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Exploring Saudi Teacher's Readiness to Use Augmented Reality (AR) Technology to Teach English Language in Schools

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Abstract

This study seeks to investigate the readiness of Saudi teachers to use augmented reality (AR) technology to enhance English language instruction in secondary schools in Riyad, Saudi Arabia. With the increasing integration of technology into educational settings, AR technology has garnered considerable attention as a potential aid for engaging and motivating language learners. Throughout this research, ten Saudi English language teachers from selected secondary schools in Riyad were interviewed to collect data. The findings consistently indicate a resoundingly positive response to AR technology, with teachers keen to incorporate it into English language classes. In addition, the study revealed that Saudi teachers recognised several significant advantages of AR technology in English language teaching. These results suggest that AR has the potential to revolutionize traditional teaching methods and improve the educational experience for both teachers and students. English language teachers in the study area are eager to adopt AR technology as an effective instrument for teaching English in secondary schools. This study catalyzes future research and collaboration to effectively integrate AR technology into the English language curriculum, thereby transforming the way English is taught and learned in Saudi Arabian secondary schools.

Keywords: *Readiness, Saudi Teachers, Augmented Reality Technology, English Language Teaching, Secondary Schools.*

Introduction

The term "Augmented Reality" (AR) was introduced by Tom Caudell, a researcher employed at Boeing, in the year 1990. During that period, prominent corporations commenced employing augmented reality (AR) for visualization training, as a means of preparing individuals for piloting and other related objectives (Johnson, Levine, Smith, & Stone, 2010). However, recent developments in augmented reality (AR) have led to its integration with mobile technology. As a result, individuals possessing a mobile device can utilise augmented reality (AR) in educational settings (Mohamed et al., 2019a, p.732). According to the EDUCAUSE Learning Initiative (2005), numerous experts hold the belief that augmented reality (AR) has the potential to significantly enhance educational curricula in various countries.

Moreover, recent research has indicated that augmented reality (AR) possesses the potential to significantly enhance teaching and learning processes, namely in the domain of English reading instruction.

The teaching of English Reading skills is likely to pose unique problems, especially for learners of English as a second (ESL) or foreign (EFL) language (Mohamed et al., 2019b,p.69). It is clear even for English speakers who are barely proficient readers. English notions and their related schematics are difficult to comprehend especially for ESL/EFL learners who do not perform well in English and lack schemata. Krashen reinforces this statement saying there is a tendency among ESL/EFL learners to read more in English. The problem is, that they are not successful in their attempts mostly because they do not have adequate exposure to reading materials, and textbooks, and do not perform well in undertaking reading activities outside exam conditions. One should bear in mind though, that these learners are not incapable of reading proficiently compared to a native speaker of the language. Now, this can be baffling to consider the power of Augmented Reality (AR) to improve learners' novels acts of reading as pointed out by Ariffin and Razali (2019) Indeed, the realm of reading instruction is often a domain where augmented reality (AR) has shown considerable advantages. The major drawback of augmented reality (AR) apps is that their integration into the classroom setting requires reading ability because all AR applications are text-based.

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In addition, Huang and Liaw's (2011) study has suggested that augmented reality (AR) learning environment development can increase the learners' interest towards learning, particularly in reading skills of the English language.

The author of this paper argues that the same premise of AR can be employed to establish better engagement in texts among Saudi ESL/EFL students, thus improving their reading skills. As a result, this technology can help develop the reading skills of these students. The introduction of Augmented Reality (AR) which is a relatively new technique can be used for reducing the boredom that ESL and EFL learners often face when dealing with reading activities, thereby increasing their motivation to read. Kolper and Sheldon (2010) in their work on an enhanced reality view argued that augmented reality (AR) can radically improve students' learning by allowing them to interact with an advanced world that they are not able to access because of the geographical location they come from or the culture they belong to. It can provide an answer to the problem of lack of sufficient knowledge regarding English in ESL/EFL students.

AR makes educational content flexible and adjustable by deepening the learner's surroundings with digital content. This modification of a student's physical learning environment with engaging digital content is conducive to learning (Santos et al., 2016, p. 4).

