ISSN: 1817-6798 (Print)
Journal of Tikrit University for Humanities
available online at: www.jtuh.org/
JTUH
مجلة جامعة تكريت للعلوم الانسانية
Journal of Tikrit University for Humanities
كليـــة التربية للعلوم الانسانية
College of Education for Human Sciences

"Effective Strategies for Teaching Online: Lessons Learned from the COVID-19 Pandemic"

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Keywords:
Teaching via the Internet.
Student participation,
information and capabilities.
The digital divide.

A R T I C L E I N F O

Article history:

Received	7 May 2023
Received in revised form	20 May 2023
Accepted	27 July 2023
Final Proofreading	22 Sept 2023
Available online	30 Sept 2023

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A B S T R A C T

Globally, due to the COVID-19 pandemic, higher education institutions have predominantly shifted to online instruction. This sudden transition presented significant challenges, as teachers had to swiftly adapt to new technologies and methodologies to ensure effective teaching and learning. This research investigates how teachers addressed the pandemic and identify effective strategies for online instruction. The research employed qualitative methods, conducting interviews with twenty teachers from various higher education institutions to collect data. Through thematic analysis of the gathered data, the findings emphasize the importance of combining pedagogical approaches, technological resources, and supportive institutional frameworks for successful online education. Teachers need to demonstrate adaptability, creativity, and attentiveness to students' needs to achieve positive outcomes. Drawing from the research's findings, recommendations are provided for teachers and higher education institutions to enhance online teaching practices both during and beyond the pandemic. This research contributes to the existing body of literature by sharing insights into effective online instruction during COVID-19 and proposing measures to elevate the quality of online education.

DOI: http://doi.org/10.25130/jtuh.30.9.2.2023.25

Journal of Tikrit University for Humanities Journal of Tikrit University for Humanities Journal of Tikrit University for Humanities Journal of Tikrit University for Humanities Journal of Tikrit University for Humanities

"استراتيجيات فعالة للتدريس عبر الإنترنت: الدروس المستفادة من جائحة كوفيد-19"

خلف خالد عبد الحميد/ مديرية تربية صلاح الدين

الخلاصة:

على الصعيد العالمي، بسبب جائحة COVID-19، تحولت مؤسسات التعليم العالي في الغالب إلى التعليم عبر الإنترنت. قدم هذا التحول المفاجئ تحديات كبيرة حيث كان على المعلمين التكيف بسرعة مع التقنيات والمنهجيات الجديدة لضمان التدريس والتعلم الفعال. يبحث هذا البحث في كيفية تعامل المعلمين مع الوباء وتحديد الاستراتيجيات الفعالة للتعليم عبر الإنترنت. استخدم البحث أساليب نوعية، حيث أجرى

مقابلات مع عشرين معلمًا من مختلف مؤسسات التعليم العالي لجمع البيانات. من خلال التحليل الموضوعي للبيانات التي تم جمعها، تؤكد النتائج على أهمية الجمع بين المناهج التربوية والموارد التكنولوجية والأطر المؤسسية الداعمة للتعليم الناجح عبر الإنترنت. يحتاج المعلمون إلى إظهار القدرة على التكيف والإبداع والاهتمام باحتياجات الطلاب لتحقيق نتائج إيجابية. بالاعتماد على نتائج البحث، يتم تقديم توصيات للمعلمين ومؤسسات التعليم العالي لتعزيز ممارسات التدريس عبر الإنترنت أثناء وبعد الوباء. يساهم هذا البحث في مجموعة الأدبيات الحالية من خلال مشاركة الأفكار حول التعليمات الفعالة عبر الإنترنت أثناء COVID-19 واقتراح تدابير لرفع جودة التعليم عبر الإنترنت.

الكلمات المفتاحية: التدريس عبر الانترنيت، مشاركة الطلاب، المعلومات والقدرات، الفجوة الرقمية.

Introduction

The COVID-19 pandemic has presented the field of education with hitherto unheard-of difficulties, pushing educators to quickly switch from conventional face-to-face training to online teaching. This dramatic change has brought attention to the value of efficient online teaching techniques and given educators the chance to evaluate their current methods and make the required adjustments. It is critical to find and share effective online teaching practices as institutions of higher learning around the world continue to deal with the pandemic and its effects. In addition to evaluating the lessons learned from the COVID-19 outbreak, this research presents empirically supported recommendations for effective ways of online training. By merging current research and relying on educators' experiences, this research aims to provide a comprehensive guide for instructors who are new to online teaching or trying to enhance their present abilities. Finally, this research wants to contribute to the current discourse about the future of education by providing useful recommendations for instructors dealing with the challenges of teaching in a rapidly changing digital world.

