Qassim University EFL Teachers Viewpoint towards Using Artificial Intelligence Applications in Teaching English

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Abstract

The current research aims to reveal perceptions of faculty members at Qassim University towards the use of artificial intelligence applications in the acquisition of students ' English language skills and whether there are statistically significant differences between their responses in the degree of practicing artificial intelligence applications in the English language subject due to gender, the scientific rank, and English language skills. The sample consists of 97 faculty members (i.e., 65 males and 41 females), and all of them teach English language at Qassim University. They were selected using a simple random sampling method. The research concluded that the level of faculty members ' use of artificial intelligence applications in the English language at Qassim University is very low. Besides, there are no statistically significant differences in the degree of faculty members practicing the English language for artificial intelligence applications at

Qassim University based on their gender (male – female) and scientific rank (i.e., teaching assistant, lecturer, and assistant professor). Finally, the findings showed that artificial intelligence applications are more suitable for teaching reading, listening, and speaking skills than writing skills in light of the perceptions of English language faculty members.

Keywords: artificial intelligence, artificial intelligence applications, English language, university students.

Introduction and theoretical background:

All societies are constantly committed to developing and improving education systems because this development requires changes in educational thinking. From the point of view of educators, methods in general and teaching methods in particular, which are based on theoretical levels, are no longer suitable for education in the technological era as they lead to a delay in cognitive achievement, weaken students 'attitudes towards education, and negatively affect their thinking. This situation has made curriculum and teaching methods experts seek to search for modern teaching strategies and methods suitable for the era of modern technology (Apanmi, 2016).

Modern teaching methods would allow for tangible positive changes in students' behaviors and cognitive structures. They would also provide the students with clear procedures for acquiring new information, applying it in education, thinking, solving problems, and processing information in multiple forms (Sedique, 2017). Students ' reactions are considered an extension for the teacher so that they give feedback on what students have learned in educational situations and which advanced cognitive abilities (i.e.,

analysis, evaluation, going beyond superficial understanding to knowledge that lasts a long time) they have acquired. This type of educational output requires strategies that allow the student to go beyond memorization to analysis, interpretation, and linking. Undoubtedly, technology has become an essential element contributing to the development of the learning process. It has brought about a change in teaching methods that are no longer limited to teaching and memorizing facts. Instead, they have begun emphasizing learning trends, intellectual and performance skills, and identifying thinking strategies (Chimil, 2013). Artificial intelligence (AI) is one of the main pillars of the technology industry today. AI is designed to simulate the style of human intelligence so that a computer can perform tasks on behalf of humans, such as thinking, understanding, hearing, speaking, and movement (Al-Sharqawi, 2011).

Artificial intelligence simulates some functions of the human brain, such as the ability to learn, acquire information, collect, analyze, and create relationships between them, make decisions based on the process of analyzing information, use old information, and employ it in new situations, the speed of responding to new situations and circumstances, dealing with ambiguous situations, and understanding visual things. Recently, many smart applications and systems based on artificial intelligence have appeared, where they exceeded all expected limits in the versatility of their production and the effectiveness of their use, and users began to integrate them into education and made crucial contributions to the educational process (Malik et al., 2019).

Gharbi (2014) and Makawi (2018) agree that artificial intelligence can create intelligent content, from digital guides to textbooks to customizable digital learning interfaces at all levels,

from primary to post-secondary. In addition to school activities in education such as grades, homework classification, and tests, it also makes trial-and-error learning less intimidating, follows up with students, alerts teachers in case of a problem in their student's performance, and gives useful feedback to teachers and students. Badaoud (2020) describes artificial intelligence as the ability of a system to correctly interpret external data, take advantage of it, and use that knowledge to achieve specific goals and tasks through flexible adaptation to them. In order to call this term a computer system, it must be classified based on the following characteristics:

- Learning and acquiring, collecting information, analyzing it, creating relationships between them, and making decisions about them.
- Thinking and cognition to discover knowledge and apply it.
- Learning and understanding from previous experiences and experiences, using old experiences, and putting them into new situations.
- Quick response to new situations and circumstances, dealing with ambiguous situations with the absence of information.
- Development, creativity, understanding and perception of visual things.

Types of artificial intelligence:

The types of artificial intelligence can be divided into the following:

Narrow artificial intelligence: It is regarded as a weak AI. It is considered to be the simplest of all, as it relies mainly on programming to perform a set of specific functions within a specific range in a specific environment. Its actions are limited to

showing reactions to certain situations under specific conditions available in a particular environment. One example is a robot named Deep Blue, made by the IMB. They programmed it to defeat the world chess champion, Garry Kasparov.

