

## Risks of employing generative AI applications (ChatGPT) in education and mitigation approaches: Perspectives from the faculty members at the college of basic education in Kuwait

Ayda Abdulkareem AL-Eidan <sup>1\*</sup> , Budour Misad Almisad <sup>1</sup> 

<sup>1</sup> Faculty of Basic Education, The Public Authority for Applied Education and Training, Kuwait City, KUWAIT

Received 14 May 2025 ▪ Accepted 17 October 2025

### Abstract

The study aimed to identify the main risks of using ChatGPT by students at the college of basic education in Kuwait in their education, and to understand ways to mitigate these risks from the perspective of the faculty members at the college. The descriptive survey method was used to achieve the research objectives, and a questionnaire was prepared that included two main axes: the risks of using ChatGPT and ways to address them. The questionnaire was applied to a sample of 156 faculty members. The results revealed a high degree of agreement among the sample members on the significant risks resulting from the imprudent use of ChatGPT by students, as well as a high level of agreement on ways to mitigate these risks. Furthermore, the results showed no significant differences in the sample's estimations of these risks and ways to address them based on gender, academic degree. The study concluded with several recommendations, including the need to establish ethical standards for the use of artificial intelligence (ChatGPT as a model) in education and to organize training courses on the prudent use of ChatGPT in education.

**Keywords:** artificial intelligence, ChatGPT, risks, mitigation strategies

### INTRODUCTION

The modern world is evolving into a knowledge-based society, where artificial intelligence (AI) represents one of its fundamental pillars. AI is defined as "an advanced field in computer science that seeks to develop systems capable of simulating human intelligence, which includes the ability to learn, critical thinking, problem-solving, rational decision-making, understanding different languages, sensory perception, and effective interaction with diverse environments" (Dai et al., 2020).

UNESCO (2019) has emphasized the importance of promoting AI technologies in education to enhance human capacities and ensure effective collaboration between humans and machines across life, learning, and work. The recommendations from the AI and Education Conference held in Beijing in 2019 highlighted the importance of utilizing AI applications in education while ensuring their ethical use (UNESCO, 2019).

Generative artificial intelligence (GenAI) can create tailored educational content suitable for different

student levels; generate new ideas for curricula and activities, and designs tests and exercises to support learning. It also serves as a supportive tool for faculty members to reduce the time allocated to performing routine tasks related to curricula, such as preparing lesson plans, formulating questions, and summarizing content (Oqad et al., 2024).

ChatGPT stands out as one of the most prominent applications of GenAI, capable of providing information smoothly and explaining complex concepts in simple words, instantly in multiple languages. It is used for software programming and authorship, providing interactive conversations with the system, answering questions and solving problems. Moreover, it can be used to create educational content and interact with smart systems through texts and conversations, relying on deep language models to understand human language and interact naturally (Lamari & Nhinah, 2024). Therefore, its employment represents a significant contemporary trend in education, given its multiple potentials.

### Contribution to the literature

- This study contributes to the growing literature on generative AI in education by exploring the risks and mitigation strategies of ChatGPT use from the prespective of higher education faculty.
- It provides empirical evidence from a large sample of faculty members at the College of Basic Education in Kuwait, highlighting the most critical challenges in integrating AI tools into teaching and learning.
- The findings offer practical recommendations for policymakers and educators to establish ethical guidelines and training programs for the responsible use of AI technologies in education.

Despite the increasing contributions of the ChatGPT application in education, there are ethical concerns arising from the reliance on this technology. Mhlanga (2023) demonstrated that faculty members are worried about the misuse by students when using ChatGPT to create immediate texts. Ahmed (2023) also points out that the use of the application could lead to unreliable or incorrect results when analyzing complex data, decreasing the credibility of research. Therefore, using the ChatGPT application may accompany new challenges and threats to education.

Consequently, it is essential to study the potential risks of using this application in higher education. The use of ChatGPT technology is evolving rapidly and unpredictably, exceeding human expectations, and producing effects that may result in harm, risks, and undesirable actions or decisions.

Thus, the present research aims to identify the most important risks and concerns regarding students' use of AI applications in education (taking ChatGPT as a model) at the college of basic education, while providing guidelines and directions to limit these risks from the perspective of faculty members at the college.

### Research Problem

The outcomes of studies and research related to employing GenAI applications, in general, and the ChatGPT application, in particular, differ. Some adopt a positive view towards using the ChatGPT AI application in the educational process. For instance, studies (Atlas, 2023; Malik et al., 2019) have emphasized the importance of AI applications in the educational process. In contrast, other studies highlight several concerns arising from the use of the GenAI application ChatGPT in education. Littman et al. (2022) and Lim et al. (2022) revealed scientists' and institutions' concerns regarding AI risks, potential threats, and an increased fear of privacy breaches. Excessive use of ChatGPT may expose students to a loss of critical and creative thinking abilities while increasing the likelihood of academic and literary theft. Moreover, the accuracy of the results provided by GenAI raises users' concerns, as there is no guarantee of their accuracy or reasonableness. Therefore, employing the GenAI application ChatGPT in education can be considered a double-edged sword.

The core problem of the current research lies in exploring whether risks arise from the use of the GenAI

application ChatGPT in education among students at the college of basic education, as it is one of the most influential colleges in the educational process. It represents a platform for the academic training of future teachers who will lead the advancement of education and the broader societal renaissance. Based on their experiences and values, the next generation of learners and youth, who represent the nation's workforce, will be shaped.

### Research Questions

Based on the above, the problem of the current research can be formulated into the following questions:

1. What are the risks associated with students at the college of basic education in Kuwait using the ChatGPT application in education from the perspective of faculty members?
2. What are the key strategies to address the risks of students in the college of basic education in Kuwait using the ChatGPT application in education from the perspective of faculty members?
3. To what extent do differences exist in faculty members' assessments regarding the perceived risks of using the ChatGPT application in education and ways to address it according to variables (gender and academic degree)?

