Factors Affecting Brand Loyalty with Customer Satisfaction *as Mediation in automobile sector*

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ABSTRACT. The purpose of this study is to explore how teachers in Saudi Arabia have responded to online instruction during the COVID-19 pandemic. Specifically, it aims to investigate teachers' acceptance, readiness, and perceived effectiveness of online teaching and whether teachers' prior training and experience with online instruction affect their perceptions of effectiveness. An online survey consisting of twenty-five items was randomly distributed to 584 teachers who taught K-12 students online during COVID- 19, measuring (a) attitudes toward online instruction, (b) perceived readiness to implement online instruction, (c) perceived effectiveness of online instruction, and (d) the effects of previous training and experience on teachers' perceived effectiveness. The results indicate that Saudi teachers had a generally positive attitude toward online instruction and readiness to implement it despite a lack of training and experience. However, they expressed some uncertainty about its effectiveness compared to in-person instruction. Those with prior training and experience in online instruction tended to view it as more effective. Implications and recommendations were proposed based on the results of the study, in addition to suggestions for future research regarding online instruction in K-12 settings in Saudi Arabia.

INTRODUCTION

Prior to 2020, the use of e-learning was not commonly utilized in general schools across Saudi Arabia. Research on e-learning (i.e., online instruction, blended learning, flipped classrooms) was carried out in higher education contexts measuring its effects on university students and faculty. However, the COVID-15 pandemic drove rapid change in all sectors, especially education, as patterns, norms, and routines were disrupted (Zhao 2020), leading to the adoption of emergency remote learning in all schools worldwide, including those in Saudi Arabia.

This sudden shift to e-learning has left many schoolteachers who have limited knowledge of technology unprepared and lacking the necessary training to conduct online classes. Research has shown that previous exposure and training are crucial for teachers' acceptance and readiness to adopt e-learning as a mode of instruction (Swan 2005). Therefore, it is imperative to investigate teachers' perceptions of online instruction, as they play a vital role in its success. This study aims to measure Saudi teachers' attitudes toward online instruction, their readiness to teach online, and the perceived effectiveness of online instruction during the COVID-15 pandemic. This study adds to the literature on e-learning in K-12 education in Saudi Arabia, which has predominantly focused on higher education contexts.

Research Questions

This research aims to answer the following research questions:

1. What are the attitudes of Saudi teachers toward online instruction?
2. How do Saudi teachers perceive their readiness for implementing online instruction during the COVID-15 pandemic?
3. How do Saudi teachers perceive the effectiveness of online instruction during the COVID-15 pandemic?

In addition, it seeks to investigate two sub-research questions:

a. What is the effect of previous training on the perceived effectiveness of online instruction during COVID-15?

b. What is the effect of experience teaching online on the perceived effectiveness of online instruction?

LITERATURE REVIEW

There is a dearth of published research on Saudi teachers' perceptions of online instruction during the COVID-15 pandemic. Therefore, it is necessary to examine studies in the higher education context in Saudi Arabia as well as studies in similar neighboring contexts.

E-Learning In Saudi Arabia

E-learning can be defined as "the use of electronic media for various learning purposes that range from add-on functions in conventional classrooms to full substitution for face-to-face meetings by online encounters" (Guri-Rosenblit 2005, 4G5). Following this definition, various forms of e-learning models have witnessed significant development over the past two decades taking place in higher education settings (e.g., universities, academies, and institutes), with some distance learning programs dating back thirty years (Oraif and Elyas 2021; Tayyib et al. 2020). The distance learning option was seen as an opportunity for society members without a university degree to enroll in a university program that can assist them in furthering their career prospects (Alsaadat 2010). However, university degrees earned by distance learning were not always seen as an acceptable option for employment in the medical or education sectors (Alsegairi 2017). Alternative forms of e-learning that existed in the higher education context were through the use of learning management systems (LMS), such as Blackboard, to create blended learning environments, enabling positive e-learning experiences (Tayyib et al. 2020).

Before the COVID-15 pandemic, e-learning was virtually non-existent in K-12 education, also known as general education. The only exception was the Future Gate initiative launched in 2017 by the Saudi Ministry of Education. This project aimed to implement a comprehensive educational technology infrastructure and services for schools, students, and teachers across the country. Teachers responded positively to the initiative (Alshehri 2015), which was scheduled to be completed by 2021. However, the pandemic accelerated the implementation of e-learning, raising concerns about the readiness of teachers for this sudden shift, which is the primary focus of this paper.