Strong artificial intelligence: It is considered a strong AI. This type is an upgrade to the previous type with its ability to attract data, analyze it, and take advantage of the experience gained. This has contributed to making it qualified to make some autonomous decisions independently of indoctrination, such as a self-driving car and a real-time chat robot.

Super AI: Super Al is a supermodel who can compete with the human mind in terms of thinking. It is still being tested and updated constantly, and it tries to understand human nature in thinking and what emotions and reactions it shows, such as the ability to interact, establish social relationships, and communicate with others. A review of the previous types reveals that they represent generations of artificial intelligence that vary between simple reactions to management and self-interaction. The two types of artificial intelligence (narrow and strong) have been used to propose a set of applications that can be employed in the educational process. These have had mostly positive results and achieved many benefits for teachers and faculty members in the environment (Al-Subhi, 2020). Previous studies (i.e., Al-Farani, 2020 & Al-hujaili, 2020; Al-Subhi, 2020; Bakr & Taha, 2019) mentioned some of the most prominent AI applications which can be employed in education. These are as follows:

1-Chatbots: Chatbots are computer programs designed to simulate human conversations that provide a form of interaction between the user and the program. The interaction is done through text, voice,

or both together, such as messaging applications, websites, and smart device applications. The robot then plays an active role by answering the questions asked to it, solving, supporting, advising, or even empathizing, depending on what users need.

2-Augmented reality: It is an interactive technology that adds an information layer (text, photo, audio, video, text, images, or special static forms of the course content) that is transformed into real life by simply shining the smartphone camera on it through augmented reality applications.

3-Virtual reality: It is an interactive computer simulation of objective reality that allows the learner to interact, immerse, control, and delve into it, such as conducting dangerous laboratory experiments or visiting certain places. It is inside a different environment, such as a home or classroom, allowing users to move inside and interact with it. This requires special tools with location and movement sensing, such as protective helmets, gloves, and glasses.

4- Audio industry: These digital programs convert texts written according to the specified default language into audio and then use it in websites, mobile applications, digital books, e-learning materials, documents, and other media.

5-Expert systems: It simulates the behavior of an expert human in using knowledge, making judgments and rules of conclusion, and providing advice and appropriate solutions to problems. A knowledge engineer transfers the experience of an expert human to a computer.

6- Robotics: It is an electromechanical machine learned with, about, and from it. It can perform its tasks by following a set of instructions stored in the device's electronic memory. Specialized software connected to the robot designs these commands. During educational activity, the robot can be classified as a means of instruction or peer for the teacher or a means of learning how to create a robot.

7- Intelligent adaptive learning: It is the use of artificial intelligence methods to meet the different educational needs of each learner. Computer algorithms that derive from the learner's answer to questions can be used to adapt the presentation of educational materials and provide specialized resources. Education activities that match the cognitive needs of learning and provide meaningful feedback now without the need for a teacher can also be used.

8-Smart Educational Games: They are characterized by thrill, challenge, imagination, and competition, as they are designed to stimulate mental activity, increase concentration, improve the ability to make logical decisions, solve problems quickly, and strengthen social relationships.

9- Smart Evaluation: Smart evaluation programs can evaluate higher thinking skills, correct complex assignments and tests automatically, review a wide range of data, analyze learners ' performance, highlight their strengths and weaknesses, and promptly provide the necessary support. They are characterized by thrill, challenge, imagination, and competition, as they are designed to stimulate mental activity, increase concentration, improve the ability to make logical decisions, solve problems quickly, and strengthen social relationships.

It is clear from the above explanation that artificial intelligence is a science and technology where it combines many sciences such as computer science, biology, languages, cognitive psychology, mathematics, engineering, and many others, and technology because it aims to produce knowledge-based systems in a particular field by which a computer can make the ability to think, see, speak, hear and move. Artificial intelligence seeks to achieve many goals, such as reaching the patterns of processing higher mental processes inside the human mind. It also aims to develop computer programs to learn from experiments, solve problems, and understand the nature of human intelligence, making computer programs capable of simulating human behavior characterized by thinking. It also turned out that artificial intelligence, in its various applications, is characterized by symbolic representation, experimental research, embracing knowledge and representing uncertain or incomplete data, and the ability to learn, although there are some shortcomings that must be addressed.