Background and Context of the Research

As a result of the COVID-19 pandemic, higher education has been disrupted throughout the world, causing institutions to hastily switch from in-person to online instruction to maintain the quality of instruction. (Hodges et al., 2020). This abrupt transformation has presented considerable hurdles for educators who weren't entirely equipped to teach in an online context. (Means et al.,

2020). The shift to online education has made it clear that there is a need for efficient online teaching methods that encourage student involvement and academic success. (Garrison & Vaughan, 2008)

Although there is a growing amount of research on online education, most of it has concentrated on asynchronous or blended learning rather than on pandemic-related distant teaching in an emergency. (Hodges et al., 2020). Additionally, there is little research on the COVID-19 epidemic and instructors' experiences, particularly in underdeveloped nations where the transition to online education has been particularly difficult. (Li & Lalani, 2020).

By exploring the experiences of educators during the COVID-19 epidemic in a developing country environment, this Paper seeks to add to the body of scholarship on the subject. The research specifically aims to pinpoint innovative online teaching techniques that have arisen during the epidemic and offer suggestions for improving the standard of online education after the pandemic. This research intends to offer insights into efficient online teaching practices that may be modified to diverse contexts and enhance student engagement and learning results by examining the experiences of educators during this unheard-of period.

The COVID-19 pandemic has brought attention to the disparities in access to digital resources and technology, which could widen the achievement gap between kids from various socioeconomic backgrounds. (Kuhfeld et al., 2020). For educators and institutions globally, the dearth of research on efficient methods for teaching online during a pandemic poses a serious challenge. Due to the tremendous difficulties educators are having adjusting to online education, it may be difficult for them to deliver high-quality instruction.

To enhance student engagement, and learning outcomes, and to address the potential digital gap at this time, the problem addressed in this Paper is to identify effective techniques for teaching online during the COVID-19 epidemic, particularly in developing countries. By addressing this issue, this research seeks to offer advice to academics and organizations on how to improve the caliber of online learning both during and after the epidemic. The researcher advised identifying effective online teaching techniques during the COVID-19 epidemic, specifically in developing countries. The aim is to enhance student engagement, and learning outcomes, and bridge the potential digital gap that exists during this time. The research seeks to

offer advice to academics and organizations on how to improve the quality of online learning both during and after the epidemic. By addressing this problem, the intention is to provide guidance and recommendations to enhance online teaching practices, ensuring a better educational experience for students in the current circumstances and the future.

Statement of the problem

Finding efficient online teaching methods during the COVID-19 epidemic, particularly in poor nations, is the issue this thesis Paper attempts to address. It hopes to increase student engagement, improve learning results, and narrow the potential digital gap by doing so. Teachers had difficult issues as a result of the abrupt switch to emergency remote instruction during the COVID-19 epidemic since they weren't necessarily prepared to teach in an online setting. (Means et al., 2020). The move to online learning has brought attention to the need for efficient online teaching techniques that encourage student engagement and educational outcomes. (Garrison & Vaughan, 2008). However, there is little research on the COVID-19 epidemic and educators' experiences, particularly in underdeveloped nations. (Li & Lalani, 2020). There is a serious issue for educators and institutions all around the world due to the paucity of studies on efficient methods for teaching online during a pandemic. The transition to online education presents educators with previously unheard-of difficulties, and a lack of advice on practical tactics may make it more difficult for them to deliver high-quality training. Additionally, the COVID-19 pandemic has widened already-existing gaps in pupils' access to technology and online resources, which could worsen the achievement gap between those from various socioeconomic backgrounds. (Kuhfeld et al., 2020).To enhance student engagement, and learning outcomes, and to address the potential digital gap at this time, the problem addressed in this thesis is to identify effective strategies for teaching online during the COVID-19 epidemic, particularly in developing countries. By addressing this issue, this research hopes to offer advice to academics and organizations on how to improve the caliber of online learning both during and after the epidemic.

Research Questions:

1. What are the effective strategies for teaching online during the COVID-19 pandemic?

2. How do these strategies promote student engagement and learning outcomes?
3. How can the digital divide be addressed in the implementation of these strategies?

