THE FUTURE OF CATION

IN THE DIGITAL ERA

Tech Integration: A Catalyst or Barrier to Education?



R O D U T

As technology continues to develop at an unprecedented pace, it has transformed every aspect of our lives, including the field of education.

In today's digital era, technology has become an integral part of education, changing the way knowledge is imparted and acquired. From web search engines to online learning platforms and video conferencing software, technology has revolutionized the traditional learning way, making learning more accessible, interactive, and engaging.

While technology has brought benefits to the education sector, it is important to acknowledge that it also comes with its own set of **challenges**. The existing shortcomings of technology should be taken into consideration to improve student learning experiences and environments in the digital age.



Message from the Editors

Dear Educators Around the World,

Welcome to our magazine entitled "The Future of Education in Digital Life", where we will explore the fascinating world of technology integration in education!

Our publication offers valuable insights for educators around the world, particularly tertiary teachers, about the advantages and disadvantages of incorporating technology into the education sector. We will also provide practical solutions to address the challenges and limitations of technology, transforming it into a powerful tool that can enhance teaching in order to accelerate student learning.

Join us on this exciting journey of discovery and innovation as we explore the trends and developments in educational technology now and in the future!

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DIGITAL DIVIDE



MITIGATING
DIGITAL DIVIDE:
EDUCATORS AS
ARCHITECTS OF INCLUSIVE
EDUCATION

LEE, EUNSEO

"This chapter explores the innovative strategies employed by educators globally to bridge this digital gap, with a keen focus on the role educators play in shaping a more inclusive educational environment."

Navigating Inequity in the Digital Age:

O1 Blended Learning:Striking a Balance

O2 Community
Engagement: The
Power of Collaboration

Digital Literacy

Introduction

he COVID-19 pandemic brought about unprecedented challenges in education. Pandemic forced an abrupt shift to online learning as schools around the world closed their physical doors, revealing how unprepared many educational systems were. This global issue is not confined to a specific region or socioeconomic class; it is a challenge that educators worldwide are grappling with.





In an era defined by technological leaps and information access, educators find themselves at the forefront of unprecedented challenge- mitigating the digital divide. Digital divide refers unequal access and use information communication and technologies, particularly the internet, among different individuals, communities, or populations (Liu, 2021). As classrooms increasingly digitised, become disparity in access to technology among students around the world poses a significant hurdle to equitable education.

This chapter explores the **innovative strategies** employed by educators globally to bridge this digital gap, with a keen focus on the role educators play in **shaping a** more inclusive educational environment.

Impact of COVID-19 pandemic on education



Shift to remote learning

The most immediate and widespread impact was the shift from traditional inperson classroom instruction to online learning. Schools had to quickly adapt to digital platforms to continue education during lockdowns and social distancing measures.



Educational Inequality

The move to remote learning highlighted educational inequalities. Students from low-income families or marginalised communities faced greater challenges in accessing education, receiving support, and adapting to the online learning system.



Limited

Internet Connectivity

In many regions, particularly rural and underserved areas, access to reliable internet connectivity remains a significant challenge. Students in these areas faced difficulties attending online classes, accessing educational resources, and participating in virtual learning environments (Liu, 2021).

Roles of educators in mitigating digital divide

Educators, being the architects of the learning experience, are on the front lines of the battle digital against the divide. their conventional Beyond teaching duties, they take on the roles of activists, technologists, or even community builders. They forth endless effort to put that all quarantee students, of regardless their digital circumstances, have access to high-quality education.





They face the delicate task of ensuring that all students, regardless of socioeconomic background, can fully participate in the digital learning landscape. responsibility requires creativity, commitment, and adaptability to an inclusive foster learning environment.

Blended Learning: Striking a Balance

lended learning, often described as a pedagogical model that combines face-to-face

with digital instruction tools resources, has emerged as a powerful approach in addressing the digital divide. combining traditional Ву teaching methods with digital tools, educators create a balanced learning environment. This approach acknowledges that not all students have equal access to technology but seeks to leverage it where possible to enhance the learning experience (Picciano et al., 2013).