The benefits of artificial intelligence in learning and teaching:

Simplifies administrative tasks: Artificial intelligence can automate the administrative duties of teachers and academic institutions. Teachers spend a lot of time grading exams, evaluating homework, and providing valuable responses to their students, but technology can be used to automate assessment tasks where multiple tests are performed. This means that professors will have more time with their students instead of spending long hours appreciating them.

Personalized learning: Through applications that work with the system, students get personalized responses from their teachers.

Teachers can intensify lessons with smart study guides and flashcards. They can also teach students according to their challenges in studying the class material. Unlike in the past, university students now can access a larger window to interact with professors.

Removing spatial boundaries in front of learning: Learning has no boundaries, and artificial intelligence can help remove boundaries. The availability of technology leads to radical transformations by facilitating the learning of any training course from anywhere around the world and at any time. AI-powered education provides the player with basic IT skills. With more inventions, a wide range of training courses will be available online, and with the help of artificial intelligence, students will learn from wherever they are.

Automatic classification: Artificial intelligence can do all the basic activities in education, whereas in the past, the classification took a long time to implement. For example, in universities and courses in training centers, this time could have been used to interact more with students or prepare for class. However, with the presence of this modern technology in the stimulation and gamification, the automatic classification process can be quickly done with a push of a button.

Teacher support: AI allows teachers to manage routine tasks and communication with students. For example, the zero-for platform gives the lecturer full authority through which he can manage the training programs for which he has permission from the administrator. Moreover, he can delete learners from courses, follow teachers' progress, add groups, add a discussion topic, hold

meetings with teachers, add events at the times he wants, and determine the learning path for each learner.

Student support: In the future, students will have artificial intelligence as a lifelong learning companion. This next generation of students will grow up with a companion who knows their personal and school history. It will allow one to know the individual strengths and weaknesses of each student. In an applied way, artificial intelligence focuses on supporting the student smoothly in being able to see the training course remotely, register for courses, study the courses he wants, see the educational path, enter the educational path he wants, see the ranking with his colleagues participating in the same course, get progress signals, get a certificate of completion, solve tests for the course he finished, and watch its results, join groups, communicate with teachers, and find out about new courses available via the course catalog.

Meet the diverse needs of students: It meets the needs of the students by adapting the materials to their ability so as to lead them to success. In other words, artificial intelligence works on applying complex levels so that a student's level could be increased (Aldosari, 2020; Faggella, 2019; Milik, et al., 2019). In this context, many studies have been conducted to verify or identify the reality of hiring or using and activating teachers in schools and faculty members in Arab and foreign universities for artificial intelligence applications in education and the obstacles that hinder their recruitment and activation. Al-Atl et al. (2021) conducted research on the students of the College of Basic Education in the State of Kuwait. Their research revealed the most critical challenges faced by the students based on three factors (i.e., type, academic year, and academic rate). The results indicated that there

is a difference between the averages of the study sample regarding the importance of artificial intelligence technology used in the educational process based on variants of the school year, and there are significant differences in the challenges of its use in education according to the variables of type and academic rate. Yufeia et al. (2022) conducted a study on the mature rooting of artificial intelligence in terms of its history, including the background of its history, important developments, applied aspects of artificial intelligence in education, and methods for its applications. The study identified the most critical stages in artificial intelligence's history and development. It revealed the most important applied aspects of artificial intelligence in education: electronic grading systems, calendars, virtual teachers, ad hoc learning, adaptive learning, virtual reality, and augmented reality. The study also suggested several ways to apply artificial intelligence in education and recommended the need to employ artificial intelligence applications to improve the educational process.

Shin and Shin (2020) conducted research at the primary level in Korea. Their findings revealed science teachers' awareness of artificial intelligence applications and how to employ them in education. Their research was based on a descriptive survey curriculum, and it relied on a questionnaire that was employed on a random sample of teachers in Korea's capital and major sub-cities. A total of 95 teachers took part in the survey, which was based on the following topics: Earth and space (68.4%), exercise and energy (68.4%), article cases (32.6 %), and life (27.4%). They recommended training teachers on artificial intelligence applications that can be employed in education. Therefore, the researcher is working to reveal the reality of employing members of the teaching staff at Qassim University for artificial intelligence

applications in English language education from their point of view in the light of some variables.

Research questions:

Through the presentation of the theoretical literature, previous studies, and research, it became clear to the researcher that there is a need to identify the reality of employing artificial intelligence applications by the faculty members at Qassim University in teaching English to university students in light of several variables by answering the following questions:

1. What is the faculty members' practice level for artificial language applications in English language education at Qassim University among students?
2. What challenges do faculty members face when using artificial intelligence applications to teach English to students of Qassim University?
3. What are the perceptions of Qassim University faculty members about the suitability of artificial intelligence applications for English language skills (listening, speaking, reading, writing)؟
4. Are there any statistically significant differences between faculty members' responses in using artificial intelligence applications in English language education among students of Qassim University attributable to gender and academic ranking?