However, there seems to be an imbalance in how much literature examines the effectiveness of Augmented Reality (AR) from the perspective of reading skills development in English instruction and its motivational aspect while how much literature investigates issues of Saudi English teachers' acceptance, readiness, and intentions to use AR within English classrooms seem lacking. One of the concerns that need attention is how teachers' readiness and ability to apply AR to English reading instructions affect the integration of augmented reality (AR) into English language teaching, particularly in reading comprehension.

The changing landscape of the English Language poses a difficulty for students wanting to learn English around the world including Saudi Arabia.

A common problem faced when students are required to learn a foreign language is the lack of interest the students show in reading English texts. As noted in the study carried out by Guthrie and Davis, it was established that people who find reading difficult tend not to be intrinsically motivated by the activity at all. Nevertheless, it should be noted that ESL/EFL students do have a desire for the language and its usage. According to Yang et al, (2019), students have the required internal will to read; however, the lack of guidance from the teachers prevents them from achieving the level of reading proficiency that they wish to reach (Ali & Razali, 2019). Further to this issue, there is little creativity and interactivity with the required reading materials and class students when English reading is taught in the classroom. Fan (2019) claims that pupils find reading assignments unappealing and boring, especially in Saudi Arabia.

Students, as the author pointed out, view English lectures and lessons as less important which results in them not having sufficient essential skills in the English Language other than passing the required examinations.

Thus educators in Saudi Arabia need to find ways of dealing with the problems students have in learning English language skills, especially in reading and developing their motivation to read (Noordin et al, 2019). There is a possibility that Augmented Reality (AR) can help remove some of the anxiety and demotivation from the students, allowing them to read more effectively. Georgiou and Kyza (2018) suggest that if the content is interesting, ESL/EFL students will be willing to work in the classroom even if they have to perform certain activities in a mediated environment. This is different from students who are not motivated because of the content, a point raised by Krapp (2005). In as much as the use of Augmented Reality (AR) in teaching institutions can create an impression of boredom in students, the opposite is true. Students start to develop more interest in reading English language materials.

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Green et al. (2017) emphasize that the use of augmented reality (AR) within education may lead to improved student involvement and participation. This is due to the level of engagement that AR applications provide, as in the case of English reading courses, where these applications can actively entice participation. The use of augmented reality (AR) in this study has the possibility of increasing the student's interest in learning English, especially for those who find it difficult to comprehend reading materials. This is made possible by the incorporation of visual text, audio, and other augmented features into the actual environment in real-time.

We need to point out, however, that the task of reading is being transformed in our time, particularly regarding the digital era (Mohamad et al. 2008). Reading has traditionally been conceived as an activity where a reader interacts with a piece of written work. In any case, the activity of reading is possible to perform using different means in this contemporary period. According to Rau (2018), written information is made available in different forms such as articles, web pages, and books. According to Rau et al. (2018), the interface of augmented reality is graphic, and it contains text.

They claim that several factors may explain how augmented reality reading differs from the traditional form of reading text (p. 241). Jankowski et al. (2010) have pointed out that the difference between the three-dimensional text of augmented reality (AR) and the two-dimensional text of traditional books is likely to affect how students read them. As Chang (2010) adds, the deployment of augmented reality (AR) in the teaching of English can stimulate interest in learning, which leads to better reading skills.

Before adopting Augmented Reality (AR) in the teaching of English, it is necessary to investigate to what degree English teachers are prepared and willing to use AR when teaching English reading or other aspects of English. The users' acceptance of technology is a function of the perception of the users. Delello (2014) advances the notion that teachers should look out for and take advantage of the opportunities that AR technology offers in teaching to keep up with the changing technological environment.

The teachers' preparation, their readiness to teach, have a positive and useful disposition when carrying out teaching and learning activities including the work with augmented reality (AR) applications (Noguera et al., 2017).

