



Mapping Teacher and Student Perceptions of English Language Distance Education During COVID-19 Pandemic: A Meta-analysis from Saudi Arabia

مطابقة تصورات المعلمين والطلاب حول التعليم عن بُعد للغة الإنجليزية أثناء جائحة كوفيد-19: تحليل تلوي

Mohammad Rajab Alnufaie

محمد رجب النفيعي

Assistant Professor, Jubail English Language and Preparatory Year Institute, Royal Commission for Jubail and Yanbu, Saudi Arabia

أستاذ مساعد، معهد اللغة الإنجليزية والسنة التحضيرية في الهيئة الملكية للجبيل وينبع، المملكة العربية السعودية

Received:18/02/24 Revised:05/03/24 Accepted: 28/05/2024

تاريخ التقديم:2024/02/18 تاريخ ارسال التعديلات:2024/03/05 تاريخ القبول:2024/05/28

الملخص:

يعد فهم كيفية تأثير فيروس كورونا (COVID-19) على تعليم اللغة الإنجليزية كلغة أجنبية (EFL) أمراً بالغ الأهمية، لأنه أدى إلى تحول عالمي نحو التعلم عن بعد. نظراً للاستثمارات الكبيرة في التعليم الإلكتروني في المملكة العربية السعودية، تقوم هذه الدراسة بتجميع تصورات معلمي وطلاب اللغة الإنجليزية كلغة أجنبية من خلال استخدام التحليل التلوي لـ 35 دراسة سعودية أولية شملت 1333 معلماً و4097 طالباً. تسلط النتائج الرئيسية الضوء على التوجه العام والمرونة باعتبارهما نقاط القوة السائدة في التعليم عبر الإنترنت، في حين أن التفاعل والتقييم والتحديات التقنية هي مجالات الاهتمام والإشكال. ومن الجدير بالذكر أن هناك علاقة إيجابية قوية بين تصورات المعلمين والطلاب، مما يشير إلى وجود تجربة مشتركة في بيئة التعلم عبر الإنترنت. ويكشف التحليل أيضاً أن التحديات المتصورة تفوق نقاط القوة. وهذا يؤكد الحاجة إلى تحسينات مستهدفة في تدريس وتعلم اللغة الإنجليزية كلغة أجنبية عبر الإنترنت. تضيف هذه المقالة إلى الخطاب العالمي حول التعلم عن بعد من خلال الحث على التعاون الدولي لمواجهة التحديات البارزة وتكون أكثر استجابة لاحتياجات المعلمين والطلاب.

الكلمات المفتاحية: التعليم الإلكتروني، التعلم عبر الإنترنت، تعليم وتعلم اللغة الإنجليزية كلغة أجنبية، كوفيد-19، التعليم عن بعد، المملكة العربية السعودية

Abstract:

Understanding how COVID-19 impacts English as a Foreign Language (EFL) education is critical, as it has led to a global shift to remote learning. Considering Saudi Arabia's substantial eLearning investments, this study synthesizes EFL teachers' and students' perceptions. It uses a meta-analysis of 35 primary Saudi studies involving 1,333 teachers and 4,097 students. Key findings highlight attitude and flexibility as the predominant strengths of online education, while interaction, assessment, and technical challenges are areas of concern. Notably, a strong positive correlation exists between teachers' and students' perceptions, indicating a shared experience in the online learning environment. The analysis also reveals that perceived challenges outweigh the strengths. This emphasizes the need for targeted improvements in online EFL teaching and learning. This article adds to a global discourse on remote learning by urging international collaboration to address the highlighted challenges and be more responsive to the needs of teachers and students

Keywords: eLearning, online learning, EFL teaching and learning, COVID-19, distance education, Saudi Arabia

Doi: <https://doi.org/10.54940/ll86845268>

1658-8126 / © 2025 by the Authors.

Published by J. Umm Al-Qura Univ. Lang. Sci. and Lit.

المؤلف المراسل: محمد رجب النفيعي

البريد الإلكتروني الرسمي: dr.nufaie@gmail.com

1. Introduction

In Wuhan, Chinese authorities reported the first COVID-19 virus case on December 31, 2019. The World Health Organization (WHO) declared a pandemic on March 11, 2020. As part of efforts to control the spread of the virus, the Saudi Ministry of Education closed all educational institutions, including public and private schools, technical and vocational training facilities, and technical schools on March 8. During the global pandemic, Saudi students were kept out of the classroom for 18 months. This research aims to map the perceptions of both EFL teachers and students about their distance education during that crisis. By distance education, we refer to both synchronous and asynchronous types of eLearning.

In addition to its strategic geopolitical location, G20 status, and leadership role among most Islamic countries, Saudi Arabia plays a crucial role regionally and globally. Due to its significance, educators, policymakers, and online learning companies worldwide need an in-depth understanding of online education in Saudi Arabia. The Saudi government has launched several educational initiatives for online classes, such as the Madrasati platform and Microsoft Teams. The aim is to improve educational content quality and stimulate e-learning revenue.

The Saudi e-learning sector has seen substantial growth and evolution, especially as a response to the worldwide challenges brought about by the COVID-19 pandemic. The Saudi e-learning market was valued at US\$1.8 billion by 2022. The International Market Analysis Research and Consulting Group (IMARC Group) projected this market in Saudi Arabia to reach US\$4.3 billion by 2028, growing at a Compound Annual Growth Rate (CAGR) of 15.1% between 2023 and 2028 (56).

Considering the importance of English as a foreign language in Saudi Arabia's Vision 2030 strategy⁽¹⁾, the country has dedicated itself to enhancing education through digital initiatives. In line with this, further steps have been taken to improve English as a Foreign Language (EFL) learning and teaching settings, aligning with Vision 2030 objectives. However, several studies (1-4) have examined the state of EFL learning and teaching before the pandemic. In these studies, technology was limited, teaching methods needed to be updated, feedback needed to be adequate, motivation needed to be higher, and learning outcomes needed to be better. In this review, we aim to consolidate research conducted regarding online English language learning in this critical region during the COVID-19 outbreak. It seeks to understand the perceptions and attitudes of stakeholders (teachers and students) towards online English language education. The focus is on identifying areas of challenge and excellence and establishing a framework for quality online learning and enhancement.

2. Literature Review

2.1. Theoretical Framework

This paper will track research studies of EFL students' and teachers' perceptions of strengths and challenges in EFL distance education in Saudi Arabia during COVID-19. The Technology Acceptance Model (TAM) and the theory of Task-Technology Fit (TTF) will be used to understand and discuss this study's findings.

TAM focuses on the user acceptance of technology like online learning and teaching, emphasizing perceived usefulness (PU) and perceived ease of use (PEOU) as primary determinants⁽⁵⁾. Perceived usefulness refers to the degree to which a person believes that using technology would enhance performance. Perceived ease of use (PEOU) refers to the degree to which a person believes using technology would be free of effort. In contrast, TTF highlights the alignment between task requirements and technology capabilities⁽⁶⁾. The TTF theory posits that technology is more likely to positively impact individual performance and satisfaction when the capabilities of the technology align well with the task's demands.