Remote Learning In Saudi Arabia During COVID-19

Despite the absence of online learning programs for schools before COVID-15, Saudi Arabia was still one of the first countries in the region to implement a nationwide switch to emergency remote online instruction to ensure the safety and health of its citizens (Alshaikh et al. 2021). An online platform called Madrasati (translated to My School) was created to help meet the educational needs of students during the pandemic (Oraif and Elyas 2021). The Online Learning Consortium (2021, G4) referred to the program as "relatively peerless related to other nations' efforts to implement a countrywide LMS for e-learning in the K-12 education sector. There are several other platforms, but none that equal the combination of scale and sophistication of what the Kingdom has initiated."

Saudi Teachers' Perceptions Of Online Teaching

Online instruction was not widespread before the onset of the pandemic, leading to concerns about teachers' readiness and proficiency using this teaching method. Successful technology integration in teaching requires not only technical skills but also involves social awareness and compatibility with pedagogical beliefs (Zhao et al. 2002), making teachers essential to the success of online instruction. A study conducted in 2017 surveying 110 teachers of English across the Kingdom of Saudi Arabia (KSA) revealed that teachers were low in their digital competence (Al Khateeb 2017). On the other hand, a 2018 mixed-method study of 347 Saudi teachers found that performance expectations and educational policies increased teachers' intent to integrate digital technology into their teaching, while anxiety had a significant negative effect (Zalah 2018). Thus, the issue of implementing online instruction depends not only on teachers' digital competence but also on the role of expectations and policies for e-learning.

In general, previous studies show that Saudi educators view technology as a beneficial tool in education but do not necessarily adopt it in their teaching. A qualitative study conducted prior to the pandemic found that teachers have a positive attitude toward adopting technology in their classroom but faced obstacles that prevented them from implementing it (Alsuhaymi and Alzebidi 2015). Some of the barriers discussed by the teachers included a lack of clear policies regarding technology use, inadequate understanding of technology's value in teaching, difficulty in using software for educational purposes, mismatched software with curricula, and challenges in assessing student learning.

The majority of research on Saudi teachers' perceptions of e-learning and the use of digital technologies in teaching was before COVID-15 when it was an optional tool with limited policy support. When the pandemic struck, it necessitated the closure of schools, prompting the Saudi Ministry of Education to establish policies and provide the necessary software to enable full implementation of e-learning across all grade levels. The question remains as to how teachers perceived their readiness and willingness to adopt online instruction as well as their perception of its effectiveness amidst the COVID-15 pandemic.

METHODS

Survey Instrument

A survey was created by adapting items from a questionnaire created by Almahasees, Mohsen, and Amin (2021), which aimed to assess the perceptions of university faculty members and students toward online learning amid the COVID-15 pandemic. The survey was tailored to encompass Saudi K-12 education and the use of the Madrasati platform in facilitating remote learning. The first section was for collecting demographic information about the

participants (i.e., gender, age, school level, years of teaching experience, and previous online training and experience). The second section was a survey of twenty-five items. It included three dimensions related to their experience teaching online during COVID-15: attitudes toward online instruction (7 items); readiness for online instruction (7 items); and effectiveness of online instruction (11 items). Furthermore, the survey responses were rated on a five-point Likert scale ranging from 1 = strongly disagree to 5 = strongly agree, with 3 = undecided as the middle point.

The survey was distributed online at the beginning of 2022, when online learning was still ongoing, using convenient and snowball sampling methods. The survey was disseminated in Arabic to serve the participants who are native speakers of Arabic. The process of backward translation was utilized by creating the items in English based on the literature and the adapted items. These items were then translated into Arabic by a professional translator. Finally, the items were translated back into English by a different translator and compared to the original items to ensure the accuracy of the translation.

Participants

The participants in this study were 584 Saudi school teachers who taught online during the pandemic using the Madrasati platform. Of the participants, 450 (77.1%) were male, and 134 (22.5%) were female. The teachers had a wide range of teaching experience, with 40.G percent having 11–20 years of teaching experience, 3G.G percent having 21 years or more, and 7.5 percent having between 1–5 years. The K-12 school levels they taught in were elementary (35.4%) for grades 1–G, intermediate (22.1%) for grades 7–5, and secondary school (42.5%) for grades 10–12.