Significance of the Research:

This research is significant in various ways. First, it addresses the urgent need for advice on effective ways for online education during the COVID-19 epidemic, particularly in poor countries with limited access to technology and digital resources. This research also investigates how these strategies might improve student participation and academic outcomes to maintain the education level both during and after the epidemic. Third, our research aims to address the possible digital divide, which has huge implications for social justice and educational equity at this time. (Açıkalın& et al.2021)

Definition of Terms:

For this research, the following terms are defined as follows:

1) Online teaching is a way of sharing information via digital platforms or technology that use both synchronous (real-time) and asynchronous (non-real-time) delivery modalities.
2) Student engagement refers to students' involvement, enthusiasm, and motivation in their educational endeavors.
3) The measurable information, abilities, and attitudes that students gain as a result of their educational experiences are referred to as learning outcomes.
4) The "digital divide" refers to discrepancies in educational opportunities and outcomes(Zhu& et al,2020)

Overview of Online Education:

Over the past ten years, technological improvements and changes in how individuals access and consume information have increased online education’s popularity. Online education is the delivery of educational materials and

services over the Internet. It can include everything from individual courses and learning modules to entirely online degree programs. (Bozkurt et al., 2020). Compared to traditional classroom-based learning, online education offers students more flexibility, convenience, and access to a wider variety of courses and teachers.

Advantages and Disadvantages of Online Education:

Online learning has several benefits, including more convenience and flexibility, reduced costs, and access to a wider variety of courses and teachers. (Allen & Seaman, 2017). However, there are also several drawbacks to online learning, such as the loss of possibilities for social engagement and hands-on learning, the possibility of technical issues, and the requirement for self-motivation and time management skills. (Dabbagh & Kitsantas, 2012).

Factors Influencing Effective Online Teaching:

Compared to traditional classroom-based teaching, effective online teaching requires a distinct set of skills and strategies. Effective communication skills involve clear and active listening, while technological proficiency involves using digital tools and platforms. Adaptability allows for adjusting teaching methods, materials, and approaches based on individual needs. Organization and time management ensure the smooth delivery of online instruction .iEngagementment strategies promote active student participation through interactive discussions and multimedia resources. (Hrastinski, 2008). The presence and engagement of the teacher, learner-centered approaches, effective communication, and the utilization of technology to enhance learning are key factors that influence successful online instruction (Means et al., 2013).

Challenges of Online Teaching During the COVID-19 Pandemic:

Many educators throughout the world were compelled by the COVID-19 pandemic to switch quickly to online learning, but this presented several difficulties in terms of availability to technology and internet connectivity, a lack of training and preparedness, and student enthusiasm and participation. (Bozkurt et al., 2020; Hodges et al., 2020).

Best Practices and Strategies for Effective Online Teaching:

Effective online education involves several best practices and tactics, such as the use of interactive and multimedia resources, collaboration and discussion

forums, clear and precise instructions, frequent communication, and feedback. For instance, in an online environmental science course, the teacher combines numerous best practices and methods to improve the learning experience. They engage students and give real-world context by utilizing interactive and multimedia tools like movies, simulations, and virtual field excursions. The teacher establishes collaboration and discussion platforms in which students may engage in peer-to-peer learning, share ideas, and work on group projects. Assignments are provided with clear and specific instructions to ensure that students grasp the objectives and needs. (Dixson, 2015; Mason & Weller, 2020). Other tactics include offering learners support services and resources as well as utilizing social media and mobile technology to increase engagement and participation. (Means et al, 2013).

Factors Influencing Effective Online Teaching:

Various elements can impact effective online education, one of which is the instructor's ability to engage pupils. According to Poon (2013), teachers must be able to communicate content in a way that is not just fascinating but also relevant to the lives of their students. For example, a biology instructor may use real-life examples and case studies to highlight the practical applicability of the subject matter. A welcoming and inclusive learning environment is crucial for student engagement and collaboration. Instructors should establish discussion forums and virtual group projects to promote community and encourage participation. They should also facilitate online debates and provide timely feedback, encouraging critical thinking and understanding progress. By implementing these strategies, instructors can enhance student engagement, create a positive learning environment, and promote effective online education.. (Baran & Correia, 2014).

Challenges of Online Teaching during the COVID-19 Pandemic:

The COVID-19 epidemic has resulted in a shift to online learning, which has presented difficulties such as uneven access to technology and internet connectivity among students. Teachers must change their teaching approaches to keep students motivated, manage workload, and preserve academic integrity. Collaboration with community groups or internet service providers in high schools can give required resources, such as borrowed computers or discounted internet services, to students in need. (Hodges et al., 2020).

To effectively engage pupils, teachers should experiment with new instructional strategies and internet technologies. They can include gamified exercises, virtual experiments, and interactive presentations. Check-ins with students regularly can give individualized help. Educational institutions should establish explicit norms, deploy plagiarism detection software, promote open communication, and apply alternate evaluation techniques. Educators, instructors, and students may work together to negotiate the intricacies of online learning and achieve equitable education throughout the epidemic by tackling these obstacles.(Bozkurt et al., 2020).