While TAM and TTF have distinct focal points, they are complementary. TAM is more user-centric, focusing on the individual's perception and acceptance, while TTF emphasizes the alignment between the task and technology. Integrating both models can provide a more comprehensive understanding of technology adoption and utilization. While TAM provides a basis for understanding user acceptance, TTF emphasizes the importance of the fit between technology and tasks. As technology evolves, these theories can guide the development and implementation of effective technology strategies in organizations.

2.2. Previous review studies of Distance Learning During the Pandemic

In the wake of the COVID-19 pandemic, online learning has become increasingly popular. This section presents a comprehensive review of various review studies conducted in Saudi Arabia and other contexts to provide a comprehensive picture of the dynamic nature of online language education during a crisis, highlighting both its potential and limitations.

Previous Review Studies in Different Contexts.

An analysis of 10 studies in Indonesian EFL contexts examined the challenges and responses to emergency distance English language education during the COVID-19 pandemic⁽⁷⁾. The challenges were categorized into five themes (educational, social, technical, interactional/motivational, and comprehension). The responses of teachers, students, and institutions were

analyzed. The findings call for improving the quality of distance education for English language teaching by providing technical support, digital literacy training, and institutional promotion of various platforms.

According to a systematic literature review of 51 articles, ESL learners, particularly those in online classrooms, faced speaking challenges during the COVID-19 pandemic⁽⁸⁾. Several psychological and environmental factors contribute to these challenges. Psychological factors such as fear, anxiety, lack of motivation, shyness, and lack of confidence influence ESL learners' ability to speak English. Environmental factors such as limited resources and unstable internet connections also impact the challenges.

A comprehensive analysis of English language learning and teaching was provided⁽⁹⁾ using 30 studies that examined teachers' and students' perceptions and attitudes toward the transition to emergency online education during the COVID-19 pandemic. This study has identified several challenges and strengths. Examples include limited access to technology, low student engagement, and lack of interaction and communication. Emergency online teaching and learning have several strengths, including digital literacy, online learning flexibility, and innovative approaches to teaching.

A systematic review examined online English Language Teaching (ELT) practices in Indonesia during COVID-19⁽¹⁰⁾. Ninety-four studies evaluated online English Language Teaching (ELT) practices based on the Community of Inquiry (CoI) framework, focusing on Teaching Presence, Cognitive Presence, and Social Presence. Online learning offers various technologies and teaching methods, making it flexible and accessible. There are, however, challenges related to limited interaction between teachers and students, technological limitations, and the need for effective strategies that stimulate cognitive and social development.

A systematic review of 11 studies described various strategies for teaching English online during the COVID-19 pandemic in the Middle East⁽¹¹⁾. The critical strategies identified are collaborative learning, flipped classrooms, and scaffolding. However, a concern is raised about teacher-student interaction in a virtual environment.

A systematic review was conducted to understand research trends, benefits, and challenges associated with flipped classrooms in English as a Foreign Language (EFL) courses during COVID-19⁽¹²⁾. In addition to flexibility, the flipped classroom model improves engagement, increases autonomy, enhances interactions, improves speaking skills, boosts self-confidence, and develops reading skills. Some challenges identified are low interest in pre-specified content, technical and internet issues, extra workload for teachers and learners, adaptation to an unfamiliar

instructional approach, lack of self-discipline, and parental resistance.

According to a systematic review, online and blended learning is effective in schools during and after COVID-19⁽¹³⁾. The review discusses digital education types, including educational games, computer-supported collaborative learning, and computer-assisted instruction. 85% of studies found digital learning more effective than traditional instruction. Blended learning proved to be better than online learning. The study indicates that while online learning offers innovative assessment and collaboration opportunities, it also presents significant technological and well-being challenges that must be addressed.

A systematic review of 45 articles was conducted during COVID-19 to determine the effectiveness of YouTube in improving English language skills and suggest teaching strategies⁽¹⁴⁾. YouTube is an effective tool for improving language skills, self-motivation, engagement, and self-regulated learning. Additionally, YouTube's flexibility, accessibility, and diversity are its strengths. However, internet connectivity and YouTube advertising reduce YouTube's effectiveness.

Previous Review Studies in the Saudi Context.

A review of 18 studies on online English language courses using the Blackboard Learning System was conducted at Saudi Arabian universities during the COVID-19 pandemic⁽¹⁵⁾. According to the study, language proficiency and communication improved. However, it also revealed obstacles such as negative attitudes, inadequate training, security concerns, technological difficulties, and unawareness. These challenges are addressed through training faculty and IT staff, improving technical infrastructure, and creating awareness about online learning.

Quantitative and qualitative studies in the Saudi context were examined to determine how students perceive Blackboard⁽¹⁶⁾. Blackboard provides an interactive virtual learning environment, which improves fluency and accuracy and reduces anxiety. The platform is user-friendly and accessible, aiding learning. Despite implementation challenges, Blackboard's features support collaborative and engaged learning, enhancing the educational experience. For Blackboard to succeed in education, it must be effectively used, planned, and executed. Student engagement and motivation can be a concern. Extending internet connectivity and technical support is vital for uninterrupted learning.

In another literature review, challenges and positive outcomes of the sudden shift to online learning in English as a Foreign Language (EFL) education in Saudi Arabian universities during COVID-19 were investigated⁽¹⁷⁾. The study synthesized over 40 research articles and highlighted key issues such as students'

lack of motivation and engagement, technological challenges, mental health concerns, and infrastructural issues. Additionally, the review explored the positive aspects of e-learning, such as increased flexibility, development of new skills, and opportunities for shy students to participate more. The findings emphasize the need for digital readiness, support for students and teachers, and the importance of visual input in language learning.

Research reviews focused on the shift to online learning in Saudi universities during the COVID-19 pandemic have been conducted⁽¹⁸⁾. Various studies are reviewed to illustrate the challenges faced during this transition. These challenges include technical issues, digital literacy skills, change management, course design, teacher readiness gaps, infrastructure issues, engagement, and interaction. The article suggests a comprehensive approach to improving online learning experiences.

Saudi university students' attitudes toward e-learning during COVID-19 were explored through a review of four primary studies⁽¹⁹⁾. Students' perceptions of e-learning and its benefits and drawbacks were examined. In the study, students showed positive perceptions of various e-learning tools and platforms, with many recognizing benefits such as flexibility, accessibility, improved communication, and collaboration. Internet connectivity problems, discomfort with screen-based learning, and privacy concerns were minor drawbacks. Institutional support is essential for e-learning to be successful.

In conclusion, previous review studies were either literature or systematic reviews. Therefore, this article seems to be the first meta-analysis of online learning strengths and challenges during COVID-19. Additionally, a divergent viewpoint emerges from research on online learning during the pandemic. While some studies cite interaction, engagement, motivation, and assessment as strengths of online education, many others perceive these aspects as challenges. This discrepancy highlights a gap in the literature, suggesting the need for a meta-analysis to evaluate the prevalence and impact of these observations. The current review aims to bridge this gap by offering a more comprehensive understanding of the effectiveness of EFL online learning during the pandemic.