Research objectives:

he research aims to reveal the reality of hiring faculty members at Qassim University to use artificial intelligence

applications in teaching English to university students and whether there are statistically significant differences between their responses about the reality of hiring faculty members at Qassim University to use artificial intelligence in teaching English attributable to gender, ranking, or language skills.

Importance of research:

The importance of the study stands out from the importance of its subject itself, in addition to being the first study in the Qassim region according to the best of the researcher's knowledge. Thus, the researcher hopes that the results of the study will be useful in the following ways:

1- It is expected to help increase the awareness of faculty members and decision-makers regarding the importance of activating artificial intelligence applications in students ' acquisition of English language skills by holding training courses for faculty members on increasing their skills in using artificial intelligence applications with their students.
2- The faculty members of Qassim University reported on the most prominent artificial intelligence applications and directed their attention to using and employing them to improve the educational process.
3- Adopting a curriculum that uses artificial intelligence applications to improve the quality of Education can be crucial.
4- It would benefit researchers to conduct similar future studies.
5- It would shed light on one of the directions in the integration of technology in education.

Research terms:

Artificial intelligence applications:

Al-Farani, Al-Hujaili, (135,2020) defines it as "behavior and characteristics that are followed by computer programs until they are able to simulate the mental abilities of a human being in different ways and patterns."

Procedurally: The researcher defines it as "computer programs and applications on mobile smartphones and tablets that have the ability to simulate some of the mental abilities of a human being, such as the ability to act, make judgments, make decisions, advise, guide, and perform complex mathematical operations in order to benefit from them and employ them in education".

EFL Teachers at Qassim University:

They are professors, associate professors, assistant professors, lecturers, language teachers.

Qassim University:

It is one of the universities affiliated with the Ministry of Education in the Kingdom of Saudi Arabia, located in the Melida center, northwest of the city of Buraydah. It includes 71 scientific specialties in various fields of Sharia, Arabic, and humanities; in addition to scientific, engineering, and health specialties, the university offers many scientific degrees after the secondary stage.

Study limits:

Objective limits: The reality of employing faculty members at Qassim University to use artificial intelligence applications in

teaching English to university students from the point of view of some variables.

Temporal boundaries: The research was applied in the first semester of the academic year 1445 (2023/2024).

Human limits: The research tool (questionnaire) was applied to a group of English faculty members at the University of Qassim in the kingdom of Saudi Arabia.

Spatial boundaries: The research tool (questionnaire) was applied at Qassim University in the kingdom of Saudi Arabia.

Research method:

The current research was based on the descriptive (survey) method to identify the reality of hiring faculty members at Qassim University to use artificial intelligence applications in teaching English to university students from the point of view of faculty members and to identify the differences between them in different variables: gender and scientific rank.

The research community:

The research community consists of members of the English language teaching staff at Qassim University from different colleges during the academic year 1445.

Survey sample: The researcher randomly selected 36 faculty members teaching English to verify the stability and authenticity of the tool used in the study and the suitability of its items for the purpose for which it was developed. They were given two weeks to respond to the questionnaire.

The basic sample: The sample amounted to 97 faculty members selected randomly. A total of 56 males and 41 females teaching the English language at the University of Qassim were selected using a simple random sample method. The simple random sample method was employed considering the nature of the research community and the degree of accuracy required. Moreover, it was used to maintain homogeneity among the members of the study community for the characteristic that the researcher is researching and to increase accuracy in its results and confidence.

Research tool:

The researcher created a questionnaire on the practice of faculty members at Qassim University in using artificial intelligence applications to teach English to university students from the teachers' point of view.

The questionnaire includes the basic data: gender (i.e., male and female) and academic position (i.e., associate professor, assistant professor, lecturer). It also includes 23 items distributed over two parts. The first part deals with the reality of employing faculty members at Qassim University to employ applications of artificial intelligence in teaching the English language to university students from their point of view. It consists of 12 items. The second part deals with the challenges faced by university faculty members in employing artificial intelligence applications. It includes 11 items divided into five assessments as follows: (5-apply strongly; 4-nearly strongly applies; 3-applies; 2- does not apply; 1-does not apply very much).