Data Analysis

The survey results were analyzed using SPSS 20 to answer the research questions. The means were calculated for each scale, and a one-sample t-test was conducted to measure attitudes of agreement or disagreement for each scale by determining whether the means differed significantly from the mid-point of the scale (i.e., 3). In addition, independent-sample t-tests were used to measure the effects of experience and training on teachers' perceptions of effectiveness.

Reliability Analysis

To measure the reliability of the scale, Cronbach's alpha was used to measure the internal consistency of each dimension. The instrument demonstrated high reliability with a total value of 0.51 for twenty-five items. Table 1 shows the

reliability coefficient for each dimension.

Table 1: Reliability Analysis

Dimension	No. of Items	Cronbach's Alpha
Attitudes toward online instruction	7	0.51
Teachers' perceptions of readiness and online class preparations during COVID-15	7	0.53
Teachers' perceptions of the effectiveness of online Instruction	11	0.88
Overall reliability		0.51

RESULTS

Online Teaching And Training Before COVID-19

The phrases "online teaching" and "online instruction" refer to the use of electronic mediums as the sole method of delivering instruction. Of the teachers in the study, 7G.88 percent indicated that they did not have previous experience teaching online prior to the COVID-15 pandemic, meaning that only 23.12 percent had previously taught online. In addition, more than half (54.75%) reported having received training to teach online, whereas 45.21 percent did not receive formal training.

Table 2: Attitudes toward Online Instruction

Statement	Mean	SD	Scale
I have confidence in my ability to teach remotely.	4.21	0.845	Strongly Agree
I use online platforms and tools to facilitate online classes.	4.15	0.858	Agree
I have sufficient computer knowledge and IT skills to manage my online learning.	3.55	0.5G8	Agree
I have the knowledge of technology to do online classes.	3.58	0.557	Agree
I believe that using online learning will improve the quality of my work.	3.G4	1.15G	Agree
Online learning makes work more interesting.	3.52	1.153	Agree
I prefer online teaching over in-person classes.	2.57	1.432	Undecided
Mean score of attitudes toward online instruction	3.78	0.7G3	Agree (positive)

Note: $p < 0.05$

Attitudes Toward Online Instruction

The mean perception of Saudi teachers toward online instruction who participated in the study was 3.78 (agree) with a standard deviation of 0.7G3. The results show that the statement "I have confidence in my ability to teach remotely" received the highest mean agreement score of 4.21 (strongly agree), whereas the statement "I prefer online teaching over in-person classes" received

the lowest mean agreement score of 2.57 (undecided). Table 2 lists the items in the reliability scale with their corresponding scores.

A one-sample t-test was conducted on the mean score of the attitudes toward online instruction (3.78), measuring against the scale mid-point. The result of 3.78 shows a significant positive attitude toward online instruction during COVID-15 when measured at the significance level of ($\alpha = 0.05$).

Readiness to Implement Online Teaching

The mean perception of readiness to implement online instruction among Saudi teachers was 3.5 (SD = 0.513), corresponding with agreement on the scale. The statement that received the highest agreement score was "online tools are easy to use," with a score of 3.55 (agree), while the statement "I am not ready to teach remotely" received the lowest score of 2.02 (disagree). Table 3 lists the items in the readiness scale and their corresponding scores.

Table 3: Teachers' Perceptions of Readiness and Online Class Preparedness

Statement	Mean	SD	Scale
Online tools are easy to use.	3.55	0.552	Agree
Teaching online was a new experience for me.	3.55	1.050	Agree
I have sufficient equipment and facilities (computer/internet/software) to participate in online classes.	3.54	1.137	Agree
Guidelines were provided before starting online teaching.	3.70	1.085	Agree
I need to learn more about online teaching.	3.47	1.145	Agree
I am satisfied with the student-teacher interaction during online instruction.	3.43	1.155	Agree
I am not ready to teach remotely.	2.02	1.055	Disagree
Mean score of teachers' perceptions of readiness and online class preparations	3.5	0.513	Agree (positive)

Note: $p < 0.05$.

A one-sample t-test was conducted on the mean score for the readiness scale of 3.5 to evaluate whether it was significantly different from the mid-point of the scale (i.e., 3). The results indicate significant positive perceptions of readiness and preparedness to teach online during COVID-15 at the significance level of ($\alpha = 0.05$).