3. Need of Meta-analysis

As highlighted above, insights from the existing literature reviews show conflicting results on the dominance of online learning strengths over challenges in EFL contexts. The uncertainties among researchers require an objective review and analysis of related research studies to map and synthesize teachers' and students' perceptions and reflective beliefs of remote foreign language teaching and learning experiences during the pandemic crisis in Saudi Arabia. A meta-

analysis can address objective measures such as overall effect size, confidence interval, and heterogeneity in the combined results of the reviewed studies. The present study attempts to answer the following questions:

- RQ1.** What are the EFL teachers' and students' perceptions of distance education's main challenges and strengths during COVID-19?
- RQ2.** What is the correlation between the teachers' perceptions and students' perceptions?
- RQ3.** What is the effect size of the perceptions of strengths and challenges of distance education as perceived in the reviewed studies?

4. Method

This study follows PRISMA, a framework for reporting systematic reviews and meta-analyses. It has four stages: identification, screening, eligibility, and inclusion. First, in the identification stage, the search was conducted through the Saudi Digital Library, where we have open access to more than 95,000 journals worldwide. The search was for 'learning and teaching English as a foreign language during covid 19'. It was limited to 'online learning and teaching from January 2020 to December 2023'. The search was for 'full texts' in 'peer-reviewed academic journals' and 'written in English'. It was further limited to perceptions, attitudes, opinions, experiences, views, reflections, or beliefs. Two hundred fifty-six articles were identified in all content providers. The search was then again limited to the geography of Saudi Arabia: 67 articles were found.

In the screening stage, eight articles were removed after title and abstract screening: two duplicates, two articles about Arabic as a second language, one about sign language, and three articles were published in 2020 but conducted before COVID-19. In the eligibility stage and for research quality purposes, the remaining articles should not be published in journals identified in Beall's List of Potential Predatory Journals and Publishers (<https://beallslit.net/>). Also, they should not be published in journals that falsely claim to be indexed in Scopus, like The Asian ESP Journal, The TESOL International Journal, The Asian EFL Journal, and the Journal of Language and Linguistic Studies. Twenty-four articles were removed accordingly. Thirty-five articles were eligible for review and analysis in the inclusion stage.

4.1. Data Analysis

The 35 articles have undergone several steps for review and data analysis. First, tables in Excel sheets were used to break down the articles into their authors, date of publication, titles, authors' institutions, instruments used, publication journals, participants, and findings. Second,

another Excel sheet was used to classify the findings into strengths and challenges. After that, the data collected from the articles were qualitatively analyzed using thematic analysis⁽²⁰⁾, and the main themes emerging from the data were extracted. We ended up with six themes reflecting the challenges and strengths of online

education during COVID-19. These themes were related to flexibility, motivation, technicality, interaction, attitude, and assessment. The table below explains our interpretation of each theme. Next, a third Excel sheet was used to count the frequency of the existence of these themes in the reviewed articles.

Table 1: The Six Themes of Strengths and Challenges

Theme	Meaning	Sample Articles
Flexibility	The flexibility of learning/teaching, constant availability of learning materials, and learning/teaching at one’s own pace—the online mode saves learning or teaching time, accessibility, and convenience.	(21-29)
Technicality	Refers to the state of technical literacy, digital competence, and skills needed or obtained when using online devices or platforms for learning or teaching. Or issues faced like software and hardware maintenance, internet connectivity, and affordability.	(30-37)
Motivation	Any report of self-directed desire, willingness or enjoyment to participate, inspiration, intrinsic and extrinsic encouragement, reduced anxiety, increased autonomy, cognitive or affective engagement.	(38-42)
Interaction	This refers to online interaction, discussion, feedback, behavioral engagement, and communication. It can be a negative point when there is a lack of it, a distraction, or a preference for in-person interaction.	(43-47)
Attitude	The general attitudes and perceptions about the usefulness of overall online learning and teaching experiences.	(48-51)
Assessment	The general perceptions about the effectiveness of online assessment.	(52-55)

The validity of those themes as close representations of strengths and challenges was established by asking a colleague to choose three articles randomly and report his findings. Those articles were (22, 26, 51). The current researcher identified eight challenges and 14 strengths in those articles. The colleague also identified eight challenges but 11 strengths. When the findings were compared, 87% agreement was achieved.

After that, the frequency of the six themes’ events was statistically analyzed using the Statistical Package for the Social Sciences (SPSS) and Jamovi statistical spreadsheet. SPSS was used for the frequency tables and correlation, while Jamovi was used for the proportional meta-analysis. The proportional meta-analysis is a statistical method that combines results from multiple studies that report any binary, dichotomous, or categorical data, such as the presence or absence of a particular condition reported in proportion, fraction, percentage, or rate of occurrence.

5. Results

General Findings Of the thirty-five reviewed articles, twenty-seven presented strengths and challenges regarding distance education during COVID-19. Four articles reported strengths only, and another four articles discussed challenges only. There were 5430 participants: 4097 students and 1333 teachers. There were 1941 males and 3489 females. Twenty-three studies reported students’ perceptions of online learning during COVID-19, and twenty studies explored teachers’ perceptions of online learning during COVID-19.

RQ1. What are the EFL teachers’ and students’ perceptions of distance education’s main challenges and strengths during COVID-19?

In Table 2, teachers’ and students’ perceptions of the strengths and challenges of distance English language education are presented. In both strengths and challenges, teachers’ perceptions have a high response validity rate,

Table 2: Case Summary of Perceptions Weighted by Participants

	Valid		Cases Missing		Total	
	N	Percent	N	Percent	N	Percent
Teachers’ Perceptions of Strengths ^a	1199	89.9%	134	10.1%	1333	100.0%
Teachers’ Perceptions of Challenges ^b	1333	100.0%	0	0.0%	1333	100.0%
Students’ Perceptions of Strengths ^a	2986	72.9%	1111	27.1%	4097	100.0%
Students’ Perceptions of Challenges ^b	3414	83.3%	683	16.7%	4097	100.0%

Dichotomy group tabulated at value 1.
Dichotomy group tabulated at value 2.

but there is an exceptionally high response rate in the challenges category. Students' perceptions of strengths are less valid than teachers' perceptions. In addition, teachers have fewer missed responses than students' perceptions. Perhaps teachers are more confident about their perceptions or more willing to articulate them. In light of this, teachers may have a greater tendency to be decisive or committed to responding to challenges and strengths. Based on the number of responses and their respective percentages, Table 3 breaks down teachers' perceptions into six attributes of strengths and challenges. As perceived by EFL teachers, attitude (54.7%) is the most cited strength in EFL distance

education, while motivation (4.1%) and assessment (0%) are the least cited strengths. EFL teachers in distance education are most concerned about interaction (28.6%) and assessment (26.8%), with interaction being the most frequently reported challenge among the six themes.