Codification of the search tool:

Validity of the tool

a. The arbitrators' validity:

The validity of the questionnaire was confirmed by presenting it in its initial form to 5 experts specialized in the field of curricula and teaching methods in the English language at the College of Education to express their opinions on the questionnaire items, the correctness and soundness of the wording of the statements, their suitability for the target group, and their suitability to the field of study. The arbitrators unanimously agreed on the wording's soundness and relevance to its axes, and their observations regarding deleting some phrases and rephrasing some phrases were unanimous.

B. Internal consistency and validity of the study instrument:

The researcher calculated the internal consistency of the respondents' responses between each statement of the questionnaire, and the following table shows these results.

Table (1) Internal consistency of the questionnaire items on the practice of faculty members at Qassim University for using artificial intelligence applications in teaching the English language to university students from their point of view.

No.	Paragraphs	Correlation coefficient	Indicator level
The first part: The reality of employing faculty members at Qassim University to use artificial intelligence applications in teaching the English language to university students from their point of view.			
1.	I use the educational robot as an educational means in order to facilitate education and develop the educational performance of learners.	**0.632	0.01
2.	Highlight the strengths and weaknesses in learners' performance through artificial intelligence applications.	**0.848	0.01
3.	I provide intelligent adaptive learning to meet the different educational needs of each learner	**0.772	0.01

No.	Paragraphs	Correlation coefficient	Indicator level
4.	I provide solutions suitable for learners with little experience.	**0.456	0.05
5.	The learner has the opportunity to interact, immerse, control and navigate the course using virtual reality technologies.	**0.697	0.01
6.	I rely on responding to learners' inquiries by employing catboats.	**0.844	0.01
7.	I convert written course texts into audible audio files through audio making applications.	*0.887	0.01
8.	Summarize long texts accurately and in an easy-to-read manner using text summarization applications.	**0.410	0.01
9.	Turn printed images or handwritten text into editable text files with character recognition and reading apps.	*0.529	0.01

No.	Paragraphs	Correlation coefficient	Indicator level
10.	I use smart educational games based on suspense, challenge, imagination, and competition in the educational process.	*0.657	0.01
11.	I enhance the explanation of different topics by adding an information layer, in multi-dimensional forms, to the digital content of the course	**0.856	0.01
12.	Provide more aspects of core content and teaching skills, and obtain better assessment data.	*0.755	0.01
The second part: The challenges faced by university faculty members in employing artificial intelligence applications.			
13.	The belief that using artificial intelligence applications in education requires more effort than teaching in the traditional way.	*0.446	*0.05

No.	Paragraphs	Correlation coefficient	Indicator level
14.	Lack of necessary technical support as required.	**0.728	0.01
15.	Lack of the awareness of the importance of using artificial intelligence applications.	*0559	0.01
16.	Weak ability of learners to solve the problems they face using artificial intelligence applications in education.	**0.672	0.01
17.	The number of learners in the classroom does not allow controlling the use of artificial intelligence applications in education.	**0.899	0.01
18.	Poor response of learners with the new style of learning and their interaction with it.	**0.654	0.01
19.	Weak incentives provided to faculty members who use modern	**0.466	0.05

No.	Paragraphs	Correlation coefficient	Indicator level
	educational technologies.		
20.	The large burden on faculty members prevents them from using artificial intelligence applications in education.	**0.647	0.01
21.	The high financial cost associated with equipping classrooms to use artificial intelligence applications.	**0.847	0.01
22.	Lack of sufficient teaching programs to use artificial intelligence applications in education.	*0.876	0.01
23.	Lack of sufficient time to learn and practice using artificial intelligence applications in education.	**0.468	0.05

From the above table, we can see that value of the correlation coefficients for each item ranged between (0.456 - 0.899). All values are statistically significant at the significance level (0.01). While statements no. (8, 13, 19, 23) have significant

values at the level of (0.05); thus, the questionnaire items are considered accurate to what they were designed to measure.

The questionnaire's reliability:

The researcher calculated the Cronbach's Alpha Coefficient for the survey sample responses, and the results are as shown in the following table:

Table (2): Cronbach's alpha coefficient to measure the reliability of the questionnaire of the practice of faculty members at Qassim University to use artificial intelligence applications in teaching English language among university students from their point of view.

Total questionnaire	Paragraph Number	Cronbach's alpha Value
The reality of employing faculty members at Qassim University to use artificial intelligence applications in teaching English language to university students from their point of view.	23	0.868

It is noted from the above table that the values of the calculated reliability coefficients are acceptable values, as the value of the alpha coefficient for all items of the study tool reached (0.868), which is a high reliability coefficient, and indicates that the questionnaire has a high reliability coefficient that allows

achieving the objectives of the study with great and acceptable confidence.