Assessment of digital needs:

Educators can begin by assessing the digital needs of their students. They can identify those who may lack access to devices or the internet and work collaboratively with school administrators and community organisations to address these gaps.

Professional development:

5

Professional development opportunities can be invested for educators to enhance their digital teaching skills. This may include training on the effective use of online platforms, creating engaging digital content, and strategies for managing blended classrooms.

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Community Engagement: The Power of Collaboration

nα



Addressing the digital divide often requires collaboration beyond the classroom. Educators can actively engage with local communities, NGOs, and businesses to create holistic solutions. For instance, establishing community learning hubs can be a proactive initiative that transforms local spaces, such as libraries or community centres into centres equipped with digital resources. These hubs can provide students with a conducive environment to use digital gadgets, the internet, and instructional resources.



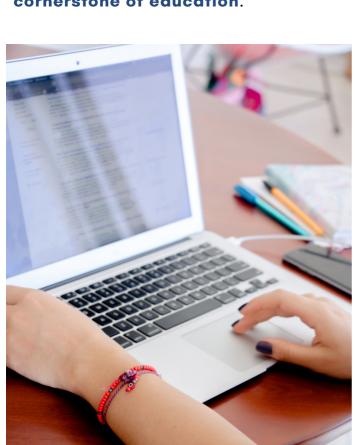
Moreover, educators forge can partnerships with local businesses to secure donations of digital devices or sponsorships for internet connectivity. By tapping into the resources within the community, educators create a network of support that directly addresses technological needs of students. For instance, in rural areas of South Korea, educators collaborated with local farmers' cooperatives and businesses to establish community learning centres. These centres, equipped with high-speed internet and donated devices, not only acted as hubs for students but also provided adult community members with access to online job training courses (Hwang & Seo, 2021).

In an urban environment marked by economic inequality, educators can collaborate with nearby tech companies to initiate a program that distributes children in need with donated laptops. They can also conduct digital literacy workshops for parents, effect of ripple creating а technological empowerment throughout the community (US Department of Education, 2017).



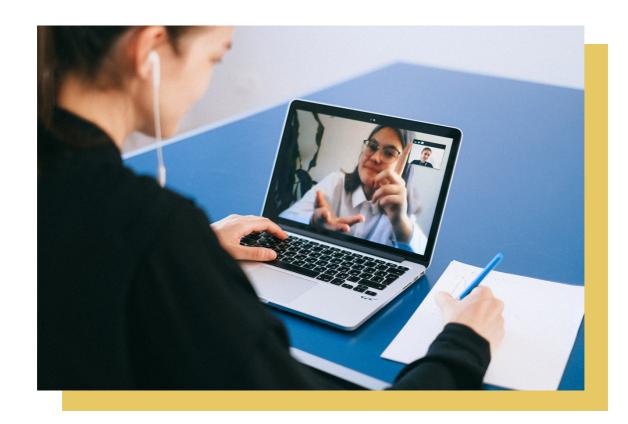
Empowering Through Digital Literacy

Educators are not only teaching their subjects but are also imparting crucial digital literacy skills, which is the ability to use digital devices, communication tools, and technology to access, generate, and convey information effectively and responsibly (Law et al., 2018). In an age where information is at our fingertips, digital literacy is a cornerstone of education.





Due to the closure of schools and the transition to online learning, students needed to be digitally literate to access and interact with their course materials. Digital literacy skills were crucial for students to operate digital gadgets, browse online platforms, and effectively communicate virtual classrooms. Lockdowns and social distancing measures led people to rely increasingly on internet sources for news and updates regarding the pandemic. Therefore, the ability to assess internet information sources critically and distinguish between unreliable credible and content became paramount.



Digital literacy education encompasses a range of skills, including online research. critical evaluation digital content, and understanding related to issues privacy security. By empowering students with these skills, educators contribute to closing the digital divide by preparing informed them for and active participation in the digital age.





However, rather than presenting digital literacy as а standalone subject, often educators create engaging learning modules that allow students to apply digital skills in real-world scenarios. These modules often involve collaborative projects, online research, and multimedia presentations, fostering a hands-on approach to digital literacy (Rafi et al., 2019).