### Research Goals

The research aims are as follows:

1. Identify the most significant risks associated with students at the college of basic education using the ChatGPT application in education from the perspective of faculty members.
2. Understand the most important differences between faculty members' assessments of the perceived risks of using the ChatGPT application and ways to address them based on the variables (gender and academic degree).
3. Propose ways to mitigate the risks of using ChatGPT in the educational process from the perspective of faculty members and provide recommendations and solutions to confront the challenges and risks related to students' use of the

ChatGPT application at the college of basic education in Kuwait.

## Importance of Research

### *First. Theoretical importance*

The theoretical significance of the research is highlighted through the following points:

1. The contemporary nature of using the ChatGPT AI application in higher education.
2. The limited number of studies on the ChatGPT technology in educational research enhances the importance of this topic and opens new horizons for researchers to conduct further studies in this area.

### *Second. Practical importance*

The practical significance of the research is demonstrated through the following elements:

1. The contribution of research findings in guiding curriculum stakeholders toward the necessity of integrating AI applications, including ChatGPT, into educational curricula.
2. Drawing the attention of decision-makers to the significant risks associated with using AI applications in general and the ChatGPT application in particular, thereby enabling the development of solutions and strategies to mitigate these risks.

## RESEARCH METHODOLOGY

The research adopts a descriptive survey method aimed at describing the phenomenon of employing ChatGPT in education as it currently exists, emphasizing a quantitative approach by collecting data from a partial sample of the study population and analyzing, interpreting, classifying, measuring, and deriving conclusions from it. A questionnaire is utilized to assess the risks associated with students in the college of basic education in Kuwait using the ChatGPT application in education, as well as to explore strategies for addressing these risks from the perspective of faculty members.

### Operational Definitions of Research

**GenAI** is operationally defined as the type of AI that can produce new content interactively in response to inputs from students at the college of basic education. It automatically generates new texts, images, audio, and video based on pre-trained models across a wide range of topics and provides generated responses to students' questions and conversations.

**ChatGPT application** is operationally defined in this research as an AI application functioning as a chatbot that can engage in interactive dialogue to assist students

at the college of basic education. It supports a variety of educational tasks throughout the learning process, such as providing resources that can help students in completing their assignments, translating texts, generating creative content and offering responses to questions based on mechanisms that simulate human thought.

**Risks of using the ChatGPT application** is operationally defined as the set of processes, decisions, and programs that arise from students' use of using the ChatGPT application at the college of basic education. These risks involve completing assignments and presenting research work that lacks accuracy, high-quality data, scientific standards and ethical values, while also reflecting the absence of principles such as accountability, transparency, and academic integrity. As a result, these practices may negatively affect students' capabilities and thinking skills and ultimately harm the outcomes and quality of the educational process.

## Theoretical and Conceptual Framework of Research

### *Generative artificial intelligence*

GenAI is defined as a branch of AI technology that generates content in response to natural language prompts within conversational contexts. It automatically produces new outputs that reflect symbolic representations of human cognition, including natural language texts, images, videos, music, and programming code. It is trained using data collected from web pages and online social media conversations (UNESCO, 2024). GenAI can produce new content interactively in response to user inputs. It relies on deep neural networks and deep learning techniques to comprehend natural language and generate new content based on the patterns it has learned.

GenAI has tremendous potential to revolutionize and enhance teaching and learning methodologies. It offers innovative solutions to enrich the educational experience for all involved in the educational process—students, instructors, and educational administrators—across various contexts, such as idea generation, lesson planning, exam preparation, and student assessment. Higher education students can use GenAI tools as supplementary support in their academic journey. These tools assist in answering queries, simplify complex concepts, evaluate academic progress, and identifying areas requiring further attention. However, individual diligence and perseverance remain crucial for academic success; over-reliance on these tools may diminish active learning and critical engagement. GenAI in the educational field includes the following characteristics (Saudi Data and Artificial Intelligence Authority, 2023):

- GenAI allows students to customize their learning paths according to their individual learning styles,

adapting content and learning methods to meet each student's needs.

- It provides various supportive tools such as simplifying concepts, programming, summarizing, brainstorming, language learning, correcting linguistic errors, assessing written work, giving feedback, generating training questions, and simulating educational scenarios to enhance understanding and review lessons efficiently.
- GenAI technologies open new vistas for teaching development and support educators in their various responsibilities. It is crucial to accurately set goals—such as increasing student engagement or personalizing learning—to facilitate the selection of appropriate techniques for each educational use. GenAI enables faculty members to generate educational content tailored to different student levels.
- Moreover, educational management can benefit from GenAI to improve institutional performance and raise the quality of academic outcomes, automating some administrative tasks to save time and effort.

### *ChatGPT application*

The ChatGPT application is defined as one of the most prominent GenAI applications, introduced in 2022 by OpenAI. It is an artificial language model using machine learning technology, forming part of a series of generative education models. The acronym GPT stands for “generative pre-trained transformer,” reflecting its foundational architecture. Essentially, the ChatGPT application is a dialogue system for text generation and a natural language processing model that generates human-like responses based on pre-trained language generation. This is accomplished using massive datasets derived from conversational exchanges across the internet (Rousseau, 2023).

The ChatGPT AI application is operationally defined as an AI-based computer program capable of generating text that resembles human responses to various prompts and queries, trained on extensive datasets of texts and codes (Vallance, 2022). Zhai (2023) defines ChatGPT as “an advanced AI model known as a large language model that utilizes deep learning technology, characterized by its ability to simulate human brain capacities in understanding and using language to create texts that mimic human capabilities and perform specific tasks.” Arnold (2023) describes it as “an AI-powered chatbot that provides real-time information on any topic, delivering rapid responses to user queries. ChatGPT comprehends natural language based on context and understands both questions and instructions.” Yu (2023) defines ChatGPT as “an application that creates educational content and texts, facilitates language

learning without human intervention, making it a significant resource for teachers and learners.”

