effectiveness of teaching strategies. This involves making relevant comparisons and adjustments to accommodate various cultural perspectives and encouraging students to speak up openly and share their own culture to promote mutual understanding. Participant 6 stated, *“I encourage students to speak up and share their own culture as this will promote mutual understanding.”*

Most of the participants expressed a commitment to a student-centered philosophy. Participant 1 emphasized, *“Using up-to-date teaching methods that align with current trends,”* reflecting an understanding of students’ learning methods and the use of diversified teaching methods. Participant 4 highlighted the importance of *“tailoring effective teaching methods that engage students based on their backgrounds, contributing to a more meaningful and successful learning experience”*. Meanwhile, participant 9 stressed the value of respecting cultural differences and addressing students’ emotional and personal needs, stating, *“I mixed engineering and education, focusing on developing skilled individuals according to local needs and personal differences. I customized training programs designed for specific industries.”*

4.1.3 Effective teaching strategies for student engagement

Responses from the online questionnaire indicated that effective teaching strategies for enhancing student engagement included fostering a positive classroom environment, ensuring subject relevance, integrating real-world applications, and incorporating practical activities tailored to students’ interests. Participant 3 emphasized the importance of engaging content, stating, *“I will introduce topics that resonate with students, such as creating interesting character models inspired by a popular figure like the Avengers.”* This approach underscores the value of imaginative and relevant teaching materials in capturing students’ attention.

Eight participants highlighted the effectiveness of designing and implementing innovative and vivid teaching content to engage students. In addition, participant 5 advocated a student-centered approach, noting, *“I use a student-centered approach, guiding them from basics to in-depth understanding.”* This reflects the importance of interactive, student-centered methods in promoting engagement. Moreover, there was a recommendation from participant 8 regarding the incorporation of ‘game-based learning’ to capture students’ interest and facilitate content retention. He stated, *“The game method is the most effective and attracts students’ interest in my subject”*

because it is intuitive in the teaching process." Participant 11 also emphasized the role of games and activities in sparking enthusiasm for the subject. Supporting this, Nacional, R (2024) found that gamification significantly enhances students' attention spans and self-efficacy, with many students reporting increased engagement and motivation due to gamified learning experiences.

Furthermore, participant 12 stressed the importance of building personal connections with students through conversations about their daily lives, stating, *"Creating a positive impact is crucial for effective communication."* A common observation among the participants was the frequent use of case studies to connect concepts with real-life scenarios, fostering engaged discussions and reinforcing the effectiveness of such methods.

4.1.4 Stimulating active involvement and interest

Participant 3 underscored the value of promoting active learning through debate competitions, stating, *"I promote active learning through debate competitions, encouraging students to discuss current topics to boost their enthusiasm."* This approach not only fosters critical thinking but also provides students with a platform to express their opinions and engage in meaningful discourse. In line with this, Rajanthran et al. (2023) found that service-based learning was the top choice for 77% of participants who preferred service-based learning, highlighting its effectiveness in offering hands-on experience and addressing real-world issues. Similarly, participant 2 proposed an innovative method by integrating documentaries into practical lessons, saying, *"I show documentaries during our practical lessons to explain things better."* This method underscores the significance of diverse and interactive teaching techniques in maintaining student engagement. Moreover, according to Rajanthran et al. (2023), high-quality community-based service-learning leads to improved academic achievement, enhanced problem-solving skills, and positive civic engagement attitudes. More than half of the participants agreed that designing group cooperation tasks promotes discussions and collaboration among students, deepening their understanding of knowledge through team collaboration. Participant 12 proposed a creative strategy involving storytelling, stating, *"I adapt my language and storytelling style accordingly. Understanding their individual preferences is crucial,"* and using real-life success stories as inspiration. Furthermore, participant 12 also mentioned, *"Starting with simpler cases and progressing to more complex ones, I present challenges to students in a step-by-step manner, fostering independent thinking."* This method was recognized as effective in encouraging independent thought.