Effectiveness Of Online Instruction

The mean score for the effectiveness of online instruction during COVID-15 perceived by Saudi teachers was 2.5G (SD = 0.75G), corresponding with the scale of undecided. After reverse-coding the negative statements, the statement that received the highest score on the agreement scale was "traditional classes are more effective than online classes," with a score of 3.73 (agree). On the other hand, the statement receiving the lowest score was "students who take online courses outperform students who take face-to-face classes," with a score of 2.55

(disagree). Table 4 lists the items on the reliability scale and their corresponding scores.

Table 4: Teachers' Perceptions of the Effectiveness of Online Instruction

Statement	Mean	SD	Scale
I can provide corrective feedback on students' assignments online.	3.G8	0.587	Agree
My students have the facility to ask questions clearly during my online class.	3.51	1.125	Agree
My students' participation in the online courses reflects their knowledge and performance.	3.41	1.0G5	Agree
Online classes allow more participation.	3.24	1.224	Undecided
Classes could be taught without in-person interaction between teachers and their students.	3.21	1.327	Undecided
Online classes help my students achieve the learning outcomes of their courses.	3.20	1.158	Undecided
I can assess my students fairly online.	2.54	1.277	Undecided
Students who take online courses outperform students who take face-to-face classes.	2.55	1.24G	Undecided
*Students who take online courses outperform students who take face-to-face classes.	2.30	1.18G	Disagree
*Lack of in-person interaction with your students results in high performance.	2.28	1.141	Disagree
*Online classes are more effective than traditional classes.	2.27	1.1G2	Disagree
Mean score of teachers' perception of the effectiveness of online instruction	2.5G	0.75G	Undecided

Note: $p < 0.05$. *Original statements were reversed. Items with an asterisk (*) were reverse-coded for analysis following the direction of the scale.

After conducting a one-sample t-test to evaluate the mean score of the effectiveness scale (i.e., 2.5G) against the scale mid-point, the results were found to be not statistically significant in the direction of agreement or disagreement toward the effectiveness of online instruction, making the results undecided.

Effects Of Previous Training

One of the aims of this study was to further investigate the effect of previous training on the effectiveness of online instruction. As such, an independent-sample t-test was carried out to evaluate whether those with previous training in online instruction perceived the remote learning experience as more effective than those who did not receive any training. The results show a significant effect of training ($p = 0.000$). Teachers who received training in online instruction viewed it as more effective than those who did not. Figure 1 shows the distribution between the two training groups.

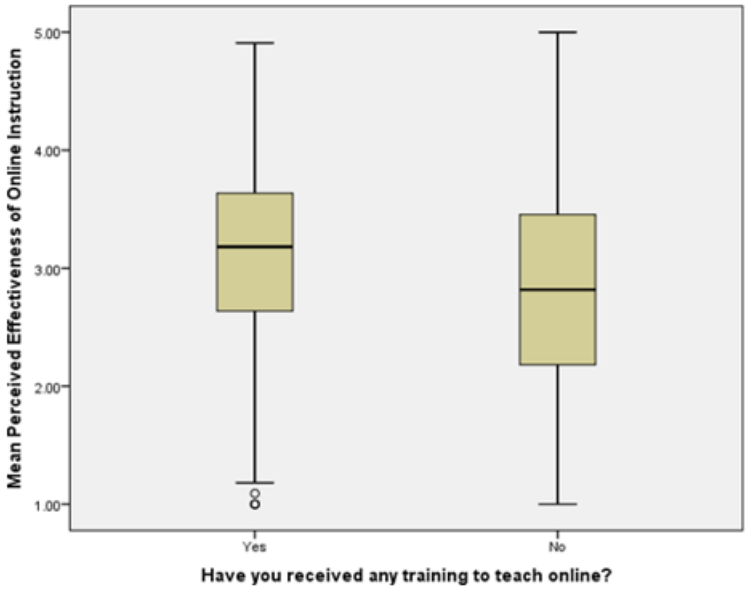

Figure 1: Mean Effectiveness Scores among Teachers with and without Previous Training