In general, the ChatGPT application serves as a highly advanced GenAI focused on text processing, supported by deep learning technology to understand and create human language and enable the completion of diverse tasks. It has the capability of revolutionizing various educational activities, such as information searching, answering specific questions, inquiring about any topic, offering personalized tutoring by adjusting examples based on the needs of each user, and performing mathematical calculations and statistical analyses.

### *Uses of ChatGPT in the Educational Process*

The ChatGPT application has become one of the most well-known GenAI applications that can be employed in education, enabling interactive conversations between learners and the system and providing accurate responses to their questions and inquiries while offering suitable solutions to various problems.

For learners, ChatGPT offers a range of services to students, such as simplifying complex concepts, writing stories and articles, summarizing and translating documents, answering questions across various fields, and creating interactive content using various media, all supported by data and texts available on the internet. It functions as a guide for learners to facilitate self-learning and assists them in self-assessment, by proofreading spelling and grammatical errors. It also provides activities that encourage students to write continuously (Anders & Sahakyan, 2023). It can tailor educational content to each student according to their experiences and readiness, enhancing their confidence and allowing them to progress in the educational process at their own pace (Kasneci et al., 2023). ChatGPT significantly contributes to developing problem-solving skills, analytical and critical thinking, and promoting collaborative learning among students and creating an interactive learning environment that encourages student engagement and motivation, thereby improving their motivation and educational outcomes (Jauhiainen & Guerra, 2023).

ChatGPT substantially supports teachers across various aspects of the teaching process; during planning, it can generate ideas for lessons, suggest innovative educational activities, and design curricula tailored to students' needs. In the implementation phase, it can offer educational resources such as questions and interactive exercises, as well as simplify complex concepts. During evaluation, teachers assist by designing effective assessment tools and analyzing test results to identify students' strengths and weaknesses. Thus, ChatGPT can enhance the effectiveness of the educational process and achieve its objectives more efficiently (Baido & Ansa, 2023; Kasneci et al., 2023). In



the context of assisting faculty members, ChatGPT enables teachers to engage students better and facilitate a deeper understanding of the syllabus content. Consequently, the ChatGPT program contributes to empowering faculty members' roles in the educational process and achieving strategic agility within educational institutions, positively impacting learning outcomes.

Furthermore, ChatGPT supports teachers in personalizing the learning experience according to students' needs, helps in selecting appropriate assessment tools, enables easy access and communication with learners, and extends the impact of learning over longer periods (Ofgang, 2023). It can also be trained to immediately correct and classify students' essays, providing teachers with more time to focus on other aspects of instruction. Additionally, it can be utilized in creating adaptive learning systems that adjust teaching methods based on student progress and performance.

In scientific research, ChatGPT can be employed in qualitative data analysis, creating descriptive summaries, writing research paper abstracts, designing interview protocols, and analyzing interview data. It assists researchers in identifying relevant literature, analyzing large textual datasets such as social media posts, translating texts, and preparing automated summaries. ChatGPT facilitates workflow and time savings, allowing researchers to concentrate on creative and analytical aspects (Lee & Choi, 2023). However, it should be used as an assistive tool, not as a replacement for human researchers due to its inability to engage in critical thinking or experimentation (Mijwil, 2023). Moreover, Javaid (2023) believes that the ChatGPT application will be a powerful tool in the educational process to support learning outcomes. Additionally, it helps educational institutions enhance performance and promote sustainable development.

### Risks of Using the ChatGPT Application in Education

Ibrahim (2025) notes that the use of AI entails numerous potential risks, such as the lack of traceability of AI implementations, as well as challenges in their assessment, prioritization, introducing algorithmic bias into decision-making processes since AI systems learn from the datasets on which they are trained. Moreover, data sources may also breach personal privacy, becoming harder to protect amid the spread of AI. In addition, there are unclear legal liabilities, as AI systems are designed using ambiguous algorithms, leaving no clear legal accountability for their outcome. Several concerns have also been raised regarding the attribution of texts produced by ChatGPT to students or even to professors and researchers, which undermines the ethics and integrity of scientific research (Ben Ali & Briki, 2024).

Fuchs (2023) highlights ethical concerns regarding using the ChatGPT application, including issues of accuracy, as the system's precision heavily relies on the quality, diversity, and complexity of the training datasets. It also depends on the quality of input data provided by students in previous research, which may lead to misunderstandings and incorrect responses. Another significant challenge is that students in higher education who rely heavily on ChatGPT may become passive learners, accepting information without active analytical thinking. Moreover, there is a risk of technology dependency among students. Additionally, AI systems require massive amounts of data, including personal information about students and staff, raising serious privacy concerns (Kengam, 2020).

From the above, it is evident that there are numerous risks associated with AI, despite the various advantages it provides.

### Ways to Mitigate Risks Associated with Using the ChatGPT Application in Education

To confront the risks associated with using the ChatGPT application in education, it is essential to:

- **Establish clear ethical standards and fundamental principles** for the safe and responsible use of AI, ensuring respect for human rights, privacy, transparency, and integrity, while raising awareness among users and specialists about AI risks and the necessary measures to mitigate these risks. Strengthen cybersecurity practices to reduce the risk of cyberattacks.
- **Develop tracking and control technologies for AI systems** to minimize the potential loss of control over this technology by accessing the informational sources used in training intelligent systems and decision-making processes, thereby promoting transparency and integrity at using AI.
- **Ensure the existence of ethical charters** for developing and utilizing AI systems and issuing local and international regulations to govern their operation, particularly regarding intellectual property rights and other harms that may result from irresponsible use (Ibrahim, 2025).
- **Establish international cooperation to develop clear frameworks, laws, and ethical guidelines** that balance the societal benefits of AI technologies while ensuring necessary protections against potential risks.
- **Empower and reinforce the use of GenAI into digital education**, ensuring data security, privacy, and academic integrity while promoting responsible use.
- **Adopt a risk management plan** to address potential challenges related to using GenAI, such as data breaches, ethical violations, the generation

**Table 1.** Cronbach's alpha reliability coefficients for the axes and overall questionnaire administered to faculty members

| Axis                                                            | Number of items | Reliability coefficient |
|-----------------------------------------------------------------|-----------------|-------------------------|
| Risks of using ChatGPT technology in education                  | 21              | 0.901                   |
| Ways to mitigate risks of using ChatGPT technology in education | 18              | 0.887                   |
| Overall questionnaire                                           | 39              | 0.935                   |

of inappropriate content, and the spread of misinformation.