Conclusion

As teachers navigate the digital frontier, they are not just educators; they are architects of a more inclusive future. The strategies employed by educators globally to mitigate the digital divide highlight their resilience, creativity, and dedication to ensuring that every student has the opportunity to thrive in the digital age.





In the hands of these committed educators, technology can become a tool for empowerment rather than a source of division. As they continue to navigate the complexities of the digital age, they are not just closing the digital divide; they are building bridges to a more equitable and inclusive future for education worldwide.

Bridging the digital divide and promoting digital literacy is essential for ensuring that all students have equitable access to education and are equipped with the skills to thrive in a digital society.

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REMOTE LEARNING



NAVIGATING THE FUTURE
OF EDUCATION: EMBRACING
THE REALM OF REMOTE
LEARNING

O1 Flexible and Convenient

NG, CHING YIN ALVIN

"In this digital age, we must embrace remote learning. It is a revolution in the way we accept information, breaking down geographical constraints and inspiring minds to reach new heights

O2 Personalized
Pace of Learning

O3 Personalized
Pace of Learning

Introduction

the wake of the COVID-19 educators found pandemic, themselves at the forefront of a revolution, where learning became more important than ever before. The sudden move from traditional classrooms to virtual platforms highlighted the need for a paradigm shift in teaching methods. This chapter will address both the benefits and challenges posed by remote learning.



What is remote learning

Remote learning is the delivery of course materials through digital platforms and the internet, offering a flexible and accessible educational experience (Saidi et al., 2021). It is crucial to recognize the existence of two distinct categories of remote learning: synchronous and asynchronous learning.

Synchronous learning

It is when 2 or more participants interact simultaneously (Motycka et al., 2013). Students will participate in scheduled virtual classrooms akin to traditional classrooms. (Scheiderer, 2022)

Asynchronous learning

It allows for communication over a period of time (Motycka et al., 2013). Allowing students to learn at their own pace (Scheiderer, 2022).

Benefits of remote learning

Remote learning has significantly transformed the teaching landscape by introducing a flexible learning style that allows educators to tailor their methods to match the teachina different needs of their students (Gillis & Krull, 2020). Teachers may now develop and deliver classes that cater to diverse learning styles, using resources such pre-recorded as lectures, interactive assignments, and virtual discussions, thanks to transition to remote platforms.

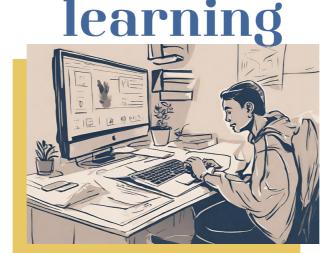




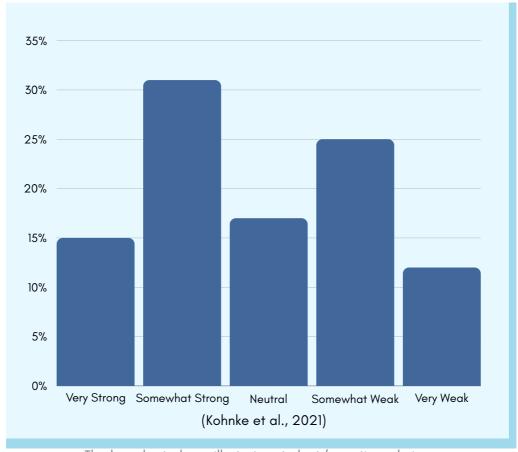
This also extends to how students engage with content at their own pace. Students can work through materials independently with asynchronous learning components, allowing them to delve deeper into challenging subjects move swiftly through familiar subjects (Gillis & Krull, 2020). This individualized pace accounts differences in comprehension learning preferences, leading to a more personalized educational experience. This independence not only fosters a responsibility, of sense encourages self-directed learning, a valuable skill that extends beyond the virtual classroom