Literature Review

Networking and communication are given distinct importance in business and study settings, which has affected the way additional languages are learned through modern educational action research. Much like the previously mentioned requirement, this is tackled through scholarly work within the paradigm of Second Language Acquisition (SLA) or English as a Foreign Language (EFL) research in finding the best approaches to teaching and learning English for non-native EFL/ESL learners. Learning, especially a foreign language, is enhanced when technology is available. This is the main conclusion drawn by Hashmi (2016) The primary result establishes that the integration of technology when learning a language can greatly boost the learner's self-confidence, motivation, and zeal. These technologies provide learners the opportunity to apply their classroom learning by engaging in conversations with native English speakers outside of the classroom. Consequently, the utilisation of computer and Internet platforms began to encompass a significant domain of scholarly inquiry and investigation (Hew & Brush, 2006).

Despite the evidence of technological advancements that have showcased the efficacy of using technology in educational settings (Alavi & Leidner, 2001), the utilisation of technology for English language instruction in Arab schools and universities continues to fall far short of global benchmarks (Harb, 2022). Currently, there is a noticeable shift occurring in Arab countries as they increasingly embrace and integrate new technologies. Moreover, governmental entities implement measures aimed at enhancing the availability of computer resources and improving internet accessibility. These processes facilitate the integration of novel technology, such as personal computers, smart boards, electronic resources, and other interactive resources, into Arabic schools and universities to enhance English language instruction (Dina & Ciornei, 2013).

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Fourth Industrial Revolution

The annual conference of the World Economic Forum (WEF), held in Davos, Switzerland in 2016, brought attention to the concept of the Fourth Industrial Revolution as a highly significant topic that would shape the future. The attendees of the summit, consisting of business and government executives, expressed a prevailing sentiment that society is on the verge of technological advancements that will have a profound impact on our way of life, as well as reshape the business landscape, markets, and the global economy. In the initial phase of the industrial revolution, the utilisation of water and steam power played a pivotal role in the mechanization of production processes and machinery. During the second industrial revolution, the utilisation of electric power became crucial in facilitating mass production and enabling the implementation of division of labour. According to Klaus Schwab (2016), the third industrial revolution witnessed the utilisation of electronic and information technologies to mechanise manufacturing processes, hence facilitating the achievement of enhanced economies of scale.

Teaching in the Fourth Industrial Revolution

Abdelrazeq et al. (2016) have identified and discussed the implications of the fourth industrial revolution on the education processes in the Industry 4.0 period. These advancements in technology go hand in hand with the emergence of 'Teacher 4.0' which extends towards the current teaching practices prevalent in higher education. For this reason, the field of education has to change its practices and approaches in response to the changes brought by novel technologies. Therefore, it is imperative to contemplate a novel pedagogical approach. "Teacher 4.0" is an emerging paradigm in which the teacher will be positioned in a virtual or physical classroom and will be actively wearing state-of-the-art augmented reality devices.

According to Karre et al., (2017), the concept of Teacher 4.0 acknowledges the advancements and progressions of these technologies. Novel technologies were employed to facilitate the implementation of innovative pedagogical approaches, resulting in the creation of fresh instructional scenarios.

Changing The Teacher's Role

The behaviour of teachers transforms in response to the evolving nature of the modern classroom, necessitating their adaptation of duties and responsibilities. Educators have transitioned from working in solitude to engaging in collaborative teaching practises, such as co-teaching, team teaching, and collaborating with colleagues from different departments (Doucet, et al., 2018). The duty for student learning is not solely placed upon teachers; rather, it is a shared responsibility among several stakeholders, including administrators, board members, parents, and students themselves. As individuals committed to continuous education, they actively engage in their learning process. Educators actively pursue opportunities for professional development that aim to enhance student learning outcomes as well as their professional efficacy (Xing & Marwala, 2017). The evolving nature of the 21st Century classroom necessitates modifications in teacher's expertise and classroom practises. The teacher must possess the requisite knowledge and skills to:

- Serve as a facilitator in the classroom.
- Create a good, supportive, safe, and educational environment for all students.
- Make long-term and short-term learning plans.
- foster students' interest and inherent motivation for learning
- effectively communicate.

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The efficacy and integration of technology within the realm of education are contingent upon the preparedness and inclination of a sufficient workforce. The utilisation of technology in educational institutions has been prioritized by the Ministries of Education as a response to the influence of technology and the ongoing Fourth Industrial Revolution, to enhance and improve the quality of education (Xing, 2015). However, it is imperative to assess and gauge the level of readiness exhibited by these educational institutions in terms of their ability to effectively utilise and incorporate the technology. The objective of this research is to explore the readiness and attitude of English language teachers towards the integration of technology in their English language classes.