Additionally, certain areas have significant differences in their representation of strengths and challenges. Flexibility and Assessment, for example, differ in how they portray strengths and challenges. From an EFL teacher's point of view, distance education flexibility is not a challenging concept. In contrast, distance assessment has negative perceptions.

Table 3: Teachers' Perceptions Weighted by Teachers' Numbers

		Responses		Percent of Cases
		N	Percent	
Perceptions of Strengths	Flexibility	547	26.9%	45.6%
	Motivation	83	4.1%	6.9%
	Technicality	161	7.9%	13.4%
	Interaction	131	6.4%	10.9%
	Attitude	1113	54.7%	92.8%
	Assessment	0	0%	0%
Total		2035	100.0%	169.7%
Perceptions of Challenges	Flexibility	0	0%	0%
	Motivation	526	16.8%	39.5%
	Technicality	687	22.0%	51.5%
	Interaction	894	28.6%	67.1%
	Attitude	184	5.9%	13.8%
	Assessment	838	26.8%	62.9%
Total		3129	100.0%	234.7%

Table 4 below categorizes students' perceptions of strengths and challenges. Students' most frequently identified strengths are flexibility (32.1%) and attitude (30.8%), indicating they feel most confident in these areas. In addition, 20.2% of students

reported being motivated by online learning. On the other hand, a significant challenge for students in EFL distance education is technicality (32.8%), followed by interaction (21.4%) and assessment (20.7%).

Table 4: Students' Perceptions Weighted by Students' Numbers

		Responses		Percent of Cases
		N	Percent	
Perceptions of Strengths	Flexibility	2796	32.1%	93.6%
	Motivation	1758	20.2%	58.9%
	Technicality	38	0.4%	1.3%
	Interaction	863	9.9%	28.9%
	Attitude	2683	30.8%	89.9%
	Assessment	577	6.6%	19.3%
Total		8715	100.0%	291.9%
Perceptions of Challenges	Flexibility	0	0%	0%
	Motivation	590	7.6%	17.3%
	Technicality	2551	32.8%	74.7%
	Interaction	1661	21.4%	48.7%
	Attitude	1364	17.5%	40.0%
	Assessment	1610	20.7%	47.2%
Total		7776	100%	227.8%

RQ2. What is the correlation between the teachers' perceptions and students' perceptions?

Table 5 summarizes teachers' and students' perceptions of distance learning strengths and challenges based on an average perception score. A higher average score indicates a higher perception of challenges, while a lower score indicates a higher perception of strengths. In contrast to students ($M= 1.513$), teachers have a slightly higher mean perception score ($M= 1.609$), indicating a slightly higher perception of challenges.

Table 5: Descriptive Statistics of Total Perceptions

	M	SD	N
Teachers	1.609	.3067	3369
Students	1.513	.3602	4470

As shown in Table 6, teacher and student overall perceptions of strengths and challenges are correlated. A solid positive relationship exists between their perceptions, as indicated by the Pearson correlation coefficient of 0.979. According to this, teachers perceive strengths and challenges in a manner similar to students' perceptions. It is unlikely that this correlation could

have occurred by chance since the significance level is less than 0.001.

Table 6: Correlations of Perceptions Weighted by Participants

		Teachers	Students
Teachers	Pearson Correlation	1	.979**
	Sig. (2-tailed)		<.001
	N	3369	2409
Students	Pearson Correlation	.979**	1
	Sig. (2-tailed)	<.001	
	N	2409	4470

** . Correlation is significant at the 0.01 level (2-tailed).

RQ3. What is the effect size of the perceptions of strengths and challenges of distance education as perceived in the reviewed studies?

Using the forest plots (Figure 1 and Figure 2) below, we can determine the magnitude of effect, variability, and potential bias for studies that reported one or more of the six strengths or challenges perceived by students and teachers during COVID-19.