Research Results and Discussion:

To answer the first question, which states: "What is the faculty members' practice level for artificial language applications in English language education at Qassim University among students?", the arithmetic means, and standard deviations were extracted to determine the degree of reality of employing faculty members at Qassim University to use artificial intelligence applications in teaching the English language to university students. The table below shows the values:

Table (3): Arithmetic means and standard deviations for the degree of reality of employing faculty members at Qassim University to use artificial intelligence applications in teaching English language to university students.

No.	Expressions	Arithmetic Average	Standard Deviation	Degree
1.	I use the educational robot as an educational means in order to facilitate education and develop educational performance to learners.	1.12	0.267	Very low

No.	Expressions	Arithmetic Average	Standard Deviation	Degree
2.	I highlight the strengths and weaknesses in learners' performance through artificial intelligence applications.	1.22	1.227	Very low
3.	I provide smart adaptive learning to meet the different learning needs of each learner	1.79	0.272	Low
4.	I provide appropriate solutions for learners with simple experience through experience-system programs	1.24	0.220	Very low
5.	The learner is given the opportunity to interact, immerse,	1.40	0.227	Very low

No.	Expressions	Arithmetic Average	Standard Deviation	Degree
	control and navigate the course using virtual reality technologies			
6.	I rely on responding to learners' inquiries by employing smart chatbots	1.26	0.280	Very low
7.	I convert written course texts into audible audio files using audio making applications.	1.09	0.158	Very low
8.	Summarize long texts accurately and in an easy-to-read manner using text-summarizing applications	1.08	0.132	Very low
9.	I convert printed images or handwritten texts	1.04	0.171	Very low

No.	Expressions	Arithmetic Average	Standard Deviation	Degree
	into text files that can be edited using character recognition and reading applications			
10.	I use smart educational games based on suspense, challenge, imagination and competition in the educational process	1.02	0.132	Very low
11.	I enhance the explanation of different topics by adding an information cover in multi-dimensional forms to the digital content of the course	1.65	0.212	Very low
12.	Provide several aspects of core content and teaching	1.03	0.188	Very low

No.	Expressions	Arithmetic Average	Standard Deviation	Degree
	skills, and obtain assessment data			
Total		1.33	1.63	Very low

It is clear from the table that the arithmetic averages of the statements range between (1.02-1.79) and the score ranges between low and very low, as the phrases came at a very low degree, except for phrase No. 3, "I provide intelligent adaptive learning to meet the different educational needs of each learner," which came at an arithmetic average of 1.79. Moreover, phrase No. 11 "I enhance the explanation of various topics by adding an information layer and multi-dimensional forms to the digital content of the course" came with a mean of (1.65). It becomes clear to the researcher from the result of this question that faculty members in English language practice artificial intelligence applications to a very low degree.

The current result is consistent with the research of Alotol and Anzi (2021) and Yufeia and Syed (2022). The studies above recommended the necessity of employing artificial intelligence applications because of their importance in improving the educational process due to the extreme weakness in their use. Al-Subhi (2020) concluded that the use of artificial intelligence applications by Najran University faculty members in education was very low. In addition, Wang and Hu (2020) concluded that faculty members use artificial intelligence applications in education to a low degree and that relative advantage, compatibility,

perceived trust, and experience are factors that help determine the desire of faculty members to use smart education systems. On the other hand, they found that complexity does not clearly impact the degree of preparation and tendencies of faculty members in using artificial intelligence applications. Additionally, the findings of Aldosari (2020) revealed a decrease in awareness of the mechanisms of applying artificial intelligence in education at Prince Sattam bin Abdulaziz University. Also, Al-Khaibari (2020) concluded that secondary school teachers in Al-Kharj Governorate possessed lower skills in employing artificial intelligence applications in education. Likewise, Shin and Shin (2020) concluded that science teachers in Korea have a low awareness of artificial intelligence applications that can be employed in education. Science courses have the highest percentage through which artificial intelligence applications can be employed in primary school courses.