English Language Teachers' Readiness in Employing Technology/Augmented Reality in the Classroom

There has been an increase in the application of Augmented Reality in Education, especially due to the dynamism of the mobile devices market. However, the level of usage of Augmented Reality in Education is still relatively low. To foster the development and improvement of the technologies and their applications in the future, Dahlia et al. (2017) argue that it is important for researchers to evaluate the level of acceptance of these technologies by the users. The usage readiness and technology acceptability of teachers in classroom pedagogy is very critical. The attitude of the teachers towards the use of technology is very important because it can greatly determine the effectiveness of the technology implementation.

Conversely, a too-optimistic outlook towards this execution may also result in adverse outcomes. Yoon et al. (2012) claim that an unintended consequence of teachers expressing excessive positivity towards the integration of Augmented Reality (AR) in English reading instruction is the potential for the instructional focus to become excessively centred around the technological aspects of the lesson. Hence, the evaluation and feedback provided by teachers hold significant value within the classroom environment. Overemphasizing technology, however, may result in an artificial classroom experience that lacks true engagement for students (Alderson & Banerjee, 2001).

Numerous scholarly investigations have been conducted by researchers that have demonstrated a significant interest in exploring the potential of Augmented Reality (AR) for future applications.

These investigations have offered useful perspectives regarding the underlying aspects that may influence the acceptability of AR technology by teachers. Dillon (2001) assumes there are six major factors which affect teachers' acceptance of Augmented Reality (AR) for use in classrooms. One necessary concern is the curriculum in which the level of art is in aught to be reconciled with the existing educational system in the country. Moreover, both the augmented reality and the user should have a good working relationship characterized by psychological stability to achieve a change in learning. Additionally, another attribute of augmented reality is that it can encourage independence in the learning process. This independence is modified by the level of supervision that teachers or careers provide. Moreover, the attitude of other relevant parties, for instance, parents, is very important in increasing the acceptance of augmented reality (AR) in English reading classes. The positive attitude towards the use of AR in teaching English reading can be promoted by active and supportive parents.

Moreover, the social and economic status of the children is of great importance.

In the end, the platform used for Augmented Reality must be strong, as this is the base infrastructure in the form of gadgets which are required for the implementation of Augmented Reality systems in education.

. The significance of these key qualities lies in their ability to guarantee the acceptability of teachers in utilizing Augmented Reality as a tool for teaching English reading.

Aziz, Nor, and Nikian (2013) conducted a study examining the attitudes of Malaysian secondary school teachers towards the implementation of technology in the classroom setting in Malaysia. A qualitative study was undertaken, revealing that a majority of the participants engage with electronic devices daily. The individuals in question exhibit a high frequency of internet usage and assert their possession of rudimentary technological proficiency in their daily routines. The participants in this study demonstrate a substantial

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level of proficiency in utilizing technology for the facilitation of teaching and learning sessions. According to the study results, teachers have the propensity to favour using technology, and in addition to this, they claimed that they had a high level of competence in utilizing it. Also, they said that they did not experience any challenges in the use of technology in their teaching practices. Researchers found that the most significant obstacles to technology integration in the classroom included insufficient computer availability, limited time for the preparation of technology-enhanced lessons, and lack of technical assistance in the institutions of learning. Notwithstanding these challenges, educators in this study expressed significant incentive to pursue in-service training, since it offers the opportunity to enhance their technology knowledge and abilities for the betterment of their pupils.

Singh and Chan (2014) found that even though teachers have knowledge that certain technologies such as Augmented Reality can be used in education, there are other factors which affect the effective use of these technologies in classroom settings. Another important issue that needs to be taken into consideration is the teachers' attitudes towards the technology and their readiness to use it. It is important to note, that the findings of the current study also showed that novice teachers tended to be more advanced in the use of technology and had a more positive attitude towards it. The research further established that an increase in ICT use experience was associated with improved attitude changes. This outcome indicates that professional development for teachers is indeed ongoing.