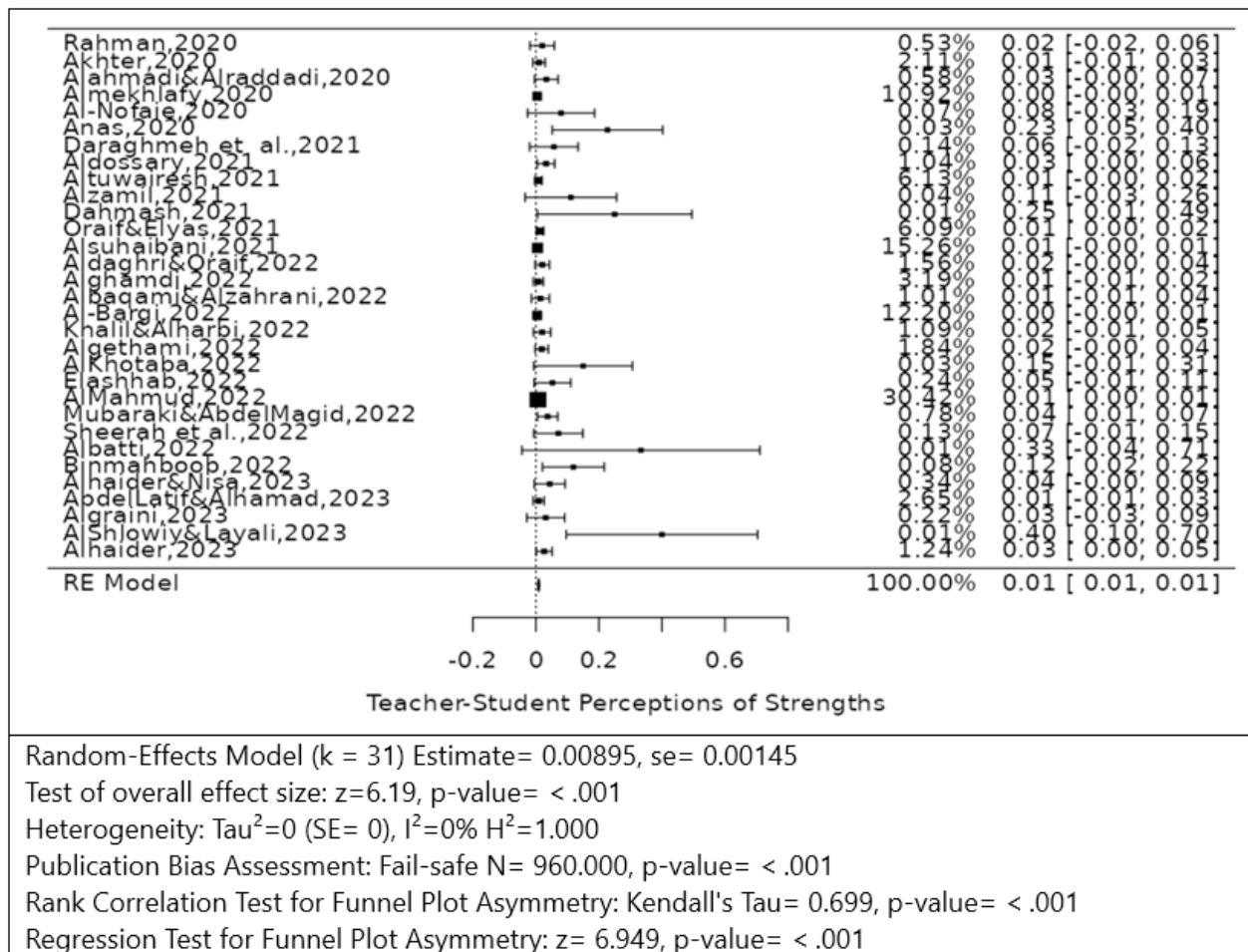


Figure 1. Teacher-Student Perceptions of Strengths

This proportional meta-analysis in Figure 1 concerns the reported strengths perceived by teachers and students across the reviewed studies. The combined effect size, calculated using the random-effects model (Estimate= 0.00895), implies a small but significant effect—Standard Error (SE= 0.00145) measures variability in the effect size estimate, indicating precision. The Z-score (6.19) and P-value (<0.001) demonstrate that the effect size is statistically significant. I^2 (0%) indicates no observed heterogeneity among the studies.

It is based on Tau^2 (0.000) to measure the variance in effect sizes across studies. Fail-safe N (960.000) and associated P-values indicate there is little likelihood that publication bias will be present. In Kendall's Tau and Regression Test for Funnel Plot Asymmetry, positive P-values indicate no apparent asymmetry in the funnel plot, further supporting no publication bias. Despite the small, significant effect size, these results indicate low heterogeneity, publication bias, and precision.

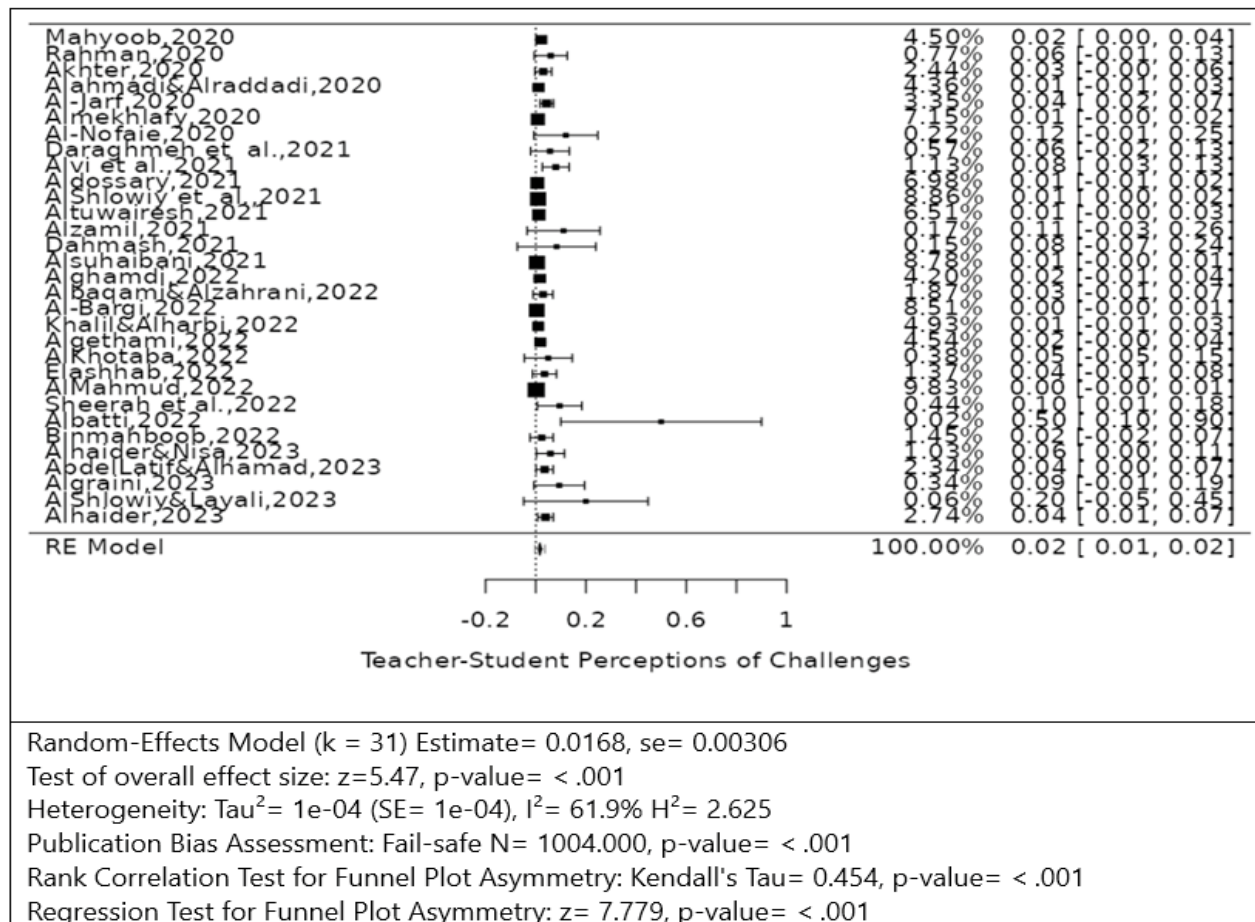


Figure 2. Teacher-Student Perceptions of Challenges

The second proportional meta-analysis is presented in Figure 2 above regarding the challenges teachers and students perceive across the reviewed studies. As indicated by the larger random-effects model estimate (0.0168), a moderate effect size has been determined. This estimate has a good level of precision, as indicated by its standard error (0.00306). The Z-score (5.47) and P-value (0.001) indicate this effect is statistically significant. This study's heterogeneity is more prevalent, as indicated by the higher I^2 (61.9%) and Tau^2 (1e-04). According to these findings, effect sizes vary from study to study. The publication bias appears low, with a high Fail-safe N (1004) and symmetrical funnel plot indicators (Kendall's Tau and Regression Test Z-score)

showing significant P-values. Despite variability among studies, the findings appear robust.

6. Discussion

This study is a meta-analysis of the perceptions of teachers and students regarding the strengths and challenges of EFL distance education during COVID-19 in Saudi Arabia. There is statistical data on flexibility, motivation, technicality, interaction, attitude, and assessment, both as perceived strengths and challenges. Additionally, the study presents correlations between teachers' and students' perceptions and discusses the effect size variation and potential bias in the reviewed studies.

Students and teachers ranked attitude and flexibility as essential strengths of EFL online education. However, they cited interaction, assessment, and technicality as challenges. The findings of this meta-analysis research are pretty interesting. First, teachers and students generally perceive online education as adaptable and convenient because the emphasis on attitude and flexibility is positive. The convenience of accessing materials at any time and tailoring learning to fit your schedule could contribute to this. In addition, teachers' concerns about interaction and assessment point to perceived limitations in engaging students and assessing their performance effectively online. In addition, the reported technical challenges in online learning indicate issues with accessing or using the necessary technology. Students share these concerns, indicating mutual recognition. This is due to factors like internet connectivity, inadequate devices, or lack of technical skills. In addition, a strong positive correlation exists between teachers' and students' perceptions of online education. This indicates that both groups generally agree on strengths and challenges. It suggests that both parties share the same online learning experiences. Furthermore, the more significant effect size for perceived challenges compared to strengths indicates that online education difficulties substantially impact participants. In other words, although flexibility and positive attitudes are appreciated in online education, the difficulties of interaction, assessment, and technicality play a more significant role in influencing the overall experience.