Best Practices and Strategies for Effective Online Teaching:

Instructors must employ a range of best practices and tactics to guarantee good online instruction. These include using multimedia and interactive materials to engage students, such as movies and simulations. (Duan et al., 2017). Furthermore, teachers must be explicit and concise about expectations for assignments and examinations. (Conrad & Donaldson, 2012). Other effective practices include having a strong online presence, encouraging student involvement and collaboration, and giving prompt and helpful feedback. (Li & Irby, 2019). Additionally, teachers must take into account the diversity of their students and make sure that their culturally accessible and inclusive teaching methods. (Liu et al., 2018).

Sudden Shift to Online Teaching: Coping with the Transition

Due to the COVID-19 pandemic, many teachers have found it challenging to quickly transition from conventional face-to-face training to online instruction. (Bozkurt et al., 2020). The quick changeover to online instruction has caused several problems, including a lack of planning and training, access to technology, and difficulty adjusting to new teaching methods. (Hodges et al., 2020). To address these issues, educators can take advantage of easily accessible online resources including webinars, online tutorials, and instructional manuals. Giving educators the chance to work together and receive assistance from their colleagues can also be beneficial while they go through this transition. (Mundin & Clark, 2021).

Engaging Students in a Virtual Classroom: Strategies for Active Learning

Engaging students in a virtual classroom can be challenging due to potential distractions and a lack of face-to-face interaction. (Dixson, 2015). The use of

synchronous and asynchronous communication technologies, interactive exercises, and multimedia content are just a few of the strategies teachers can utilize to promote active learning and engagement.

(Garrison & Kanuka, 2004). Additionally, encouraging involvement among students can be accomplished by setting up clear standards and fostering a feeling of community. (Liu & Carless, 2006).

Accessibility and the Digital Divide: Resolving Equity Concerns in Online Education

The shift to online education has made it clear that students from disadvantaged circumstances may not have access to the tools and resources required for online learning because of the digital divide. (Gupta et al., 2021). To address this equality issue, educators might work to provide access to technology and resources, such as loaning out laptops or providing internet hotspots. (Jena & Mehta, 2020). All students will have equal access to education by employing closed captions and making sure that course materials are viewable with screen readers. (Gupta et al., 2021).

Technical Challenges and Solutions: Overcoming Connectivity and Platform Issues

Poor connectivity and platform troubles are technical challenges that can disrupt online learning and frustrate professors and students. (Bozkurt et al., 2020).By explicitly outlining how to use the platforms and technology being used and addressing common issues that may arise, teachers may assist students in overcoming these challenges. (Mundin & Clark, 2021). Having backup plans and additional communication channels can also help mitigate technology difficulties and ensure that Students can continue their education. (Hodges et al., 2020).

Assessing Student Learning in an Online Environment: Best Practices and Tools

Evaluating student learning in an online context can be difficult since some traditional assessment techniques may not be appropriate for online learning. (Garrison & Kanuka, 2004). Teachers can use a range of tools, including online tests, discussion boards, and virtual presentations, to efficiently evaluate students' learning. (Dixson, 2015). Furthermore, giving students timely and

valuable feedback will help them understand their progress and enhance their learning. (Liu & Carless, 2006).

Teacher Burnout and Stress Management: Coping with the Demands of Online Teaching

The rigors of online learning may contribute to teacher burnout and higher stress levels (Mundin & Clark, 2021). To effectively handle these problems, educators may emphasize self-care practices and apply well-being methods. Setting clear boundaries between work and home life, for example, engaging in regular exercise and physical activity, and seeking help from colleagues and mentors are all important elements in managing the demands of online teaching (Jena & Mehta, 2020).

III. Methodology

To acquire a thorough knowledge of efficient approaches for online teaching during the COVID-19 epidemic, this research used a mixed-methods research design that combined both quantitative and qualitative data collection and analytic methodologies.

Participants in this research included 50 instructors from various disciplines and institutions who had experience teaching online courses during the pandemic. Convenience sampling was used to select participants based on their availability and willingness to participate in the research.

Data was collected through an online survey consisting of both closed-ended and open-ended questions. The survey aimed to gather information on instructors' perceptions of the challenges, benefits, and effective strategies for teaching online during the pandemic. The closed-ended questions were analyzed using descriptive statistics, while the open-ended questions were analyzed using thematic analysis.

The first axis: the teacher and electronic teaching strategies

Open questions

1. What are the most prominent effective strategies that have been adopted to teach lessons online during the Covid-19s?

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.....2

. How can teachers enhance electronic teaching methods and ensure students interact with educational content?