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Challenges of remote

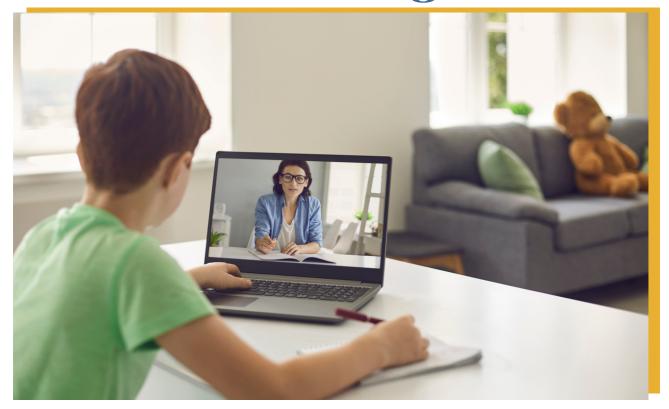


One of the major challenges that educators face in the realm of remote learning is the decrease in peer interaction among students (Gillis & Krull, 2020; Kohnke et al., 2021). Due to the physical distance that comes with online education, there will be a lack of face-to-face communication and collaborative tasks that are essential in a typical classroom context. Furthermore, the lack of casual interactions may hinder the development of social skills, teamwork, and a sense of community among students.



The bar chart above illustrates students' emotions during remote learning, as shown by a study from Kohnke et al. (2021), which shows that at least 46% of participating students felt lonely.

Challenges of remote learning



n addition, educators who conduct remote learning must deal with the inherent problems caused by technology, which can have a substantial impact on the effectiveness of remote learning. Issues such as unreliable internet connectivity (Gillis & Krull, 2020; Khlaif et al., 2021), inexperience with technology (Khlaif et al., 2021; Kohnke et al., 2021), and software glitches can all disrupt the flow of classes and reduce student engagement. These technological barriers may create disparities in students' access to educational resources, disadvantaging those with limited technology at their disposal, such as racial minorities, lowincome individuals, and rural residents (Gillis & Krull, 2020; Khlaif et al., 2021).

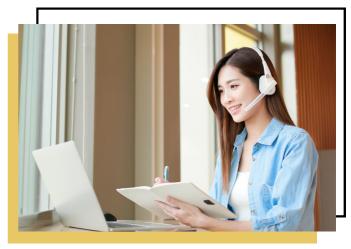


Internet Issues

More than 50% of students encountered at least occasional internet problems (Gillis & Krull, 2020)

Enhancing remote learning

n order to enhance remote learning, appropriate adopting an mix synchronous and asynchronous approaches can significantly enhance the educational al., experience (Kohnke et 2021). Synchronous elements, such as live video lectures and real-time discussions, allow educators to engage students in real-time interaction and participation, promoting a feeling of connection and community. These live sessions enable educators to gauge student reactions in real time and immediate provide explanations problems.

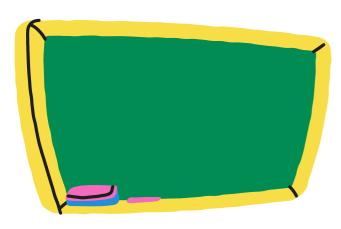




On the other hand, incorporating asynchronous elements, such as prerecorded lectures, discussion forums, and self-paced assignments, offers flexibility to students with varying schedules and learning preferences. This asynchronous approach allows students to continue learning at their own pace, encouraging greater autonomy and self-directed learning (Northey et al., 2015).

Recommended Technologies

There are several technologies available for remote learning, ranging from video conferencing to various learning management systems. According to a study by Saidi et al (2021), the following are three of the most preferred tools.



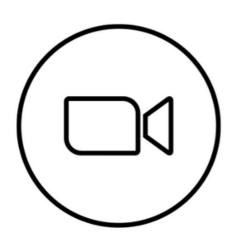
Google Classroom

Google Classroom, a Learning Management System by Google, empowers teachers to distribute assignments, grade work, and share materials. Simplifying virtual classroom administration, it enhances the overall remote learning experience.



Google Meet

Google Meet, a video conferencing platform by Google, offers features like screen sharing and real-time captions. Integrated with Google Classroom, it provides a seamless environment for remote learning.