A further discussion of the results can be conducted using the Technology Acceptance Model (TAM) and Theory of Task-Technology Fit (TTF), examining the relationship between EFL distance education's perceived strengths and challenges and technology acceptance. Based on TAM theory, the study's findings on perceived strengths of aspects such as flexibility and attitude can be linked to the overall usefulness of EFL distance education. In the reviewed studies, teachers and students found distance education flexible, which could have enhanced their perceptions of its usefulness in COVID-19. Despite this, technicality and interaction difficulties can negatively influence perceived ease of use directly or indirectly. Therefore, teachers, educators, and policymakers must address this crucial issue in teaching methods, learning materials, and platform designs. Since these aspects were reported as challenges, this might negatively affect the users' acceptance and continuous online learning.

In contrast, the Theory of Task-Technology Fit (TTF) suggests that technologies are more likely to be accepted and effectively used if their capabilities match the tasks they are intended to support. As reported in the reviewed studies, online learning technology requires more interaction and assessment. Delivering language content and facilitating interaction is the goal of EFL distance education. This indicates a poor fit between

task requirements and technological capabilities. In addition, the study's data on strengths and challenges can be linked to how well technology supports users in achieving their educational goals. The good fit represented by flexibility and a positive attitude would likely enhance performance. Nevertheless, the poor fit represented by the frequently reported challenges of technicality, interaction, and assessment could hinder teachers' and students' performance.

COVID-19 was a unique event that prompted a rapid shift to distance education, which may have influenced technology acceptance and fit. However, it is possible to make informed decisions about adjustments or improvements to the technology used for distance education in EFL contexts when you understand the strengths and challenges of online learning. As users have to adapt to new teaching and learning methods quickly, this will affect perceived usefulness and ease of use.

7. Conclusion

In conclusion, this meta-analysis offers a comprehensive understanding of the strengths and challenges of English as a Foreign Language (EFL) distance education in Saudi Arabia during the COVID-19 pandemic, with significant insights into teachers' and students' perceptions. By identifying attitude and flexibility as essential strengths, online EFL education emphasizes its adaptability and convenience. According to the Technology Acceptance Model (TAM), these strengths are reflected in the ability to access learning materials at any time and customize learning experiences.

On the other hand, interaction, assessment, and technical difficulties highlight students' limitations in engagement and performance. These challenges directly or indirectly influence TAM's perceived ease of use and suggest the need for policy and pedagogical interventions and technology enhancements. Teachers and students recognize these challenges as shared experiences in online learning. Their perceptions are strongly correlated, which further confirms this.

These findings can be interpreted differently using the Theory of Task-Technology Fit (TTF). The mismatch between technology capabilities and EFL distance education requirements in interaction and assessment indicates a gap that needs to be addressed. Even though flexibility and a positive attitude toward online learning suggest a good fit and the potential for enhanced performance, the challenges highlight a significant misalignment that could adversely impact student achievement.

Moreover, the large effect size for perceived challenges compared to strengths suggests that online education difficulties, particularly during COVID-19's rapid

transition, have a more substantial impact on users. Saudi Arabia has made substantial investments in the online learning market, making this a critical consideration for policymakers and educational institutions nationwide and worldwide. Future decisions regarding technological adjustments and improvements in EFL distance education will be guided by insights gained from this study. To enhance perceived usefulness and ease of use, these decisions must consider the ability to adapt rapidly to unforeseen circumstances, such as global pandemics. In this way, distance education can be effectively and sustainably implemented.

7.1. Recommendations for Institutions

Based on the insights gained from this meta-analysis, institutions can derive several actionable recommendations. Institutions should develop and implement policies that encourage and facilitate interaction between students and teachers. This can be achieved through regular synchronous sessions, discussion forums, and collaborative projects. In addition, teachers should receive training on engaging students in a virtual environment. This includes techniques for interactive teaching, using multimedia resources, and effectively leveraging communication tools. Institutions should also explore and implement diverse assessment methods that are better suited to online learning. These include formative assessments, peer assessments, and project-based evaluations, which provide a more comprehensive picture of student learning. Teachers should focus on providing timely and constructive feedback to students to help them understand their progress and areas for improvement. Furthermore, institutions should invest in robust technical infrastructure and provide ongoing technical support to both teachers and students. This includes ensuring reliable internet access, providing necessary hardware, and offering troubleshooting assistance. Both teachers and students should receive training on using the various online learning platforms and tools efficiently to minimize technical difficulties.

7.2. Recommendations for Future Research

Future research should focus on longitudinal studies to track the long-term impact of online EFL education on student achievement and engagement. Also, we need to conduct comparative studies between different regions or countries to identify best practices and contextual differences in online EFL education. Moreover, researchers should investigate the impact of emerging technologies, such as artificial intelligence and virtual reality, on enhancing interaction, assessment, and overall learning experiences in EFL distance education.

Conflict of Interest

The author has no conflict of interest to declare.

Funding

This research did not receive any specific grant from funding agencies in the public, commercial, or non-profit sectors.

Acknowledgement

I extend my gratitude to my colleague, Dr. Azibaoguanasi Williams and the reviewers for their comments and suggestions which have helped to improve this paper.

Data Availability Statement

The Data used in the course of this study are available on request from the author.

Open Access and Copyright

The Journal of Umm Al-Qura University for Language Sciences and Literature (JUQULSL) is proudly owned and published by Umm Al-Qura University. We hold firm to the belief that research serves as a valuable asset to society, embodying a collective investment by our community. The Journal operates as an open-access platform, making all published articles freely accessible to the public, thereby permitting unrestricted reading, downloading, copying, and distribution. To endorse this open-access commitment, Umm Al-Qura University assumes full responsibility for covering the publication expenses associated with the Journal, including any article-processing charges (APC) that authors would typically bear. Our unwavering dedication to immediate open access is grounded in the conviction that the voluntary sharing of research with the public fosters a more extensive and inclusive global knowledge exchange. JUQULSL is licensed under <https://creativecommons.org/licenses/by-nc/4.0/>

References

1. Al-Shehri S. Transforming English language education in Saudi Arabia: Why does technology matter? *International Journal of Emerging Technologies in Learning (iJET)*. 2020;15(06):108. <https://doi.org/10.3991/ijet.v15i06.12655>
2. Alrabai F. Factors underlying low achievement of Saudi EFL learners. *International Journal of English Linguistics*. 2016;6(3):21. <https://doi.org/10.5539/ijel.v6n3p21>
3. Hasan A. Saudi Learner Issues. In: Al-Amri W, McGee I, Noor H, editors. *Saudi preparatory year English program: The future and beyond. Student teacher pedagogy and curricular issues*. Madinah: Taibah University; 2012. p. 7-17.