- **Develop clear guidelines on the ethical use of GenAI tools** and applications in digital education (Al-Assiri, 2023).
- **Provide professional development programs** for administrators, teachers/faculty members, and trainee learners continuously, focusing on the responsible and ethical use of GenAI technologies in education.
- **Prohibit copying of outputs generated by GenAI tools** and attributing them to learners or trainees; instead, require rephrasing according to academic writing ethics.
- **Verify the accuracy of information obtained from GenAI tools**, and document sources using proper academic citation methods.
- **Maintain detailed documentation regarding the use of GenAI tools**, or applications as references, ensuring proper in-text citation according to the standards approved by the educational or training organization (Mal, 2024).

## Field Research Procedures

### Research tool

After reviewing the relevant literature and previous studies related to the current research topic, the researcher developed the research tool, which consisted of a questionnaire specifically designed to achieve the research objectives.

### Validity of the questionnaire

The validity of the questionnaire was verified through the following methods:

1. **Apparent validity:** The initial version of the tool was presented to seven experts specializing in educational technology, curricula, teaching methods, and educational foundations from the college of basic education and the college of education at Kuwait University to ensure the tool's appropriateness for achieving the research goals, confirming the clarity and relevance of the statements. The experts indicated high levels of quality and clarity in the statements, with agreement rates ranging between 85.7% and 100%. The questionnaire consisted of 39 items, divided into two axes: the first addressing the risks of using the ChatGPT technology in

**Table 2.** Distribution of the sample according to gender and academic degree (N = 156)

| Variable        | Number              | %   |
|-----------------|---------------------|-----|
| Gender          | Male                | 66  |
|                 | Female              | 90  |
| Academic degree | Professor           | 34  |
|                 | Associate professor | 56  |
|                 | Assistant professor | 66  |
| Total           | 156                 | 100 |

education (21 items), and the second focusing on ways to mitigate these risks (18 items).

2. **Internal consistency:** The questionnaire was administered to a pilot sample of 30 members of the teaching staff at the college of basic education for women. Pearson correlation coefficients were calculated between the scores on individual items, their respective axis, and the total score of the questionnaire. These values ranged between 0.684 to 0.813, all of which were statistically significant at the 0.01 level.

### Reliability of the questionnaire

To verify the reliability of the questionnaire, Cronbach's alpha coefficient was calculated based on the responses of the pilot sample. **Table 1** presents the reliability coefficients for each axis of the questionnaire and for the entire tool.

It is evident from **Table 1** that the Cronbach's alpha reliability coefficients are high, indicating that the tool demonstrates a strong level of reliability and is appropriate for achieving the research objectives. Generally, the results confirm that the tool is suitable for application to the research participants and effective in fulfilling the research objectives.

### Research community and sample

The research community comprised faculty members at the college of basic education across both branches of the public authority for applied education and training in Kuwait, totaling approximately 540 faculty members. This included 117 professors, 156 associate professors, and 267 assistant professors. The sample consisted of 156 faculty members, and **Table 2** shows the distribution of the sample.

### Scoring the tool

The sample's responses were evaluated using a three-point Likert scale to analyze the questionnaire results. The following criteria were established to classify the

**Table 3.** Ranking of risks associated with student's use of the ChatGPT application from the perspective of faculty members

| Statements                                                                                                   | WM          | D           | R        |
|--------------------------------------------------------------------------------------------------------------|-------------|-------------|----------|
| Students' reliance on ChatGPT for completing assignments and homework                                        | 2.87        | High        | 1        |
| Expansion of academic plagiarism                                                                             | 2.86        | High        | 2        |
| Prevalence of cheating and plagiarism among students                                                         | 2.85        | High        | 3        |
| Undermining the status of academic integrity                                                                 | 2.81        | High        | 4        |
| Infringement of others' intellectual property rights                                                         | 2.79        | High        | 5        |
| Weak transparency of data provided by ChatGPT                                                                | 2.78        | High        | 6        |
| Copying from scientific references without citing them                                                       | 2.77        | High        | 7        |
| Uncertainty regarding accuracy in scientific citation                                                        | 2.76        | High        | 8        |
| Uncertainty about the validity of information provided through ChatGPT                                       | 2.76        | High        | 9        |
| Making students passive learners who accept information without critical thinking                            | 2.75        | High        | 10       |
| Encouraging student dependency in completing academic assignments                                            | 2.74        | High        | 11       |
| Promoting student laziness in completing homework independently                                              | 2.73        | High        | 12       |
| Weakening students' scientific research skills                                                               | 2.72        | High        | 13       |
| Weakening students' creative thinking abilities                                                              | 2.61        | High        | 14       |
| Lack of students' awareness regarding acceptable practices for citation and borrowing in scientific research | 2.54        | High        | 15       |
| Weak privacy concerning the information that ChatGPT provides                                                | 2.52        | High        | 16       |
| Weaknesses in security and confidentiality in scientific research                                            | 2.46        | High        | 17       |
| Ease of breaching information or research obtained through ChatGPT                                           | 2.45        | High        | 18       |
| Data obtained may be biased toward a specific ideology or perspective                                        | 2.44        | High        | 19       |
| Imposing the identities of technology owners on the cultural identities of the populations using ChatGPT     | 2.41        | High        | 20       |
| Lack of direct personal interaction between researchers                                                      | 2.37        | High        | 21       |
| <b>Overall mean for the axis</b>                                                                             | <b>2.67</b> | <b>High</b> | <b>-</b> |

Note. WM: Weighted mean; D: Degree; & R: Rank

levels of the weighted arithmetic mean for result interpretation:

1. Weighted arithmetic mean ranging from 1.00 to less than 1.67 indicates a low level, reflecting a low estimation of risks.
2. Weighted arithmetic mean ranging from 1.67 to less than 2.34 indicates a moderate level.
3. Weighted arithmetic mean ranging from 2.34 to 3.00 indicates a high level.