Zoom

Zoom, a widely used video conferencing platform, facilitates virtual meetings, webinars, and collaborative sessions. Recognized for its user-friendly interface and versatile features like breakout rooms and virtual backgrounds, Zoom has become a key tool for remote learning and connecting people in real-time across different locations.

Conclusion



Only by navigating the nuances of remote learning can it be developed into an effective and inclusive educational model for the future.

As we look back on this chapter, various aspects of remote learning have been explored. While remote learning is highly flexible, it also presents unique challenges, such as the lack of face-to-face interactions between peers. Educators need to adopt a creative and innovative approach to engage students and foster a sense of community in the virtual classroom. In addition, educators must leverage the benefits while also considering the inherent challenges of remote learning. Overall, while remote learning is not without its challenges, it has the potential to revolutionize education and provide new opportunities for learners and educators alike.

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GAME-BASED LEARNING



WHY EDUCATORS SHOULD
USE GAME-BASED
LEARNING

O1 Elevate student's engagement

HARSH KEWALRAMANI

"For years, education has been taught using the same teaching style. I believe a transition is needed to inspire students to actively engage in learning. Game-based learning has the potential to elevate the student learning experience."

Promotes spontaneous thinking

O3 Increases in cognitive development

Introduction

he advancements in technology have provided educators with an opportunity to optimize the student learning experience. A majority of students often show a disinterest in education due to its perceived dullness. However, the introduction of game-based learning can effectively create a more "engaging and immersive" environment (Pitarch, 2018).



What is Game-Based Learning

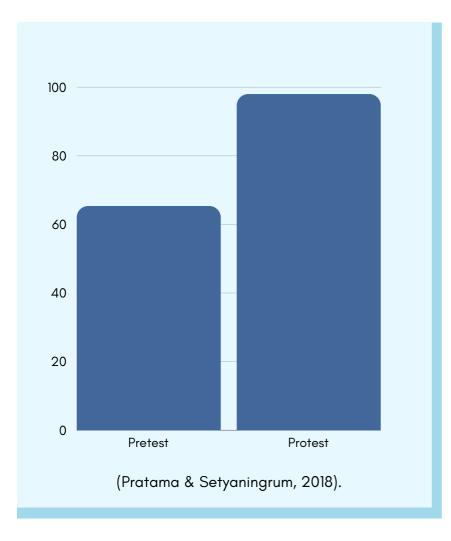


he fundamental concept behind game-based learning is to extract the engaging elements of games and implement it to the education process. By doing so, teachers are able to retain students' attention for longer while making education more exciting. The understanding is that when students are enthusiastic about learning, they are more likely to acquire knowledge (Pitarch, 2018).

What does Game-Based Learning Offer

ame-based learning promotes a highly engaging learning style that positively impacts students, building their enthusiasm for learning. The implementation of game-based learning, their attitudes can be transformed due to the introduction of a new teaching style. Game-based learning's most impactful quality is to boost student engagement.





A study conducted by L.D. Pratama and W. Setyaningrum quantified the benefits of game-based learning in high school setting. researchers implemented gamebased learning and analyzed students' interest in the new system. To measure interest, a survey was conducted to the students, and scores were calculated on a scale of 5 to 125. A score of 5 represented least interest, while indicated the highest. The data on the left further showcases how students' interest increased significantly, with the average score rising from 65.36 to 98 (Pratama & Setyaningrum, 2018).



The findings demonstrated a substantial improvement in students' interest in learning, and all students achieved a minimum interest score of 64.98, compared to the previous score below 44.9 (Pratama & Setyaningrum, 2018).

Game-based learning also helps promote spontaneous thinking, as students are frequently challenged to think quickly. Spontaneous thinking is highly valued by employers, as it demonstrates the ability to adapt to dynamic situations (Al-Azawi et al., 2016).

The improvement of cognitive development not only develops knowledge acquisition but also equips students with the necessary skills to tackle complex problems in an everchanging world, paving the way for a promising future





Moreover, it can generate a "positive effect on cognitive development", which is a benefit that traditional learning methods have often struggled to provide to students without deviating from the syllabus (Al-Azawi et al., 2016; Pratama & Setyaningrum, 2018).