Once more Singh and Chan (2014) established that teachers have an average amount of technological knowledge with specialists in certain software including but not limited to email, presentation (PowerPoint), spreadsheet (Excel), and word processing (Word) applications. This is normal because these software applications are needed in their work. Hence, as shown in the study, the teachers were at different levels of readiness. This corroborates the work of Samuel and Zaitun (2007). This analysis presented results which suggest that regarding demographic variables, teachers over the age of 45 are not ready to embrace Augmented Reality (AR) integration into their teaching practices. The same teachers showed readiness toward the use of basic application software such as Microsoft Word and PowerPoint. On the other hand, teachers aged 45 and younger would be willing to accept the use of Augmented Reality (AR) in their teaching. Similarly, they are ready to be trained to use AR if additional training is required.

A study carried out in the Simunjan District, Sarawak by Hussein and Kaur (2015), aimed at assessing the degree of readiness and preparedness of secondary teachers for the integration of electronic technology in classroom pedagogy.

The research revealed that although the majority of secondary schools within the district have access to the Internet, the service remains below satisfactory. In addition, teachers in the district were observed to have low levels of skills in the application of technology and information and communication technology (ICT) in teaching and learning. This implies that teachers within this district are not well trained in the adoption or use of technology for instructional purposes in the course of the teaching and learning processes. As evident from the results of this particular study, it is crucial to take note of the issue of insufficient resources to assist in the implementation of technology and Augmented Reality in educational contexts.

Methodology

Research Design

The study adopted a qualitative research methodology, which is recognized as a valuable approach for investigating and comprehending the interpretations and significance that individuals and communities attribute to social or human issues. Qualitative research designs frequently employ a methodology that investigates events within their natural contexts, to interpret these phenomena based on the subjective meanings ascribed to them by participants. This study employed a qualitative research approach to obtain comprehensive insights into the readiness of English language teachers. The present research study was conducted in Saudi Arabia, namely in the Modern Global International Schools, Al-Furhan International Schools, Al Forsan National School, Riyad Academy School, SABIS School Abdulaziz International Al-Wadi, Al Tarbyan Al Islamyah Schools, Al Motaqadimah International Schools, Tarbiyah Namouthajiyah

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Schools, Abdulaziz International Al-Sulaimaniah and SEK International Schools located in the city of Riyad, Saudi Arabia.

Participants

The researcher chose ten English teachers to be involved in the study. The study involved in-service teachers. They all possess teaching certificates from reputable universities around the globe. You are working as a teacher in Saudi Arabia in English medium schools. Here are the demographics for that:

Teacher A is a 40-year-old English teacher with 13 years of experience who teaches at Modern Global International Schools in Riyad.

Teacher B is a 33-year-old English teacher with nine years of experience who teaches at the Al-Furhan International schools.

Teacher C is a 37-year-old individual who possesses 14 years of experience in the field of English language instruction. Currently, he serves as an educator at Al Forsan National School.

Teacher D is a 30-year-old teacher who possesses over a decade of experience in teaching the English language. Currently employed at Riyad Academy School in Riyadh, he has dedicated his career to imparting knowledge and skills to students.

Nathan E, an English Teacher for 10 years now and only 35, is presently working with students in SABIS School Abdulaziz International Al-Wadi.

F, now 48 years old, has recently started working at Al Tarbyan Al Islamyah Schools Riyadh, after gaining experience of 19 years with the English language.

With over ten years of teaching experience, G Teacher has dedicated his life to teaching and is now actively teaching at Al Motaqadimah International School located in Riyadh.

After working for 17 years, H Teacher, 44, has joined Tarbiyah Namouthajiyah Schools as an English teacher.

I Teacher is 38 years old and has focused on her English language skills for over 10 years. She is currently enlisted in Abdulaziz International Al-Sulaimaniah located in Riyadh. Throughout her career, she has focused on teaching and helping develop students' skills.

Teacher J: a seasoned educator with 10 years of expertise in the domain of English education, is 44 years old. He is currently engaged at SEK International Schools, where he conscientiously shares his knowledge and skills with students.