#### Statistical methods used

- **Arithmetic means** were calculated to determine the degree of agreement of the sample with each item and the overall axis.
- An **independent samples t-test** was conducted to examine the significance of differences between the means of two independent samples based on gender (male vs. female).
- A **one-way ANOVA test** was performed to determine the significance of differences between the means of sample scores based on the variables of specialization and academic degree.

## RESULTS AND DISCUSSION

### Answering the First Question

To answer the first research question, "What are the risks associated with students in the college of basic education in Kuwait using the ChatGPT application in

education from the perspective of faculty members?", the weighted arithmetic means of the faculty members' responses on the axis concerning the risks of using ChatGPT technology were calculated. The results are presented in **Table 3**.

The results in **Table 3** indicate that faculty members at the college of basic education identified a set of risks associated with students' use of the ChatGPT application in the educational process, based on the overall weighted arithmetic mean of 2.67 out of 3 points.

This finding is consistent with results of several studies that addressed the risks associated with using AI applications in general, and the ChatGPT application in particular. For instance, the study by Cotton et al. (2023) identified multiple concerns related to academic integrity and plagiarism associated with the use of ChatGPT.

Similarly, Susnjak and McIntosh (2023) revealed a looming threat in the education sector, highlighting concerns about the credibility of information published during assessments and student interactions, as well as the possibility of ChatGPT providing misleading or incorrect responses. Additionally, García-Peñalvo (2023) noted that the use of ChatGPT lacks scientific documentation and clarity in citation, often neglecting proper attribution to the original authors, which constitutes a violation of the intellectual rights. Moreover, The study by Baidoo and Ansah (2023) highlighted that employing ChatGPT in the learning process is accompanied by challenges, including inaccuracies and biases in text generation that may

**Table 4.** Ranking of ways to mitigate risks associated with ChatGPT from the perspective of faculty members

| Statements                                                                                                                                   | WM          | D           | R        |
|----------------------------------------------------------------------------------------------------------------------------------------------|-------------|-------------|----------|
| Teach courses specifically on intellectual property rights and ethics for dealing with AI                                                    | 2.88        | High        | 1        |
| Enhance knowledge about electronic copyright and related laws among users                                                                    | 2.78        | High        | 2        |
| Promote a culture of ethical use of AI within the educational environment                                                                    | 2.77        | High        | 3        |
| Raise awareness of local and global ethical charters and documents governing AI use                                                          | 2.74        | High        | 4        |
| Educate students on the importance of accuracy and integrity when quoting and gathering scientific materials through the ChatGPT application | 2.71        | High        | 5        |
| Teach a course on intellectual property rights in the digital environment                                                                    | 2.70        | High        | 6        |
| Conduct training sessions and provide support on how students can use the ChatGPT application                                                | 2.69        | High        | 7        |
| Strengthen faculty members' capacities to monitor students' use of AI applications                                                           | 2.69        | High        | 8        |
| Train students on the mindful use of AI applications                                                                                         | 2.68        | High        | 9        |
| Establish ethics committees to evaluate research projects across various college departments                                                 | 2.66        | High        | 10       |
| Define acceptable levels of scientific citation and plagiarism from AI applications                                                          | 2.64        | High        | 11       |
| Establish ethical policies and procedures for using the ChatGPT application in scientific research                                           | 2.61        | High        | 12       |
| Provide programs that detect the extent of copying from ChatGPT                                                                              | 2.59        | High        | 13       |
| Create a guideline clarifying the limits of using the ChatGPT application in the educational process                                         | 2.58        | High        | 14       |
| Set precise scientific standards for evaluating students' projects in light of the use of AI technologies                                    | 2.57        | High        | 15       |
| Issue documents formalizing the ethical rules governing dealing with AI applications                                                         | 2.56        | High        | 16       |
| Develop legislation for mindful use of AI applications in education                                                                          | 2.55        | High        | 17       |
| Adopt the UNESCO Charter on dealing with technological applications                                                                          | 2.54        | High        | 18       |
| <b>Overall mean for the axis</b>                                                                                                             | <b>2.66</b> | <b>High</b> | <b>-</b> |

Note. WM: Weighted mean; D: Degree; & R: Rank

negatively affect the quality and reliability of information and content.

Finally, a study by Trust et al. (2023) documented critical challenges and opportunities arising from using ChatGPT in education, emphasizing potential misuse by teachers and students, such as submitting analyzed or incorrect messages or engaging in cheating during examinations.

This can be attributed to the novelty of the application and the difficulty in assessing the extent of students' use of ChatGPT for completing school assignments and research projects, due to the absence of plagiarism detection software available to students. Furthermore, there are no established regulations or legislations that define specific restrictions on the use of this application.

However, several of these concerns can be addressed by establishing clear policies, guidelines, and comprehensive protocols, along with providing appropriate training to ensure that technology is used to complement human interaction and enhance educational quality, rather than replace traditional education and direct human engagement.

### Answering the Second Question

To answer the second question, "What are the key strategies to address the risks of students in the college of basic education in Kuwait using the ChatGPT application in education from the perspective of faculty members?", the weighted arithmetic means of faculty members' responses regarding the second axis which concerns ways to address the risks associated with the

ChatGPT application, were calculated. The results are presented in **Table 4**.