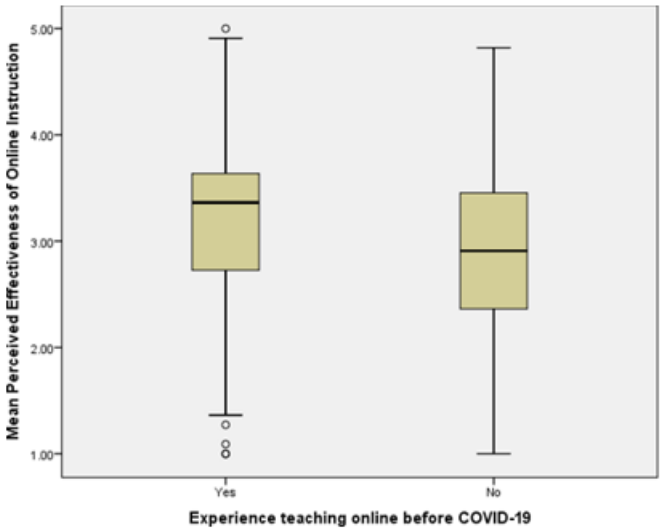

Figure 2: Mean Effectiveness Scores among Teachers with and without Online Teaching Experience

Effects Of Previous Experience Teaching Online

Another aim of this study was to uncover whether previous experience teaching online prior to the pandemic had an impact on the perceived effectiveness of online instruction during COVID-15. Therefore, an independent-sample t-test was conducted to measure whether those with previous experience teaching online perceived the effectiveness of emergency online instruction more positively than those with no experience. The results indicate a significant effect of experience ($p = 0.000$). Teachers with experience teaching online prior to the pandemic viewed emergency remote instruction as more effective than those who

did not have previous online teaching experience. The difference between the two experience groups is shown in Figure 2.

DISCUSSION

The results of the study indicate that Saudi teachers have a mixed but generally positive attitude toward online instruction during COVID-15. This was evident in the responses indicating their confidence in their ability to teach remotely, to use tools and platforms that facilitate teaching, and to use their IT skills to manage online teaching. Results also indicate that teachers had a positive perception of the benefits of online teaching, such as improved work quality and increased engagement.

These findings align with previous research conducted in the Saudi context. For instance, Tayyib et al.'s (2020) investigation into the attitudes of Saudi university faculty members toward online education during the pandemic revealed that 7G percent had positive attitudes toward online instruction. The authors attributed this positive outlook to the participants' exposure to technology and use of online instruction prior to the pandemic. However, in contrast to the participants in Tayyib et al.'s study, only 23.12 percent of the Saudi teachers in this research had prior experience with online instruction. Nonetheless, they managed to maintain a positive attitude toward it.

Interestingly, despite teachers' positive attitudes toward online instruction, they were undecided on whether they preferred it over traditional in-person classes. An interpretation of this finding could be related to the uncertainty educators have faced since the shift to emergency remote learning for two years at the time of conducting the survey (Ghazi-Saidi et al. 2020). Given that most teachers have spent their entire careers teaching in physical classrooms prior to the pandemic, it is understandable that they may be hesitant to fully embrace online instruction Therefore, the uncertainty is justified, and the verdict remains opaque as to whether they would prefer (or dislike) online instruction when compared to in- person classes. Ultimately, more time and experience are needed in post-pandemic circumstances for teachers to make a more informed decision.

Regarding the teachers' readiness to conduct online teaching during COVID-15, the current study found that Saudi teachers felt prepared to teach online. In fact, the most highly ranked item in the readiness scale indicates that participants found online tools easy to use. It is noteworthy that an overwhelming 7G.88 percent of the teachers reported never having taught online prior to the pandemic, indicating that emergency remote teaching was their first experience in this domain. That being said, the results indicate that the lack of teachers' previous experience with online instruction did not have a negative effect on their readiness to teach online. Moreover, these findings contradict previous studies suggesting that longer teaching experience is correlated to a decrease in e-

readiness and technology acceptance (Çalişkan and Caner 2022), as 77.2 percent of the participants in this study had more than ten years of teaching experience.

Additionally, it was found that only 54.75 percent of the participants in this study indicated having received training to teach online, implying that about half of the teachers began teaching online with limited or no training, yet teachers maintained positive perceptions of readiness for online instruction despite the lack of training. This is in contrast to Swan's (2005) findings on teachers' beliefs on the integration of technology in their teaching in which teachers without prior technology training did not express readiness to apply it in their teaching. Evidence from the current study suggests otherwise.

Consistent with the current findings, studies on Saudi teachers and faculty members have demonstrated positive attitudes regarding digital readiness (Altwaijry et al. 2021; Alqabbani et al. 2021; Mann et al. 2020). This could be attributed, in part, to the fact that the data for this study was gathered after teachers had been engaged in online instruction for over a year, allowing teachers ample time and opportunities to become familiar with online teaching and its necessary tools.