The researcher attributes the result to the severe need for more awareness about the possibilities of using artificial intelligence applications in the educational process among faculty members. There is also a lack of interest in issuing decisions from authorized persons regarding the availability of teaching programs based on artificial intelligence applications in education through a well-thought-out plan. Also, there are shortcomings in preparing faculty members through holding appropriate training courses that are based on actual training more than theoretical training with the aim of increasing their preparations and improving their capabilities in using artificial intelligence applications effectively. In addition, there is a lack of appropriate school environment, appropriate infrastructure, and financial capabilities, whether among the teaching staff or their students. Another possibility of

the current results can be attributed to the faculty members' belief that using artificial intelligence applications in education requires more effort than teaching traditionally. Also, the number of learners in the classroom does not allow for controlling artificial intelligence applications in education.

To answer the second question, which states, "What challenges do faculty members face when using artificial intelligence applications to teach English to students of Qassim University?", the arithmetic means and standard deviations of the challenges faced by Qassim University faculty members in using artificial intelligence applications in teaching the English language to university students were extracted. The table below shows this.

Table (4) arithmetic means and standard deviations of the challenges facing Qassim University faculty members in using artificial intelligence applications in teaching English language to university students.

No.	Expressions	Arithmetic Average	Standard Deviation	Degree
1.	The belief that using artificial intelligence applications in education requires more effort than teaching using the	4.19	0.667	Very high

No.	Expressions	Arithmetic Average	Standard Deviation	Degree
	traditional method			
2.	Lack of necessary technical support as required.	3.98	1.227	High
3.	Lack of awareness of the importance of using artificial intelligence's applications in education.	4.78	0.772	Very high
4.	Weak ability of learners to solve the problems they face while using artificial intelligence applications in education.	4.44	0.820	Very high
5.	The number of learners in the classroom does not allow controlling the use of artificial	4.41	0527	Very high

No.	Expressions	Arithmetic Average	Standard Deviation	Degree
	applications in education.			
6.	Weak learners' response to the new style of learning and their interaction with it.	4.38	0.580	Very high
7.	Weak incentives provided to faculty members who use modern educational technologies.	4.04	0.658	High
8.	The large burden on faculty members prevents them from using artificial intelligence applications in education.	3.96	0.932	High
9.	The high financial cost associated with equipping	4.54	0.517	Very high

No.	Expressions	Arithmetic Average	Standard Deviation	Degree
	classrooms to use artificial intelligence applications.			
10.	Lack of sufficient teaching programs to use artificial intelligence applications in education.	4.09	0.429	High
11.	Lack of sufficient time to learn and practice using artificial intelligence applications in education.	3.97	0.924	High
Total		4.55	0922	Very high

It is clear from the above table that the arithmetic averages for the statements range between (3.98 and 4.78) and the grade ranges between very high and high, as all the statements came with a very high degree except for statement No. 2 (lack of necessary technical support as required), which came with an arithmetic average of (3.98). Statement No. 7 (weak incentives provided to

faculty members who use modern educational technologies) had a mean of (4.04). Statement No. 8 (The large burden on faculty members, which prevents them from using artificial intelligence applications in education) also had a mean of (3.96). Statement No. 10 (lack of adequate teaching programs to use artificial intelligence applications in education) had a mean of 4.09. Statement No. 11 (lack of sufficient time to learn and practice using artificial intelligence applications in education) had a mean of (3.97).

So, Qassim University faculty members suffer from challenges and difficulties to a very high degree in using and practicing artificial intelligence applications in teaching English language. The current result is consistent with the research results of numerous studies (i.e., Alotol & Alanzi, 2021; Yufeia & Syed, 2022; Wang et al., 2020; Aldosari, 2020; Alkhaibari, 2020; Shin & Shin, 2020).

To answer the third question, which states, “What are the perceptions of Qassim University faculty members about the suitability of artificial intelligence applications for English language skills (listening, speaking, reading, writing)"؟, the frequencies and percentages of Qassim University faculty members’ perceptions about the suitability of artificial intelligence applications for English language skills (listening, speaking, reading, writing) were extracted in descending order, and the table below shows this:

Table (5) Perceptions of Qassim University faculty members about the suitability of artificial intelligence applications for English language skills

English language skills	M	SD
reading	4.25	0.664
listening	4.01	0.718
speaking	3.02	0.615
writing	2.64	0.632

It is clear from the table above that the reading skill ranked first with a mean of (4.2500), followed by the listening skill with a mean of (4.0104), the speaking skill came in third place with an average of (3.0208), and the writing skill ranked last with a mean of (2.64).

The aforementioned result means that artificial intelligence applications are more suitable for teaching reading, listening, and speaking skills than writing skills, in light of the perceptions of English language faculty members.