Data Collection and Analysis

The data were obtained through the utilisation of semi-structured interviews conducted with the teachers who were involved in the study. The interviews consisted of a series of five questions that were designed to address the objectives outlined in the paper. The interview is a commonly employed and highly regarded method for gathering qualitative data to elucidate the information obtained from study participants. And determines the cognitive processes occurring within the participants' minds. The first consideration is that the researcher cannot directly witness the cognitive and affective processes of the respondents. Consequently, interviews serve as a vital tool for comprehending how individuals perceive and interpret their external environment. To accomplish this, the researcher endeavoured to collect primary data from informants who possessed extensive knowledge and access to valuable information. Similarly, the objective of the interview is to elicit pre-existing information in a manner that can be articulated through responses and afterwards comprehended for interpretation. Structured and semi-structured interviews are commonly

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employed as methods for collecting data. Face-to-face interviews were done throughout June to July of the year 2023. All of the interviews were systematically documented and stored for future reference. Additionally, their responses were recorded and documented in hard copy format. The data underwent a coding process, followed by the documentation of themes. To enhance the precision of the results, the member check technique was employed. Once the themes had been determined, the reports were electronically transmitted to the participants, who then confirmed their accuracy within one week.

Findings

One of the primary objectives of this research was to assess the level of readiness among English language teachers to incorporate augmented reality (AR) technology into their teaching practices. Based on the comments provided by the participants, it became evident that most of them possessed a familiarity with contemporary AR technology. The current state of readiness for utilizing and integrating AR technology in educational instruction is established. The discussion surrounding AR technology primarily pertained to digital technology among the ten English language teachers. Out of the ten teachers, there was a consensus that utilizing computers was both essential and imperative in the context of contemporary technological advancements. According to the feedback provided by the English language teachers in the study area, it is evident that the majority are prepared to incorporate AR technologies into English language teaching within and outside the classroom setting.

English Teachers' Readiness to Use AR Technology

Teacher A: "*In fact, I possess a strong affinity for technology and believe that I am consistently prepared to use augmented reality (AR) technology in the context of English language teaching. I am open to the integration of this technology within the classroom setting, as I possess a moderate level of proficiency in using technology".*

Teacher B: *"Certainly, I am prepared to embrace the use of augmented reality (AR) technology in education, despite its relatively recent emergence and limited adoption among teachers. While I acknowledge my readiness, I recognize the need for further training to effectively utilise AR technology, particularly given its novelty and evolving nature".*

Teacher C: *"Using augmented reality (AR) technology in teaching the English language will not present any challenge for me. Having taught using traditional methods for 18 years".*

Teacher D: *"Regarding the swift emergence of AR technology, contemporary times have witnessed the introduction of novel technological advancements. In light of this, I think that I am adequately prepared to use this new technology in my pedagogical practices for the benefit of my students. I possess a certain degree of technophobia; nonetheless, I do not perceive any difficulty in utilizing contemporary technologies for the sake of English language instruction".*

Teacher E: *"With the emergence of technological advancements, various new technologies have been introduced. I am hesitant to include Augmented Reality (AR) technology into my teaching practises, as I am more accustomed to traditional teaching methods. I believe that using augmented reality (AR) technology into the teaching of the English language would not pose significant challenges for me".*

English Teachers' Experience on AR Technology

The majority of English Language teachers saw their limited technological proficiency as a significant contributing factor. Moreover, they have extensive expertise in employing traditional teaching methods over an extended period, this does not provide a significant challenge for them when it comes to adapting their instructional approaches, as they readily embrace innovative practices.

Teacher F: *"Although I find it challenging to incorporate augmented reality (AR) technology into English language instruction, I have been teaching using traditional methods for the past 15 years. Considering my relatively brief exposure to working with AR, I still look forward to being skilled in this new area both for casual and pedagogic purposes since I simply adore the AR technology".*

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Teacher G: "The administration of the school ought to design teacher training programmes and help conduct seminars with advanced practitioners of augmented reality technology and other applicable technologies for the English classroom." For this readiness and willingness of the English Language instructors to take place, the Ministry of education has to give and facilitate such opportunities like meetings, workshops, seminars etc. Such programmes will equip teachers with the knowledge and skills to meaningfully engage in the teaching of English using augmented reality (AR) technology.