4.1.5 Technology integration in teaching strategies

While all 16 participants acknowledged the benefits of integrating technology into teaching, they identified common challenges. Noteworthy platforms such as 'Canvas', 'Xiwo', 'School Pass', 'Tencent Meeting', 'Trojan Classroom', and 'Xuedutong' were among the most widely used platforms. Participant 9 highlighted the ongoing struggle to balance technology with traditional methods, cautioning against overreliance on technology at the expense of a human-centric approach. A

significant number of participants pointed out that limited resources is a prevalent issue among instructors. Participant 7 shared that there is a *“lack of sufficient professional and technical knowledge and skills,”* Participant 8 mentioned, *“incomplete courseware downloads,”* and participant15 noted, *“connectivity issues that disrupt the flow of the lesson and frustrate students.”* In addition, three participants highlighted that the impact of technology integration in teaching varied by region. Challenges included virtual private network (VPN) problems, time difference concerns, lack of infrastructure development, limitations in hardware, and financial support in small cities. Participant 9 observed that *“some older teachers may find incorporating technology burdensome in their teaching”*.

The integration of digital technologies in education, including the use of Internet-based tools and innovative technologies, has become essential for the modern learning environment (Haleem et al., 2022). As education embraces technology, there is a growing need for continuous innovation to keep pace with the evolving landscape and to counter challenges such as untimely updating of courseware and teaching management systems, inconsistencies in the display of PC and WEB content, and technical failures and software compatibility problems. These challenges could disrupt the flow of lessons, negatively impacting the learning experience for students.

Recent research by Wu et al. (2023) highlighted the crucial role of school administrators in enhancing the productivity of online learning, particularly regarding adult education programs. The study emphasized the importance of administrators taking proactive measures to address challenges and improve the students' overall online learning experience. A key finding was the significance of prioritizing technological literacy and productivity to increase student engagement and effectiveness in online environments. The finding resonated with the challenges instructors face in integrating technology into their teaching practices, underscoring the vital role of leadership in managing the complexities of online education.

Moreover, Gamage et al. (2022) and Wu et al. (2023) advocated collaborative approaches between decision-makers and scholars to tackle obstacles in adult education management. They highlighted that school leaders could optimize resources by collaborating with other educational institutions or departments to create educational platforms and share digital resources. This collaboration is essential in addressing resource limitations and improving the quality of online education for adult learners. By implementing these strategies, educational institutions can maximize resource impact, ultimately enhancing student achievement and promoting educational equity (Wu et al., 2023).

4.2 Perspectives on Face-to-Face and Online Learning

4.2.1 Face-to-face versus online learning

In comparing online learning and traditional face-to-face methods, none of the participants exclusively favored online learning. However, more than half expressed a preference for traditional face-to-face instruction. As noted by participant 1, *“I prefer*

face-to-face teaching because it allows me to directly see how students are doing.” Participant 4 mentioned, *“I believe face-to-face is more effective as it allows for a better connection with students,”* while Participant 15 highlighted the benefit of *“enabling immediate feedback”*. These comments underlined the value of face-to-face interactions in fostering direct social engagement among students and teachers. Conversely, nearly half (seven participants) favored a blended approach, combining traditional face-to-face and online learning. Participant 12 added, *“While face-to-face allows for direct communication and eye contact, it is essential for conveying new knowledge effectively.”* Similarly, participant 13 observed, *“I integrate both online and face-to-face components. Online learning allows flexibility between in-class and at-home study. Face-to-face interactions are important for emotional connection and eye contact.”* Participant 6 also noted, *“I believe both online learning and face-to-face teaching have their advantages and disadvantages.”* This mixed approach is appreciated for providing a balanced educational experience that leverages the strengths of both methods. This feedback indicated a strong preference for a blended learning approach, reflecting a recognition of the unique advantages offered by both methods.

Recent research by Shanthi et al. (2023) showed a strong link between satisfaction with online distance learning (ODL) and enjoyment with learning devices. Their study found that 75% of students preferred using laptops over mobile devices, finding them more satisfying. While device type did not significantly affect academic grades, happiness with the device correlated with the overall educational experience significantly. This highlights the importance of providing students with effective and satisfying tools that are essential for blended learning that combines online and face-to-face methods. Such an approach not only accommodates diverse learning preferences but also enhances satisfaction and engagement, contributing to a more effective educational experience.

5. Discussion

RQ1: To identify proactive teaching strategies that enhance engagement, leading to a more inclusive educational environment.