4. Al-Zahrani N, Rajab H. Attitudes and perceptions of Saudi EFL teachers in implementing Kingdom of Saudi Arabia's Vision 2030. *Int J Engl Lang Educ.* 2017;5(1):83. <https://doi.org/10.5296/ijele.v5i1.10733>
5. Venkatesh V, Bala H. Technology acceptance model 3 and a research agenda on interventions. *Decision Sciences.* 2008;39(2):273-315. <https://doi.org/10.1111/j.1540-5915.2008.00192.x>
6. Dishaw MT, Strong DM. Extending the technology acceptance model with Task–Technology Fit Constructs. *Information & Management.* 1999;36(1):9-21. [https://doi.org/10.1016/s0378-7206\(98\)00101-3](https://doi.org/10.1016/s0378-7206(98)00101-3)
7. Karataş T, Tuncer H. COVID-19-prompted emergency distance English language education from EFL students' perspective: A scoping review on challenges and responses. *Educational Policy Analysis and Strategic Research.* 2022;17(4):87-111. <https://doi.org/10.29329/epasr.2022.478.4>
8. Adickalam ER, Yunus MM. Systematic literature review: Investigating speaking challenges among ESL learners during the covid-19 pandemic. *Theory and Practice in Language Studies.* 2022;12(6):1145-56. <https://doi.org/10.17507/tpls.1206.14>
9. Erarslan A. English language teaching and learning during COVID-19: A global perspective on the first year. *Journal of Educational Technology and Online Learning.* 2021;4(2):349-67. <https://doi.org/10.31681/jetol.907757>
10. Gozali I, Istiqomah F, Widiati U. A systematic review of online ELT research in Indonesia during the COVID-19 pandemic through the community of Inquiry Framework. *Journal of Information Technology Education: Research.* 2022;21:501-46. <https://doi.org/10.28945/5033>
11. Khreisat MN. English language learning strategies during COVID-19 in the Middle East: A systematic review. *Arab World English Journal.* 2022;13(1):56-71. <https://doi.org/10.24093/awej/vol13no1.4>
12. Linling Z, Abdullah R. The impact of COVID-19 pandemic on Flipped Classroom for EFL courses: A systematic literature review. *SAGE Open.* 2023;13(1):215824402211481. <https://doi.org/10.1177/21582440221148149>
13. Topping KJ, Douglas W, Robertson D, Ferguson N. Effectiveness of online and blended learning from schools: A systematic review. *Review of Education.* 2022;10(2):1-41. <https://doi.org/10.1002/rev3.3353>
14. Widiantari IA, Dewi NL, Artini L. YouTube as an alternative learning media for independent bilingual young learners: A Review. *JET (Journal of English Teaching).* 2023;9(1):83-97. <https://doi.org/10.33541/jet.v9i1.4611>
15. Aljuaid H. Online learning of English language courses via blackboard at Saudi universities during covid-19: Challenges and difficulties. *The Journal of AsiaTEFL.* 2021;18(3):780-99. <https://doi.org/10.18823/asiatefl.2021.18.3.3.780>
16. Al-Oqaily EI, Salam AR, Na KS. The use of blackboard in the practice of English-speaking skills among Saudi EFL learners during COVID-19. *Arab World English Journal.* 2022; Special Issue on Covid-19 Challenges (2):342-55. <https://doi.org/10.24093/awej/covid2.23>
17. Al-Samiri RA. English language teaching in KSA in response to the COVID-19 pandemic: Challenges and positive outcomes. *Arab World English Journal.* 2021; Special Issue on Covid-19 Challenges(1):147-59. <https://doi.org/10.24093/awej/covid.11>
18. Aljohani N. Shifting focus to online learning during the COVID-19 pandemic in Saudi universities: Challenges and opportunities. *Education for Information.* 2022;38(1):37-51. <https://doi.org/10.3233/efi-211533>
19. Layali K, Al-Shlowiy A. Students' perceptions of e-learning for ESL/EFL in Saudi Universities at time of coronavirus: A literature review. *Indonesian EFL Journal.* 2020;6(2):97. <https://doi.org/10.25134/iefj.v6i2.3378>
20. Braun V, Clarke V. Using thematic analysis in psychology. *Qualitative Research in Psychology.* 2006;3(2):77-101. <https://doi.org/10.1191/1478088706qp063oa>
21. Alhaider SM, Nisa S. Advantages and challenges of eLearning before and after the COVID-19 pandemic: Faculty and Student Perceptions in Saudi education. *Theory and Practice in Language Studies.* 2023;13(4):891-900. <https://doi.org/10.17507/tpls.1304.10>
22. Aldaghri AA, Oraif IM. The impact of online teaching on students' engagement in writing during the pandemic of COVID-19. *Turkish Online Journal of Distance Education.* 2022;23(3):216-29. <https://doi.org/10.17718/tojde.1137290>
23. Aldossary K. Online distance learning for translation subjects: Tertiary level instructors' and students' perceptions in Saudi Arabia. *Turkish Online Journal of Distance Education.* 2021;pp. 96-109. <https://doi.org/10.17718/tojde.961821>
24. Almekhlafy SS. Online learning of English language courses via blackboard at Saudi universities in the era of COVID-19: Perception and use. *PSU Research Review.* 2020;5(1):16-32. <https://doi.org/10.1108/pr-08-2020-0026>
25. Al-Nufaie H. Saudi University Students' perceptions towards virtual education during COVID-19 pandemic: A case study of language learning via blackboard. *Arab World English Journal.* 2020;11(3):4-20. <https://doi.org/10.24093/awej/vol11no3.1>
26. Altuwairesh N. Female Saudi University Students' perceptions of online education amid covid-19 pandemic. *Arab World English Journal.* 2021; Special Issue on Covid-19 Challenges(1):381-97. <https://doi.org/10.24093/awej/covid.28>
27. Alzamil A. Teaching English speaking online versus face-to-face: Saudi students' experience during the COVID-19 pandemic. *Arab World English Journal.* 2021;12(1):19-27. <https://doi.org/10.24093/awej/vol12no1.2>
28. Algethami G. Teachers' perspectives towards teaching English online at the tertiary level in Saudi Arabia. *Arab World English Journal.* 2022; Special Issue on Covid-19 Challenges(2):317-28. <https://doi.org/10.24093/awej/covid2.21>
29. Rahman MM. Challenges and solutions of teaching English as a foreign language online during a global pandemic like COVID-19: Saudi EFL teachers' perspectives. *Journal of Southwest Jiaotong University.* 2020;55(6). <https://doi.org/10.35741/issn.0258-2724.55.6.10>