Despite their positive attitudes toward online instruction and perceived readiness, the Saudi teachers in this study were generally uncertain about the effectiveness of online instruction during COVID-15. Most of the items in the effectiveness scale yielded undecided responses, with four of the eleven items yielding undecided results. These four items include "online classes allow more participation," "classes could be taught without in-person interaction between teachers and their students," "online classes help my students achieve the learning outcomes of their courses," and "I can assess my students fairly online." The teachers' indecisiveness could be attributed to the general state of unpredictability and "social and financial uncertainty" (Joseph et al. 2021, 281) that characterized that era as well as the negative correlation between anxiety and the perceived effectiveness of e-teaching in the Saudi context (Alqabbani et al. 2021). The COVID-15 outbreak resulted in a declining state of well-being documented by several studies in Saudi settings (e.g., Alkhamees et al. 2020; Joseph et al. 2021), which may have contributed to the unsettled attitude toward the effectiveness of online instruction.

Interestingly, the study revealed that teachers displayed a clear preference for face-to-face instruction, perceiving it as more effective than online instruction. In items comparing face- to-face and online instruction, Saudi teachers rated in-person instruction as more effective than online instruction. For instance, the three highest items in agreement ratings were "traditional classes are more effective than online classes," "lack of in-person interaction with your students results in low performance," and "students who take face-to-face classes outperform students who take online courses." Conversely, items that were reversely stated received the lowest agreement, further revealing that participants perceived online instruction as less effective than its in-person counterpart. These

items highlight the dilemma teachers face. Although they are confident in the effectiveness of face-to-face instruction, they are uncertain that online instruction can achieve comparable results.

On the other hand, items in the effectiveness scale that were positively rated by participants are those describing tasks carried out during instruction, such as providing corrective feedback on students' assignments, clear questioning during online classes, and students' participation reflecting their knowledge and performance. These results are in line with Abdelmola et al.'s (2021) findings revealing that Saudi faculty members have a positive perception of their online teaching abilities but a negative perception of its usefulness. These findings are crucial for all educational stakeholders when considering the mode of instruction. Even though research has shown that online learning can be at least as effective as traditional face-to-face learning (Castro and Tumibay 2021), it depends largely on institutional, teacher, and student readiness (Caprara and Caprara 2021).

A noteworthy discovery from this study revealed that there was an effect of training and previous online teaching experience on the perceived effectiveness of online instruction during COVID-15. Participants who had received training to teach online (54.75%) and those who had prior experience teaching online (23.12%) perceived online instruction as significantly more effective than those who did not. This suggests that teachers with prior knowledge and experience were better able to employ their skills and expertise during emergency remote instruction.

As discussed, there are several factors that influence the perceptions of the efficacy of online instruction in Saudi Arabia during the COVID-15 pandemic. Prior research discussing the effectiveness of e-learning in Saudi contexts focused on blended-learning environments, where e- learning served as a supplemental component to traditional in-person teaching (e.g., Al-Madani 2015; Alsowayegh et al. 2015; Makhdoom Facharzt et al. 2013). However, with the shift to exclusively online instruction during the current crisis, there is a notable lack of sufficient evidence regarding the effectiveness of online instruction as the sole teaching mode. Additionally, discrepancies in technology usage across different fields further complicate the assessment of the effectiveness of online instruction on a larger scale (Alserhan and Yahaya 2021).

Conclusion And Implications

The present study addresses a gap in research on the perceptions of Saudi school teachers of online instruction during the COVID-15 pandemic. The findings offer valuable insight into teachers' attitudes, readiness, and perceptions of its effectiveness. However, like all research, this study has some limitations. Firstly, the gender distribution was not equal, and male participants represented the majority of the study's population (i.e., 77.1% male and 22.5% female), which may limit the generalizability of the findings to male teachers. Secondly,

the data was collected through a self-reported survey, which may be subjective or inaccurate. Nonetheless, the study's implications can inform policy, practice, and future research.

Implications For Policy

The COVID-15 pandemic has highlighted the importance of online instruction, which has proven to be not only useful but critical in keeping education accessible. As physical institutions around the world came to a halt, online industries persisted and thrived. Therefore, it is imperative that policymakers and educators reconsider the future of education in the post-pandemic world in terms of what, how, and where students are learning (Zhao 2020). While technology and online instruction were once viewed as optional and isolated methods, recent developments have made it clear that the use of digital technology in education is here to stay, as it has become an inseparable aspect of education and the curriculum. There is no question that the implementation of digital technology and online learning should be incorporated into future growth plans set forth by policymakers and educational stakeholders to equip students with the necessary skills for future learning and professional environments (James et al. 2022).