The results in **Table 4** indicate that faculty members at the college of basic education in Kuwait assigned a high level of importance to a set of measures aimed at limiting the irresponsible use of the ChatGPT application in the educational process, which could otherwise lead to various risks. This is based on the overall weighted arithmetic mean of their responses to the second axis, with high mean score recorded across all items.

This finding aligns with the outcomes of numerous studies aimed at identifying critical approaches for rationalizing the deployment of AI applications in education. For example, Cotton et al. (2023) emphasized the importance of promoting academic integrity and supporting academic honesty in the era of ChatGPT, proposing several strategies that should be implemented to ensure the ethical and responsible use of these applications. These strategies include formulating clear policies and procedures, providing training and support, and adopting diverse methods to detect and prevent academic misconduct. Halaweh (2023) underscored the importance of adhering to ethical principles and promoting the responsible handling of AI technologies in education, proposing strategies for the responsible implementation of ChatGPT within educational settings. Mhlanga (2023) pointed out the need for strict ethical and operational considerations to ensure the proper application of AI technologies in educational field.

Overall, it can be said that a set of regulations should be established to maximize the benefits derived from wisely utilizing the ChatGPT application in education



**Table 5.** Differences concerning the risks of using ChatGPT and ways to address them based on gender variable

| Axis                  | Gender | Count | Arithmetic mean | Standard deviation | t     | df  | Statistical significance | Notes           |
|-----------------------|--------|-------|-----------------|--------------------|-------|-----|--------------------------|-----------------|
| Risks                 | Male   | 66    | 56.16           | 3.45               | 1.538 | 154 | 0.126                    | Not significant |
|                       | Female | 90    | 57.03           | 3.52               |       |     |                          |                 |
| Ways to address risks | Male   | 66    | 46.91           | 3.01               | 1.893 | 154 | 0.060                    | Not significant |
|                       | Female | 90    | 47.83           | 2.99               |       |     |                          |                 |

**Table 6.** Differences concerning the risks of using ChatGPT and ways to address them based on the academic degree variable

| Axis                  | Source of variance | Sum of squares | df  | Mean square | F     | Significance    |
|-----------------------|--------------------|----------------|-----|-------------|-------|-----------------|
| Risks                 | Between groups     | 25.48          | 2   | 12.74       | 1.034 | Not significant |
|                       | Within groups      | 1,884.96       | 153 | 12.32       |       |                 |
|                       | Total              | 1,910.44       | 155 |             |       |                 |
| Ways to address risks | Between groups     | 21.72          | 2   | 10.86       | 1.125 | Not significant |
|                       | Within groups      | 1,476.45       | 153 | 9.65        |       |                 |
|                       | Total              | 1,498.17       | 155 |             |       |                 |

while minimizing the associated risk. These measures should include promoting a culture of ethical use of AI in educational environments, raising awareness of local and global ethical charters related to quoting, copying, and copyright and ensuring accuracy and integrity in collecting scientific materials through appropriate training sessions and specialized courses. Additionally, it is beneficial to establish ethics committees for evaluating research projects and to develop policies, legislation, and ethical standards for the responsible use of AI applications in education, complying with the UNESCO (2019) charter on handling technological applications. Finally, it is crucial to enhance faculty members' capacities to monitor students' use of AI applications by conducting training programs, providing necessary support, and offering specialized monitoring tools where applicable.

### Answering the Third Question

To answer the third research question: "To what extent do differences exist in faculty members' assessments regarding the perceived risks of using the ChatGPT application in education and ways to address it according to variables (gender, academic degree)?", appropriate inferential statistical methods were employed, as indicated below:

#### Differences based on gender

The results are illustrated in **Table 5**.

It is evident from **Table 5** that there is no statistically significant difference between the mean assessments of faculty members at the college of basic education in Kuwait regarding the perceived risks of using ChatGPT technology and the ways to address it based on the gender variable (male/female). This result aligns with findings from the study by Abou El-Seoud et al. (2023), which indicated no significant statistical differences among the sample's estimates.

This can be attributed to the existence of common factors that influence faculty members' perspectives irrespective of gender, including shared concerns about academic integrity-particularly anxieties regarding cheating and academic dishonesty, which are universally shared among all faculty members. Their perspectives also converge on the importance of maintaining direct human interaction between students and faculty members. Furthermore, both genders focus on sustaining educational quality, leading them to recognize the need for implementing strategies to address the risks associated with students' use of the ChatGPT application in education, thereby promoting the responsible use of AI applications and preventing violations that conflict with educational policies.

#### Differences based on academic degree variable

A **one-way ANOVA** test was utilized, as shown in **Table 6**.

The results of the one-way ANOVA analysis in **Table 6** indicate no statistically significant differences between the average scores of faculty members at the college of basic education regarding their perceptions of the risks associated with using the ChatGPT application in the educational process and the ways to address them based on the academic degree variable. This result contradicts the findings of the study by Abou El-Seoud et al. (2023), which indicated significant statistical differences between the participants' responses based on academic level.

This can be explained by faculty members' shared concerns, regardless of their academic degree, regarding academic integrity and the potential misuse of ChatGPT for writing assignments and solving homework instead of having students complete these tasks independently. They are concerned that students may over-rely on ChatGPT, which would reduce opportunities for developing their critical thinking and problem-solving skills independently. Additionally, this over-reliance diminishes the level of personal interaction between

students and faculty members, negatively impacting the development of traditional skills related to writing, research, and analysis.

These results may also stem from a similar level of knowledge and awareness among faculty members regarding the risks of using AI applications, particularly the ChatGPT application, resulting in similar perceptions regardless of their academic degrees. Furthermore, the shared understanding among faculty members about addressing the risks associated with using the ChatGPT application in education aligns with their recognition of the need to provide the best resources to ensure the application serves to maintain academic integrity while avoiding cheating and misuse. This necessitates establishing clear policies, guidelines, charters, and standards for the ethical use of ChatGPT in a manner consistent with the UNESCO (2019) charter governing technology use and ethical standards and societal values.