30. Mahyoob M. Challenges of e-learning during the COVID-19 pandemic experienced by EFL learners. *Arab World English Journal*. 2020;11(4):351-62. <https://doi.org/10.24093/awej/vol11no4.23>
31. Akhter T. Problems and challenges faced by EFL students of Saudi Arabia during COVID-19 pandemic. *Rupkatha Journal on Interdisciplinary Studies in Humanities*. 2020;12(5). <https://doi.org/10.21659/rupkatha.v12n5.rioc1s23n5>
32. Alahmadi N, Alraddadi B. The impact of virtual classes on Second language interaction in the Saudi EFL context: A case study of Saudi undergraduate students. *Arab World English Journal*. 2020;11(3):56-72. <https://doi.org/10.24093/awej/vol11no3.4>
33. Al-Jarf R. Distance learning and undergraduate Saudi students' agency during the COVID-19 pandemic. *Bulletin of the Transilvania University of Braşov Series IV: Philology. Cultural Studies*. 2020;13 (62)(2):37-54. <https://doi.org/10.31926/but.pcs.2020.62.13.2.4>
34. BinDahmash N. Synchronous and asynchronous English writing classes in The EFL context: Students' practices and benefits. *Arab World English Journal*. 2021;12(2):93-108. <https://doi.org/10.24093/awej/vol12no2.7>
35. Elashhab S. Attitudes and perspectives of Saudi female medical students towards online EFL Education under COVID-19 circumstances. *Arab World English Journal*. 2022;Special Issue on Covid-19 Challenges(2):104-19. <https://doi.org/10.24093/awej/covid2.7>
36. Alhaider SM. Teaching and learning the four English skills before and during the covid-19 ERA: Perceptions of EFL faculty and students in Saudi Higher Education. *Asian-Pacific Journal of Second and Foreign Language Education*. 2023;8(1):1-19. <https://doi.org/10.1186/s40862-023-00193-6>
37. Alsuhaibani Z. Saudi EFL students' use and perceptions of blackboard before and during online learning amid COVID-19. *Arab World English Journal*. 2021;7(1):22-37. <https://doi.org/10.24093/awej/call7.2>
38. Binmahboob T. EFL learners' perspectives of e-learning during the COVID-19 pandemic: A study on Saudi college students. *Arab World English Journal*. 2022;13(3):467-81. <https://doi.org/10.24093/awej/vol13no3.30>
39. Oraif I, Elyas T. The impact of COVID-19 on learning: Investigating EFL learners' engagement in online courses in Saudi Arabia. *Education Sciences*. 2021;11(3):99. <https://doi.org/10.3390/educsci11030099>
40. Anas A. Perceptions of Saudi students to blended learning environments at the University of Bisha, Saudi Arabia. *Arab World English Journal*. 2020;pp. 6, 261-77. <https://doi.org/10.24093/awej/call6.17>
41. Mubarak AM, AbdelMagid IH. An investigation of the EFL Learners' perceptions about virtual classes during COVID-19 in Hafr Al Batin University. *Pegem Journal of Education and Instruction*. 2022;12(3):32-43. <https://doi.org/10.47750/pegegog.12.03.04>
42. Sheerah HA, Yadav MS, Fadl-Allah MA, Abdin GJ. Exploring teachers' and students' perceptions towards emergency online learning intensive English writing course during the COVID-19 pandemic. *Arab World English Journal*. 2022; Special Issue on Covid-19 Challenges (2):64-84. <https://doi.org/10.24093/awej/covid2.5>
43. Khalil L, Alharbi K. Descriptive study of EFL teachers' perception toward e-learning platforms during the COVID-19 pandemic. *Electronic Journal of E-Learning*. 2022;20(4). <https://doi.org/10.34190/ejel.20.4.2203>
44. Al-Khotaba E. Interaction in e-learning setting through teaching English as foreign language by native-English teachers: E-classroom discourse. *Arab World English Journal*. 2022;Special Issue on Covid-19 Challenges(2):466-78. <https://doi.org/10.24093/awej/covid2.31>
45. Daraghmeh A, Mead H, Copeland K. English K-12 teacher experiences in Saudi Arabia in the pandemic era: A follow-up study of one KHBRAAT University Program. *Arab World English Journal*. 2021;Special Issue on COVID-19 Challenges(1):3-20. <https://doi.org/10.24093/awej/covid.1>
46. Alghamdi N. EFL teachers' perceptions on the implementation of mobile-assisted language learning in Saudi Arabia during covid-19: Challenges and affordances. *Journal of Language Teaching and Research*. 2022;13(1):92-100. <https://doi.org/10.17507/jltr.1301.11>
47. Albatti H. E-learning for English language teaching in higher education institutions in Saudi Arabia during covid-19 pandemic. *Arab World English Journal*. 2022;13(4):355-71. <https://doi.org/10.24093/awej/vol13no4.23>
48. Alvi AH, Bilal SM, Alvi AA. Technology pedagogy & assessment: Challenges of COVID-19 imposed e-teaching of ESP to Saudi female PY students. *Arab World English Journal*. 2021; Special Issue on Covid-19 Challenges(1):334-53. <https://doi.org/10.24093/awej/covid.25>
49. AlMahmud F. Teaching and learning English as a foreign language speaking skills through blackboard during COVID-19. *Arab World English Journal, Special Issue on CALL*. 2022;8:214-230. <https://doi.org/10.24093/awej/call8.15>
50. Al-Shlowiy A, Al-Hoorie AH, Alharbi M. Discrepancy between language learners and teachers concerns about emergency remote teaching. *Journal of Computer Assisted Learning*. 2021;37(6):1528-43. <https://doi.org/10.1111/jcal.12543>
51. Albaqami S, Alzahrani D. Transition to online EFL teaching in Saudi Arabian universities during the COVID-19 Outbreak. *Arab World English Journal*. 2022; Special Issue on Covid-19 Challenges (2):216-32. <https://doi.org/10.24093/awej/covid2.14>
52. Al-Bargi A. Exploring online writing assessment amid COVID-19: Challenges and opportunities from teachers' perspectives. *Arab World English Journal*. 2022;Special Issue on Covid-19 Challenges(2):3-21. <https://doi.org/10.24093/awej/covid2.1>
53. Algraini FN. Saudi EFL University Instructors' perceptions of online education during the COVID-19 pandemic. *Journal of Language Teaching and Research*. 2023;14(3):799-807. <https://doi.org/10.17507/jltr.1403.28>
54. Abdel-Latif MM, Alhamad MM. Emergency remote teaching of foreign languages at Saudi Universities: Teachers' reported challenges, coping strategies, and training needs. *Education and Information Technologies*. 2022;14(3):799-807. <https://doi.org/10.17507/jltr.1403.28>

- 2023;28(7):8919-44. <https://doi.org/10.1007/s10639-022-11512-8>
55. Al-Shlowiy A, Layali K. EFL teachers' perceptions of a long shift to online learning in a Saudi University during the coronavirus pandemic. *Theory and Practice of Second Language Acquisition*. 2023;9(1):1-18. <https://doi.org/10.31261/tapsla.12096>
- The International Market Analysis Research and Consulting Group. Saudi Arabia e-learning market size, share, trends 2023-2028. IMARC Group. 2023.