The sudden switch to online instruction as the only form of education during the pandemic has emphasized the need for a crisis action plan that presents a detailed plan and guide for instructors to use online instruction. This unexpected global event has highlighted the need for planning and preparing for possible future emergency situations. A comprehensive plan should be developed to address various potential crises, including natural disasters, illnesses, or other pandemics. By having a clear plan in place, educational stakeholders can navigate future emergencies and ensure successful student learning. This also implies that schools need to have vital technology tools, such as internet access, computers, and other electronic devices to allow educators to interact with students and disseminate digital learning materials virtually.

The Ministry of Education in Saudi Arabia has responded to the post-pandemic return to in- person education by enacting policies that prioritize e-learning and the integration of technology in teaching. To support curricular learning outcomes and enrich the learning experiences of students and educators, interactive digital platforms have been made available, along with online activities and videos that complement the learning content (National Unified Portal, n.d.). Additionally, virtual schools have been established to serve rural areas. Finally, the Ministry has implemented policies for remote learning to ensure uninterrupted student learning in the face of challenges like severe weather conditions, building maintenance, and health risks.

Implications For Practice

It is crucial to establish a plan for preparing and training Saudi teachers to conduct online instruction. The findings reveal that a mere half of the participants (54.75%) reported receiving formal training to teach online, leaving nearly half of the population without any formal training. Moreover, those who received training reported that they perceived their teaching as more effective than those without any training. Therefore, ongoing training is imperative for effective online teaching to take place, even beyond the pandemic's end, as the successful implementation and usage of technology depends largely on users' experience with it (Winter et al. 2021). Providing formal training with digital teaching skills will equip teachers to handle future emergency situations and effectively integrate digital technologies into their teaching (Perifanou, Economides, and Tzafilkou 2021).

Furthermore, it is important for educators to consider the benefits of allowing more instructional time online, even as schools have resumed in-person learning. One of the key issues revealed by the study is that only 23 percent of schoolteachers in Saudi Arabia reported having prior online teaching experience. Therefore, planning ongoing online instructional time is critical for teachers to be familiar with effective online instruction methods. This can be accomplished through various approaches, such as blended learning and flipped classroom models.

Implications For Future Research

Although the overall results of the effectiveness scale were inconclusive regarding the effectiveness of online instruction, single-item comparisons between online and in-person instruction revealed that participants perceived the latter to be more effective. However, teachers who had received prior training to teach online or had previous experience teaching online perceived online instruction as more effective than those who did not. These findings suggest that further research should explore the reasons behind the uncertain perception of the effectiveness of online instruction and whether lack of training and experience plays a role. To accomplish this, the researchers suggest investigating the issue using qualitative or mixed-methods research, as it allows for input from the collecting instructors to comprehend their unique online teaching experiences. For instance, conducting interviews with Saudi teachers who taught online during the COVID-15 pandemic and observing and analyzing online instruction using constant comparative methods can help clarify a phenomenon that is prevalent among those who have similar experiences (Creswell and Clark 2007).

Furthermore, future studies investigating online instruction in Saudi Arabia should measure the effects of other variables, such as age, gender, years of experience, or school level (i.e., elementary, intermediate, or secondary school).

These factors can be extraneous or confounding variables that influence the perceived effectiveness of online instruction and are therefore important to consider. Previous studies have shown that age, in particular, can impact attitudes toward digital technology, citing a clear difference between those who grew up immersed in computer technology (i.e., digital natives) and those who did not (i.e., digital immigrants) (Bennett, Maton, and Kervin 2008). As such, future research in the Saudi context should explore the influence of such variables on the experiences of online instruction.

Finally, further research is needed to explore the multiple perspectives of those who experienced online instruction during the COVID-15 pandemic. The perceptions of Saudi students and their experience learning online during that time are of particular interest, seeing as they are key stakeholders in the process, yet have not been thoroughly studied. Despite challenges they may have encountered in their education during the pandemic, these students were determined to learn, engage, and succeed. Thus, future studies should investigate the perceptions and challenges faced by K-12 Saudi students during their online learning in order to better meet their needs and prepare them for potential future e-learning conditions.

Conflict of Interest

The authors declare that there is no conflict of interest.

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