Overcoming Challenges

In most scenarios game-based learning can be effective however, it may act as a barrier to learning in certain cases. For instance, students with a sustained interest in the subject may find that game-based learning offers very little and may distract them from their learning experience. Hence, game-based learning should be utilized when students experience a lack of interest in a particular subject (Cojocariua & Boghiana, 2014).





Game-based learning has proven to provide a variety of benefits to educators. It is important to consider any potential drawbacks game based learning may cause. One of the main issues is the elimination of classroom interaction. Game-based learning will limit the amount of presentations, debates, experiments and more. Thus it is important for teachers to balance the amount of game based learning used in the classroom (Cojocariua & Boghiana, 2014; Setyaningrum et al., 2018).

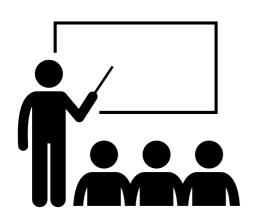
How can teachers implement game-based learning

There are many ways a teacher can integrate game-based learning into their teaching. Below are the three of the most common ways teachers can implement game-based learning.



Game-Based Homework

Teachers can assign game-based style homework to students. This will be completed outside of lesson time. This approach allows teachers to uphold a traditional learning style in the classroom but also incorporates an engaging revision outside of class.



In The Classroom

Game-Based learning can directly be implemented into classroom exercises. For instance teachers assign games while teaching new concepts, revising or even in assessments.



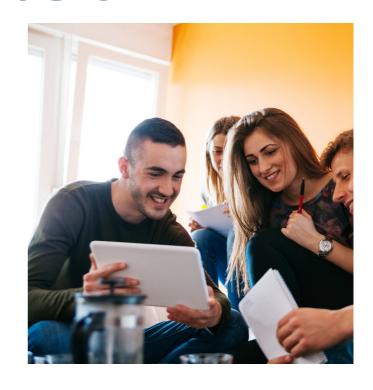
Student Creation

Teachers can empower students by assigning them the task of creating a game that aligns with the lesson plans. An effective approach is to allow students to design their own quizzes to test their classmates' knowledge. This not only provides an opportunity for classmates to review and reinforce their understanding but also encourages the student to reflect on their own knowledge as they design the quiz (Nicola Whitton, 2012).

Teachers must assign meaningful games to students. While games undoubtedly increase student engagement, the primary objective is for students to learn. Therefore, teachers must ensure any game-based activity they assign is within their syllabus. By doing so, they can effectively integrate game-based learning into the curriculum and ensure students are learning in an exciting manner

Conclusion

To evaluate game-based learning offers unique way to bring education to students. It offers a more engaging way to retain student's attention while ensuring learning is being conducted. Teachers should take in consideration the circumstances in which game-based learning can have a meaningful impact on their classrooms.



When appropriately implemented, game-based learning can effectively complement traditional teaching methods, creating a more engaging and enjoyable learning environment for both teachers and students alike.

This chapter has emphasized the importance of game-based learning in the 21st century. Teachers are aware of the various benefits game-based learning can provide and methods to implement game-based learning into a successful education system.



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LEARNING ANALYTICS AND MOOCS



ADDRESSING MOOC LOW COMPLETION RATES: HOW CAN INSTRUCTORS MAKE A CHANGE?

FU, SUEN MAN

"With the concern of low completion rates in MOOCs, this chapter will provide practical solutions to MOOC educators and instructors on how to enhance the MOOC learning environment and experience of students."