Teacher H: "Being an English Language teacher with a traditional English background, I need to be fully prepared with relevant training on how to use a computer in the teaching of AR techniques to my students."

Teacher I: "Furthermore, it is important to realize that students might need some time to adapt to the use of AR technology in the classroom. Some students might even refrain from using AR technology because they feel it is difficult to use. But I am always ready to and ready to use the AR technology in my lessons".

Teacher Training

Objections raised by English language teachers to the introduction of augmented reality (AR) technology in English language teaching include, the difficulty of its use and lack of adequate training to use it. As the results of the interview about this inquiry have shown, English Language teachers also need such training interventions as tutorials, forums, training programs, workshops, and seminars on given topics.

Teacher J: "Even in cases where I am required to teach my pupils the English Language using the new educational method of augmented reality (AR) technology, I first have to take proper training programs that are helpfully provided by the Ministry of education. Using interactive augmented reality during math classes or teaching my students the English language will be possible for me after I attend special meetings with specialists and professionals on how AR technology is to be integrated into the classroom practices."

Teacher A: "The school management would undergo extensive and structured steps to create training programs for teachers of English and would ensure that seminars are organized with specialists experienced in the varied technologies that can be used in the English classroom."

Teacher B: "To facilitate AR usage in English lessons, the Saudi Ministry of Education needs to prepare teachers. To do this, the ministry needs to acquire AR devices and conduct frequent training such as meetings, workshops, seminars, and any other suitable means that can ensure the successful integration of AR in EFL classes."

The Role of Infrastructure

The findings based on their responses demonstrate that the infrastructure is available and can support English Language teachers who teach English using AR technology in the classroom. They claimed that the existence of the infrastructure serves as a facilitator of the use of AR technology in their teaching practices.

Teacher C: "Surely, sufficient infrastructure is a necessity for to proper use of new developments — augmented reality (AR) — in education. It should be pointed out that quite several schools have internet connections and computers which I would consider as essential indicators of readiness for use of AR technology."

Teacher D: "What I think is that the infrastructure does not constitute such a major barrier. English language teachers, for instance, are willing to adopt augmented reality (AR) technology into their teaching practice. Also, the availability of some infrastructure like internet and computers in some institutions can assist the students in making good use of AR technology".

Teacher E: "I noted that the teachers have the appropriate training, but there is still the issue of infrastructure that needs to be upgraded in some schools. This upgrade can assist the teachers and motivate them to use augmented reality (AR) technology in the classroom".

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Teacher F: *"The existing infrastructure within school systems can facilitate the integration of advanced technologies such as augmented reality (AR). Many contemporary schools possess internet connectivity and computer resources, which serve as fundamental prerequisites for incorporating AR technology".*

Teachers' Needs

The results of the interview conducted with the participants indicate that English Language teachers believe that the school administration or the Saudi ministry must supply schools with improved computer systems, internet connectivity devices, LCD screens, collaborative furniture, and flexible seating,

Teacher G: "I believe the school administration must ensure the provision of essential resources such as modern computers, internet connectivity devices, and all other equipment for the utilisation of augmented reality technology in English language instruction across all schools in Saudi Arabia".

Teacher H: " Without a doubt, the school management or the Saudi Education Ministry should provide schools with modern internet devices and laptops as well as other crucial components of a modern classroom such as LCD touch screens and Augmented Reality (AR) tools."

Teacher I: "In my view, it would be good if the school management made an effort to install WIFI as this would allow teachers and students to use their own computers and other devices."

Teacher J: "The school management needs to provide facilities like Internet connection devices (WiFi), computers and AR devices so that teachers can use their devices instead of managing school devices."

Teacher A: "I think that the maintenance of modern computers, internet connection devices, LCD panels that are able to allow interactive communication tools and collaborative furniture should be the responsibility of the school management or the ministry."