It is crucial to employ diverse teaching strategies that align with students’ preferences (Cardino & Cruz, 2020). The results from this survey robustly support the significance of these strategies, highlighting their effectiveness in capturing students’ attention and fostering genuine curiosity for the subject matter. This finding aligns with Smith and Johnson (2023), who emphasize that engaging teaching strategies are essential for meaningful learning experiences. Furthermore, integrating students’ interests and cultural backgrounds into the curriculum enhances personalization and effectiveness (Shemshack & Spector, 2020).

The study revealed that university instructors effectively use a variety of teaching strategies to accommodate students with distinct learning styles and cultural backgrounds. Participants emphasized the significance of tailoring teaching approaches to visual, auditory, and kinesthetic learners and incorporating culturally

relevant content. A clear preference for blending online and face-to-face instruction emerged, highlighting the positive aspects of a blended learning approach.

RQ 2: To offer new insights into blending traditional and online teaching methods and explore how their integration can create a more enriching learning experience.

These results indicated that a flexible and inclusive teaching strategy greatly enhances student engagement and learning outcomes. Instructors can more effectively fulfill the students' needs and foster a more engaging learning environment by adjusting teaching approaches to different learning styles and cultural settings. This interpretation aligns with Kokoç (2019), who highlighted the positive impact of flexibility in teaching for behavioral engagement and academic performance. The lack of reported difficulties conveys that with adequate training and resources instructors can effectively implement these strategies.

The findings highlight the value of diverse teaching strategies and blended learning environments in improving educational performance. By incorporating students' interests and cultural backgrounds, instructors could create a more personalized and efficient learning experience. This adds to the body of research by illustrating how adaptable teaching methods support diversity and equity, as noted by Gonzalez and Rodriguez (2023). The findings are also consistent with Mohd Basar et al. (2021), who argue for a balanced approach to education that leverages both online and face-to-face methods to maximize student engagement and learning.

6. Limitations and Recommendations

One limitation of this study is the lack of reported challenges in using diverse teaching strategies, which may not fully capture the complexities instructors face. In addition, regional differences in technology access and infrastructure could impact the effectiveness of online and blended learning approaches. Future research should explore these challenges in greater depth and examine the influence of specific technological and cultural contexts on teaching effectiveness.

Despite these limitations, the findings remain valid as they highlight the positive impact of diverse and blended teaching strategies. To address these limitations, it is recommended that further studies investigate the challenges instructors face in implementing diverse teaching strategies and integrating technology. Providing targeted training and resources for instructors can also help overcome these challenges and enhance the effectiveness of teaching practices. Collaborative approaches between educational institutions and technology providers could further support the development of effective and inclusive learning environments.

As such, recognizing and addressing the challenges and opportunities associated with both online and face-to-face learning can help create a more successful and diverse educational experience. Blended learning environments that combine the flexibility of online learning with the interactive aspects of face-to-face education can

enhance academic performance and prepare students for the modern digital world (Kacetl & Semradova, 2020).

7. Conclusion

The study explored the evolving nature of teaching strategies in response to diverse student needs. The study emphasizes the significance of adapting approaches to accommodate diverse learning styles and cultural variations, underscoring the importance of flexibility and responsiveness in education. The findings underscore the need for a blend of traditional and innovative approaches for optimal results. Haleem et al. (2022) claimed that technological integration is essential for personalizing learning and improving the overall learning experience. However, instructors need to receive proper support and instruction to overcome the hurdles of technology adoption (Wilson et al., 2020). This study also revealed that university instructors' capacity to tailor teaching methods indicates their strong understanding and adaptability, which are vital for fostering inclusive and equal learning environments. Moreover, the preference for a blended approach, which combines traditional face-to-face with online learning, could enrich educational experiences and equip students for the digital era (Öncü & Bichelmeyer, 2021). This approach not only accommodates diverse learning styles but also addresses the changing needs of the educational landscape. In summary, the key takeaways from this study include the importance of encouraging the use of diverse teaching strategies, that instructors and learners must adapt to the use of technological advancements, and that a combination of online and face-to-face teaching is highly beneficial. For the advancement, it is crucial for further investigation and professional development for instructors to ensure they have the knowledge and resources needed to conduct a proper implementation of significant and innovative teaching strategies. If we focus on these aspects, we will be able to develop and create better learning processes for all students.

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