Practical Solutions can be mainly classified into three parts:

O1 Instructor's
Performance in
Instructional Videos

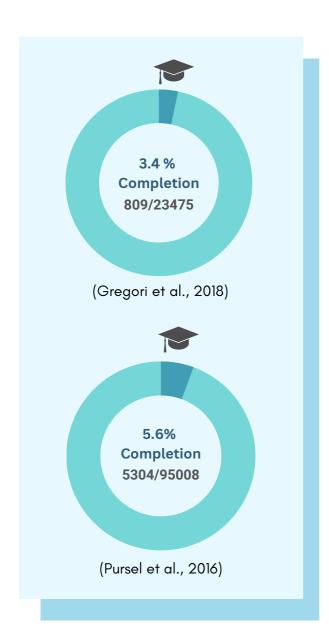
O2 Interaction and Feedback from Peers and Instructors

O3 Course Content and Course Assessment

Introduction

he rapid development of technology has led to the widespread popularity of MOOCs as alternative modes of student learning. This trend is driven by the highly flexible, accessible, and affordable nature of these platforms, which cater to the needs of students in higher education who seek to expand their knowledge base.





While MOOC courses offer numerous benefits to students learning, a persistent issue has been discovered in practically every MOOC, whereby **over 90%** of the registered participants drop the course midway through.

With this concern in mind, the main objective of this chapter is to provide practical solutions to MOOC educators and instructors on how to enhance the learning environment and experiences of students, which can lead to an ultimate increase in student completion rates.

The pie charts on the left illustrate the completion rates of students in the MOOCs, as shown by the studies of Gregori et al. (2018) and Pursel et al. (2016), which respectively account for merely 3.4% and 5.6% (less than 10%) of the total registered students.



Several studies have explored the factors that contribute to the low completion rates of MOOC courses. The primary reasons stem from the limited interactions and feedback from both peers and instructors, as well as the absence of motivation and engagement to continue taking the course.





To address these shortcomings of MOOCs, this chapter will provide actionable strategies to MOOC instructors, which are organized into three major parts: the instructor's performance in instructional videos, interaction and feedback from peers and instructors, and course content and course assessment.

03

he performance of instructors in instructional videos is a crucial factor that significantly impacts students satisfaction with the course and, consequently, their likelihood to complete the course. On MOOC platforms, students show a strong preference for videos that feature instructors' images (Hew et al., 2020), and they exhibit higher levels of contentment and willingness to continue course when the instructors demonstrate a greater level of expertise, effective communication, enthusiasm, and passion while teaching (Du, 2023).



Instructor's Performance

in Instructional Videos

Additionally, the study conducted by Hew et al. (2020) has yielded insightful research findings regarding the instructors' performances that can hinder the quality and delivery of MOOCs. teaching in These performances have been identified as key factors that can diminish student engagement and interest in continuing the course. Specifically, the frequently mentioned most negative performances include:

- Merely reading information from PowerPoint slides
- Speaking in a monotonous and unclear tone
- Providing definitions and examples that are difficult to comprehend
- Lacking eye contact, body language, and facial expressions in their teaching.

SOLUTIONS to PROBLEMS

In order to enhance student completion in MOOCs, instructors can make certain modifications to their performance when delivering the course content to the students.



Simplify Concepts

Instructors can opt to simplify complex concepts by providing simple definitions, analogies, metaphors, and real-life examples for students to grasp and understand easily.



Enthusiasm & Humor

Instructors can endeavor to project enthusiasm and humor in their presentations through cues such as smiles, eye contact, hand gestures, modulation of pace and tone, and the sharing of humorous anecdotes.



Establish Connection

Instructors can connect the concepts to the real world and elucidate the importance of learning the knowledge.

These modifications in teaching performance can effectively increase student engagement and satisfaction and result in a better learning experience for students.

Interaction and Feedback from Peers and Instructors



You have done great work!

I am looking forward to
your next masterpiece.





If you have encountered any problems with your homework, don't hesitate to ask me for help!

he provision of interaction and feedback from both peers and instructors is an effective approach to increasing student engagement and participation by fostering a sense of presence.

Instructors' active presence in feedback providing to course assessments, responding to students' inquiries and comments, encouraging social interaction among students, and motivating them to continue learning are common attributes that been discovered have highcompletion MOOCs (Gregori et al., 2018; Du, 2023).