### Summary of Findings

The findings revealed that:

- Faculty members at the college of basic education in Kuwait indicated that significant risks result from students' use of the ChatGPT application in the educational process. The overall agreement regarding the assessment of these risks was high.
- Faculty members at the college of basic education in Kuwait emphasized the need to provide a set of measures to address the risks associated with using the ChatGPT application in education, with high levels of agreement regarding these measures.
- There were no differences in faculty members' assessments regarding the perceived risks of employing the ChatGPT application in education or their evaluations of proposed measures to ensure its responsible use based on gender, academic specialization, or academic degree.

### Recommendations and Suggestions

Based on the research findings, the following recommendations are made:

- It is recommended to raise students' awareness about the risks of employing AI technologies in education by disseminating reports and studies on this topic and providing opportunities for discussion and analysis.
- Introduce a course focused on the ethics of handling AI applications and respecting intellectual property rights.
- Establish accurate scientific standards for evaluating students' work using detection tools for citations and plagiarism.

- Provide necessary support to students to develop their skills in using AI technologies, particularly the ChatGPT application, through training programs and resources that guide them in achieving their educational goals.
- Develop a guideline outlining the boundaries for using the ChatGPT application within the educational process.
- Formulate ethical policies governing the use of the ChatGPT application in scientific research.
- Implement university monitoring mechanisms for students' research practices based on ethical standards for using AI.
- Offer appropriate training and education for faculty members and staff responsible for using AI in education, ensuring the responsible application of these technologies in accordance with appropriate ethical standards.

### Suggestions for Future Research

- Conduct a study on the necessary ethical standards for the use of GenAI applications in education from the perspective of faculty members.

**Author contributions:** AAA: data curation and writing—original draft & BMA: formal analysis and writing—review & editing. Both authors agreed with the results and conclusions.

**Funding:** No funding source is reported for this study.

**Acknowledgments:** The authors would like to thank the faculty members at the college of basic education for their participation and valuable insights.

**Ethical statement:** The authors stated that the study does not require any ethical approval. The study did not involve human or animal subjects, clinical procedures, or personally identifiable data. The research relied solely on anonymous survey responses from faculty members, collected voluntarily without any sensitive or private information, in full compliance with institutional ethical standards.

**AI statement:** The authors stated that no generative AI tools were used in the preparation, data analysis, or writing of this manuscript. Only standard language editing tools (such as grammar checkers) were used to improve readability, and the authors are fully responsible for the content of the article.

**Declaration of interest:** No conflict of interest is declared by the authors.

**Data sharing statement:** Data supporting the findings and conclusions are available upon request from the corresponding author.

### REFERENCES

- Abou El-Seoud, S., Ayman, S. E., Nagaty, K., & Karam, O. (2023). *The impact of ChatGPT on student learning and performance*. SSRN. <https://doi.org/10.2139/ssrn.4532913>
- Ahmed, D. A. H. (2023). Proposed strategy to mitigate the risks of artificial intelligence applications in educational research: ChatGPT as a model. *Benha*