Discussion

According to the findings of this study, most of the teachers in the study area are willing to incorporate augmented reality (AR) technology in their English language Teaching. These findings corroborate with those of Yoon et al. (2012) and Jwaifell (2019) studies which also established a change in the readiness of teachers to use augmented reality (AR) in their instructional practices. Teachers' attitude regarding the use of AR technology in their instructional techniques is very crucial because they are the most affected by AR technology as both the beneficiaries and the implementers of it (Gargrish et al., 2021). In order to enable the future improvement and modification, it is important to provide a specific place where the teachers can express their opinions and give comments on the lack or abundance of technological facilities. This study outlines the need for continuous professional development of English Language teachers in the Saudi Arabia to equip them with the knowledge of Augmented Reality (AR) technology.

Finding of this study is compatible with earlier studies of Pregowska et al., (2022), Petrovych (2023), and Samuel and Zaitun (2007). The study showed that 70% of the respondents who were in the age bracket of 45 and above were not ready to use Augmented Reality among their teaching methods.

Nonethless, readiness was possessed by them provided they were tasking with the use of basic software such as Microsoft Word or Powerpoint. With the exception of those who were aged 45 years and above, which seemed to have communicated a willingness to teach with the use of Augmented Reality, provided they were given extra training. On a different note, a research done by Jamrus et al., 2021, found that Malaysian English teachers possess quite a high level of acceptance in using Augmented Reality as to assist them in teaching reading English and have a readiness for the use of Augmented Reality in the teaching of reading English. This implies that Malaysian English teachers are enthusiastic about the use of Augmented Reality for English reading instruction. Furthermore, the research granted insights on the fact that these

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instructors are adequately prepared to utilize Augmented Reality for the purposes of teaching English reading.

Likewise, the research done by Sun et al. (2017) showed an outstanding increase in teachers' readiness and willingness to integrate AR technology into their instructional practises, which was due to sufficient training and support. Abdul Razak et al. (2018), on the other hand, note that there is a general agreement on the importance of employing AR technology in relation to the Fourth Industrial Revolution. The growing trend of teachers' adoption of augmented reality (AR) technology in educational processes may contribute to the nurturing of students with improved creativity, innovation, and advanced skills necessary for effective competition in the existing and future working environment. The study also investigated the technological limitations of the teachers for integrating technology in ELT. The results indicated that teachers encounter several challenges such as a shortage of technological devices, outdated facilities, lack of competence and training, inexperience, and reliance on conventional approaches which inhibited the teachers from integrating technology into English language teaching.

The findings of the study are in agreement with the work of Kamaruddin et al. (2017). In December 2020, we started placing AR equipment in the classroom, which now requires the use of multiple device types to help teachers use this technology, including mobile phones, computers, internet-connected devices, augmented reality devices, and good internet servers. Study teachers saw a link between English teaching and AR technology. Teachers' background and teaching experience were believed to be significant factors affecting their willingness to use AR technology in English teaching, as indicated in previous studies. Moreover, this study extends earlier studies because one of the first studies to assess whether or not Saudi Arabian English teachers are prepared for the needs of the fourth industrial revolution for technology-based language teaching and technology applications. These results indicate that there is a need to train English teachers on AR technology usage. They should also be provided with sufficient and current fittings that would allow them to deploy such technology. Lastly, Saudi Arabian schools must modernize their infrastructure to support the use of AR technology in English teaching.

Conclusion

This article reports the willingness to use augmented reality. The survey results of one English teacher reflected that his unwillingness to use AR technology is not the teacher's unwillingness to use AR technology in the teaching process, but due to major obstacles and various factors that hinder the teacher from using AR technology in English teaching, such as lack of sufficient technology. The Saudi Ministry of Education must be allowed to support schools to expose students to more AR technologies in the fourth industrial revolution and improve English teaching. Also, this enables English educators to use current teaching trends. Besides, teachers in these schools are also recommended to be properly trained to apply AR technology in English classrooms and guide and assist English learners in using AR technology and application in classrooms.

Comment on: AR technology will provide motivation and encouragement to teachers. Teachers also need motivation and encouragement to adopt AR technology, and the importance of AR technology in the classroom should be demonstrated. The English teachers should hold this training periodically to demonstrate how AR technology can be utilised to improve the students for academic purposes (s) such as English learning, self-learning, communication, etc. Such training should cover basic skills to use the AR, and basics of AR technology usage for the AR novice and it should also be the other more complex and advanced skills for another more skilled teacher.

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