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.....3

. What are the options available for teachers for performance analysis and student evaluation from a distance?

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.....4

. How can teachers determine the most effective communication methods with students when online teaching?

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5. What are the tools and resources that teachers can rely on to develop their online teaching skills and improve education quality?

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The second axis: the effectiveness of the Internet in education

Closed questions answered by OK- neutral- not approved

Question	Agree	Neutral	Disagree
1. Do you think that the use of technology in online education can improve the quality of education?			
2. Do you think that using e-learning can increase access to high-quality education?			
3. Do you think students can achieve better online learning performance compared to learning in the semester?			

4. Do you think students can interact better with online educational content by comparing it with the traditional semester?			
5. Do you think that online learning can help develop critical thinking skills and solve students?			
6. Do you think that the use of multimedia and interactive media can improve the effectiveness of online education?			
7. Do you think that integrated education programs provide a better educational experience compared to traditional transfer education?			

The third axis: future education trends

Closed questions:

Question	Agree	Neutral	Disagree
1. Do you believe in the effectiveness of online learning?			
2. Do you think that the use of technology in education can improve the quality of education in general?			
3. Do you think that the use of multimedia and interactive media can improve the effectiveness of online education?			

4. Do you think that online learning can help develop critical thinking skills and solve students?			
5. Do you think that online learning can provide a greater opportunity for students to interact with educational content and with each other?			

Open questions:

1. What are the best strategies that can be used to teach lessons online?

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2. Do you think that online learning can be more suitable for some students such as those who suffer from disability or who live in areas far from educational institutions?

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3. What are the problems that can be faced when teaching lessons online and how can they be overcome?

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4. What technologies and tools can be used to improve the quality of education online?

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5. What are the main advantages and disadvantages of online learning compared to learning in the semester?

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IV. Results

Both quantitative and qualitative methodologies were used to assess the data that were gathered for this research. The demographic details of the participants, such as age, gender, and years of teaching experience, were summarized using descriptive statistics. The open-ended survey responses were analyzed using content analysis to find recurring themes about efficient online teaching techniques. The results of this research indicate that a combination of technological, pedagogical, and socio-emotional abilities is needed for effective online teaching during the COVID-19 pandemic. The most frequently mentioned technology skills were the ability to use online tools like learning management systems and video conferencing platforms. Additionally identified as essential for successful online teaching were pedagogical skills like the capacity to create and facilitate dynamic and interesting online activities. A pleasant online learning environment and promoting students' emotional well-being were also found to depend on socio-emotional characteristics like empathy, adaptability, and communication abilities.

The results also highlight the importance of providing professional development and support for faculty to develop the necessary competencies for effective online teaching. Such support can include training on online pedagogy, technology tools, and strategies for building community and engagement in the online classroom.

These findings have important implications for online teaching during the COVID-19 pandemic and beyond. As online education continues to grow and evolve, educators need to develop the competencies necessary to effectively engage and support students in the online environment.

Description and analysis of data collected

During the COVID-19 epidemic, this study collected data from surveys and interviews with online teachers. The data indicated issues such as restricted access to technology, difficulties engaging pupils, and sustaining student motivation and accountability. It did, however, emphasize benefits such as flexibility, better access to education, and the use of multimedia technologies. Adaptability, inventiveness, and purposeful instructional practices are required for effective online teaching throughout the epidemic. According to the

findings, proper support, training, effective communication, flexibility in instructional techniques, and sustaining student motivation and accountability are all necessary for effective online teaching.

Conclusion

In conclusion, it emphasizes the critical need for effective online education advice during the worldwide COVID-19 epidemic, particularly in disadvantaged communities with limited access to technology and digital resources. The study looks into measures for increasing student involvement, participation, and academic outcomes, to maintain educational quality throughout and beyond the epidemic. Second, the study recognizes the digital divide, which has substantial consequences for social justice and educational fairness, underlining the importance of closing the gap and providing equal opportunities for all learners. The research contributes to the current body of literature on successful online instruction during COVID-19 by providing insights and recommendations, and it gives direction to educators and educational institutions on raising the quality of online education.

The recommendations

- Providing necessary support, training, and resources to instructors to help them adapt to online teaching.

- To increase involvement and interaction, effective communication methods between professors and students, such as video conferencing, discussion boards, and email, are being established.

- Adopting a student-centered approach that recognizes learners' different needs, fosters collaboration, and allows for active engagement.

- To create a successful learning environment, provide frequent feedback, set clear routines and deadlines, and develop student motivation and accountability.

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