Additionally, personalized email interventions by MOOC instructors, reminding students who did not participate in a certain quiz, have a considerable impact on student commitment in subsequent and final quizzes (Kurtz, 2022).

forums provide Moreover, platform for students and instructors to share ideas and experiences, thereby creating a community that can motivate students to become more involved and learn more (Dhorne, 2017; Pursel et al., 2016).



To enhance student-and-student and student-and-instructor interaction in MOOCs, instructors can implement practical measures.



Frequently Asked Questions

Given the large number of students enrolled in MOOC courses, instructors can compile a comprehensive list of frequently asked questions about the topic and provide complete answers to each to reduce the frequency of responding to repetitive inquiries



Periodic Live Streams

Instructors can organize periodic live streams to answer student questions or elaborate on assessment solutions, which can be recorded and made available for playback to cater to the diverse needs of the students.



Quotes & Stories

Instructors can incorporate inspirational quotes or motivating stories in posts or embed them in instructional videos.

These actions can help foster a more dynamic and interactive learning environment that promotes student engagement and success.

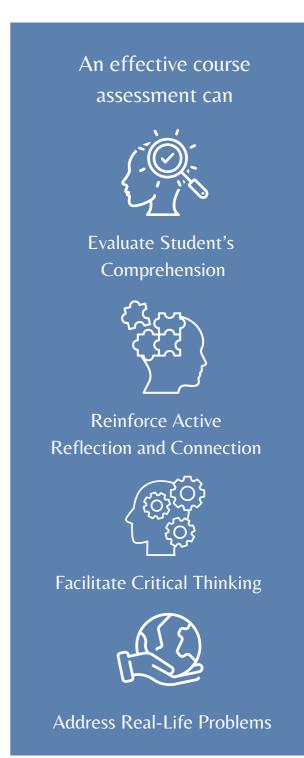
Course Content and Course Assessment



OOC course content is a contributing factor that determines students extent of understanding. Course length and course load have negative correlation with student completion rates (Du, 2023). Students are more likely to withdraw from the course as the length of the video content increases (Jordan, 2015). Moreover, the video in the range of 6 to 20 minutes is discovered to lead to higher engagement and satisfaction (Langerstrom, 2015).



esides, MOOC course assessments are crucial not only for evaluating students' comprehension but also for reinforcing the active reflection and connection of various pieces of knowledge acquired throughout the course. Hence, a well-designed course assessment can be a powerful approach to enhancing student performance. Effective course assessment should be designed with clear instructions, be closely aligned with the course content, and facilitate students critical thinking and application skills (Hew et al., 2020). In addition, course assessments should not solely evaluate students' ability to recall but should also concepts provide opportunities to apply knowledge address real-life problems (Du, 2023), as students tend to learn more effectively through practical application than through listening or reading (Pursel et al., 2016).





MOOC instructors can take into account the recommendations discussed above to design effective course content and assessments that promote student understanding of the course.

Conclusion

o generalize what has been discussed, the low completion rates have been the most concerning challenge in the MOOC environment. Therefore, it is imperative to discover practical solutions to address this issue and encourage students to pursue their educational goals.



This chapter has proposed multiple actionable measures that MOOC instructors can implement to increase student engagement and interest in the course.

The proposed solutions are categorized into three main parts:



Instructor's Performance

suggests instructors demonstrate a passion and enthusiam for teaching



Interaction and Feedback

encourage instructors to promote student-to-student and student-to-instructors interaction



Course Content and Course Assessment

provides guidance and directions for instructors in designing the course material

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The images and graphics are all retrieved from Canva: https://www.canva.com/

CONCLUSION

The future of education in the digital era promises a transformative and dynamic landscape that holds immense potential for both educators and learners. As we navigate the uncharted territories of technology integration in education, it is evident that the traditional boundaries of classrooms are expanding, making room for **innovative pedagogies and personalised learning experiences**.

In essence, the future of education in the digital era places educators at the heart of innovation. Collaboration, a student-centered approach, and a commitment to lifelong learning are necessary to embrace this future. By harnessing the power of technology while maintaining a focus on pedagogical excellence, educators will undoubtedly pave the way for a more vibrant, adaptable, and student-centric education system that prepares learners for the challenges and opportunities of the 21st century.