To answer the fourth question, which states, “Are there statistically significant differences between the responses of faculty members in the use of artificial intelligence applications in

teaching the English language to Qassim University students due to the variables of gender and academic degree?" With regard to the differences between the responses of the sample members in the degree of use to employ artificial intelligence applications in teaching English to students due to gender variables, a T-test was used to compare the two groups of English language faculty members, the results were as shown in the following table:

Table (6) Arithmetic means, standard deviations, and "t" value for the differences between the study sample in the degree of use and employment of artificial intelligence applications in teaching English language among students due to gender variables.

Variables		Arithmetic Average	Standard Deviation	T Value	Attesting Level
Employment of artificial intelligence applications in teaching English language among students	Male	1.56	0.189	0.774	0.635
	Female	1.46	0.177		

It is clear from the above table that the value of the T-test reached 0.774, and the significance level reached 0.635. Therefore, it can be concluded that there are no statistically significant

differences between the average scores of the male and female groups of English language faculty members at Qassim University in the degree of their use of artificial intelligence applications in teaching English language among students due to the variables of gender. Therefore, there is no effect of gender on the level of use by English language teaching staff members at Qassim University for applications of artificial intelligence in teaching English to their students.

The researcher attributes this result to the fact that the school environment and academic climate, as well as the training programs concerned with training teachers on the applications of artificial intelligence in education, are available to both genders without any disparity or difference between them. In addition, members of faculty of both genders suffer from the same challenges and difficulties.

Regarding the differences between the responses of English language faculty members in the degree of their practice of artificial intelligence applications in teaching English to students due to the academic degree variable, a one-way analysis of variance (One-Way - ANOVA) was used. To compare the averages of the responses of English language teaching faculty members regarding the degree of their practice of artificial intelligence applications in teaching the English language in light of the academic position variable (teacher, lecturer, assistant professor), the results are as shown in the following table.

Table (7): Arithmetic means and standard deviations of the responses of English language faculty members regarding the degree of their practice of artificial intelligence applications in teaching the English language among students due to the

variable of the academic degree at Qassim University from their point of view.

Variables		Arithmetic Average	Standard Deviation
Scientific Rank	Teaching Assistant	1.83	0266
	Lecturer	1.77	0.212
	Assistant Professor	1.96	0.277
Total		1.33	1.63

The table shows an apparent discrepancy in the arithmetic means and standard deviations of the responses of English language faculty members regarding the degree of their practice of artificial intelligence applications in teaching the English language to students due to the variable of the scientific rank at Qassim University from their point of view. To demonstrate the statistical significance of the differences between the arithmetic averages, one-way analysis of variance was used (One-Way-ANOVA), as shown in the following table:

Table (8) One-way analysis of variance test (One-Way-ANOVA) to indicate the differences between the averages of the responses of the English language faculty members regarding the degree of their practice of artificial intelligence applications in teaching the English language among students due to the variable of the scientific rank at Qassim University from their point of view.

Questionnaire	Source of variance	Set of squares	Degrees of freedom	Mean sum of squares	F value	Statistical significance level
Faculty members' practice of the English language for artificial intelligence applications among Qassim University students	Between the groups	0.033	2	0.651	0.995	0.575
	Among the groups	4.898	1	1.643		
	Total	4.978	1			

The previous table clearly shows that the value of (F) for the questionnaire as a whole is 0.995, and the level of significance is 0.575. Therefore, it can be concluded that there are no statistically

significant differences in the degree of practice by English language faculty members of artificial intelligence applications among Qassim University students due to the academic position variable.

Statistical analysis clearly shows that there is no effect of the scientific rank on the level of use and practice by English language faculty members of artificial intelligence applications among Qassim University students due to the academic position variable.

Research Recommendations:

Based on the findings of the study, following recommendations have been presented:

1. Incentives should be provided to the faculty members who use artificial intelligence applications in educational process.
2. English faculty members should be encouraged on the application of artificial intelligence applications in language teaching for students at Qassim University.
3. Training courses should be held for English language faculty members in applying artificial intelligence applications in language education among Qassim University students.
4. Educational environment with the necessary electronic devices should be provided to employ artificial intelligence applications in the process of education.

Suggestions for improving English language teaching

1. Using technological educational games helps stimulate memory for students as well as better consolidate the information they receive.

2. Rewriting specific texts and publishing them, or practicing electronic reading, providing various educational resources on many specialized sites, and downloading groups of videos and books on all skills throughout the school year.

3. Activating cooperative education helps motivate students to discuss and integrate with their peers and the educational process through the student discussing a topic in small groups.

4. Using electronic programs, applications, and web pages in English.

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