- University Journal of Education, 135(3), 1-74. [https://jfeb.journals.ekb.eg/article\\_331129.html](https://jfeb.journals.ekb.eg/article_331129.html)
- Al-Assiri, M. (2023). Risks and challenges of artificial intelligence. *Al-Sharq Al-Awsat*. <https://www.alarabiya.net/aswaq>
- Anders, B., & Sahakyan, S. (2023). ChatGPT and AI: Presentation and Q&A [PowerPoint slides]. American University of Armenia, Center for Teaching and Learning. <https://ctl.aua.am/2023/01/26/chat-gpt-and-ai-presentation-and-qa/>
- Arnold, V. (2023). ChatGPT subscription: What advantages it has. *Neuroflash*. <https://neuroflash.com/chatgpt-subscription-what-advantages-it-has/>
- Atlas, S. (2023). ChatGPT for higher education and professional development: A guide to conversational AI. *University of Rhode Island Digital Commons*. [https://digitalcommons.uri.edu/cba\\_facpubs/548](https://digitalcommons.uri.edu/cba_facpubs/548)
- Baidoo, D., & Ansah, L. O. (2023). Education in the era of generative artificial intelligence (AI): Understanding the potential benefits of ChatGPT in promoting teaching and learning. *Journal of AI*, 7(1), 52-62. <https://doi.org/10.61969/jai.1337500>
- Ben Ali, L., & Briki, K. (2024). Artificial intelligence in the scientific field between determinism in application and risks in production. *Heritage Journal*, 14(3), 67-80. <https://asjp.cerist.dz/en/article/242776>
- Cotton, D. R. E., Cotton, P. A., & Shipway, J. R. (2023). Chatting and cheating: Ensuring academic integrity in the era of ChatGPT. *Innovations in Education and Teaching International*, 61(2), 228-239. <https://doi.org/10.1080/14703297.2023.2190148>
- Dai, W., Lin, J., Jin, H., Li, T., Tsai, Y. S., Gašević, D., & Chen, G. (2023). Can large language models provide feedback to students? A case study on ChatGPT. In *Proceedings of the 2023 IEEE International Conference on Advanced Learning Technologies* (pp. 323-325). IEEE. <https://doi.org/10.1109/ICALT58122.2023.00100>
- Fuchs, K. (2023). Exploring the opportunities and challenges of NLP models in higher education: Is ChatGPT a blessing or a curse? *Frontiers in Education*, 8. <https://doi.org/10.3389/feduc.2023.1166682>
- García-Peñalvo, F. J. (2023). Contexts educations after the launch of ChatGPT: Disruption and panic? *Education in the Knowledge Society*, 24, Article e31279. <https://doi.org/10.14201/eks.31279>
- Halaweh, M. (2023). ChatGPT in education: Strategies for responsible implementation. *Contemporary Educational Technology*, 15(2), Article ep421. <https://doi.org/10.30935/cedtech/13036>
- Ibrahim, S. A. E. (2025). *Risks of developments in artificial intelligence technologies*. Science and Faith Publishing.
- Jauhainen, J. S., & Guerra, A. G. (2023). Generative AI and ChatGPT in children's education: Evidence from a school lesson. *Sustainability*, 15(18), Article 14025. <https://doi.org/10.3390/su151814025>
- Javaid, M., Haleem, A., Singh, R. P., Khan, S., & Khan, I. H. (2023). Unlocking opportunities through the ChatGPT tool toward ameliorating the education system. *BenchCouncil Transactions on Benchmarks, Standards and Evaluations*, 3(2), Article 100115. <https://doi.org/10.1016/j.bset.2023.100115>
- Kasneci, E., Seßler, K., Küchemann, S., Bannert, M., Dementieva, D., Fischer, F., Gasser, U., Groh, G., Günnemann, S., Hüllermeier, E., Krusche, S., Kutyniok, G., Michaeli, T., Nerdel, C., Pfeffer, J., Poquet, O., Sailer, M., Schmidt, A., Seidel, T., ... & Kasneci, G. (2023). ChatGPT for good? On opportunities and challenges of large language models for education. *Learning and Individual Differences*, 103, Article 102274. <https://doi.org/10.1016/j.lindif.2023.102274>
- Kengam, J. (2020). Artificial intelligence in education. *ResearchGate*. [https://www.researchgate.net/publication/Artificial\\_Intelligence\\_in\\_Education](https://www.researchgate.net/publication/Artificial_Intelligence_in_Education)
- Lamari, M., & Nhinah, M. (2024). *The use of ChatGPT technology in scientific research: A survey of doctoral students at 8 May 1945 University in Qalmah* [Doctoral thesis, 8 May 1945 University].
- Lee, S. W., & Choi, W. J. (2023). Utilizing ChatGPT in clinical research related to anesthesiology: A comprehensive review of opportunities and limitations. *Anesthesia and Pain Medicine*, 18(3), 244-251. <https://doi.org/10.17085/apm.23056>
- Lim, E., Park, H., & Kim, B. (2022). Review of the validity and rationality of artificial intelligence regulation: Application of the EU's AI regulation bill to accidents caused by artificial intelligence. In *Proceedings of the International FLAIRS Conference*. <https://doi.org/10.32473/flairs.v35i.130713>
- Littman, M. L., Ajunwa, I., Berger, G., Boutilier, C., Currie, M., Doshi-Velez, F., Hadfield, G., Horowitz, M. C., Isbell, C., Kitano, H., Levy, K., Lyons, T., Mitchell, M., Shah, J., Sloman, S., Vallor, S., & Walsh, T. (2022). *Gathering strength, gathering storms: The one hundred year study on artificial intelligence (AI100) 2021 study panel report*. arXiv. <https://doi.org/10.48550/arXiv.2210.15767>
- Mal, M. A. A. (2024). Applications of artificial intelligence in digital education: A need for risk management plan and output enhancement. *Maaal*. <https://maaal.com/archives/2024>
- Malik, G., Tayal, D. K., & Vij, S. (2019). An analysis of the role of artificial intelligence in education and

- teaching. In P. K. Sa, S. Bakshi, I. K. Hatzilygeroudis, & M. N. Sahoo (Eds.), *Recent findings in intelligent computing techniques* (pp. 407-417). Springer. [https://doi.org/10.1007/978-981-10-8639-7\\_42](https://doi.org/10.1007/978-981-10-8639-7_42)
- Mhlanga, D. (2023). *Open AI in education: The responsible and ethical use of ChatGPT toward lifelong learning*. SSRN. <https://doi.org/10.2139/ssrn.4354422>
- Mijwil, M. (2023). *ChatGPT: The future of artificial intelligence in scientific research*. arXiv. <https://doi.org/10.13140/RG.2.2.32002.76484>
- Ofgang, E. (2023). How to prevent ChatGPT cheating. *Tech & Learning Magazine*. <https://www.techlearning.com/news/how-to-prevent-chatgpt-cheating>
- Oqad, H. A., Al-Dosari, M. F., & Al-Dosari, H. F. (2024). The degree of employing generative artificial intelligence in teaching skills from the perspective of female students of the faculty of education at Umm Al-Qura University. *The Arab Journal of Scientific Publishing*, 7(71), 229-260.
- Rousseau, H. P. (2023). From Gutenberg to ChatGPT: The challenge of the digital university. *CIRANO Knowledge into Action*. <https://cirano.qc.ca/files/publications/2023RB-02.pdf>
- Saudi Data and Artificial Intelligence Authority. (2023). *Generative artificial intelligence in education*. Saudi Data & AI Authority. <https://sdaia.gov.sa/en>
- Susnjak, T., & McIntosh, T. R. (2023). ChatGPT: The end of online exam integrity? *Education Sciences*, 14(6), Article 656. <https://doi.org/10.3390/educsci14060656>
- Trust, T., Whalen, J., & Mouza, C. (2023). Editorial: ChatGPT: Challenges, opportunities, and implications for teacher education. *Contemporary Issues in Technology and Teacher Education*, 23(1), 1-23. <https://www.learntechlib.org/p/222408>
- UNESCO. (2019). *International Conference on Artificial Intelligence and Education*. United Nations Educational, Scientific and Cultural Organization. <https://unesdoc.unesco.org/ark:/48223/pf0000370967>
- UNESCO. (2024). *Guidelines for the use of generative artificial intelligence in education and research*. United Nations Educational, Scientific and Cultural Organization. <https://doi.org/10.54675/EWZM9535>
- Vallance, C. (2022). ChatGPT: New AI chatbot has everyone talking to it. *BBC News*. <https://www.bbc.com/news/technology-63861394>
- Yu, H. (2023). Reflection on whether ChatGPT should be banned by academia from the perspective of education and teaching. *Frontiers in Psychology*, 14. <https://doi.org/10.3389/fpsyg.2023.1181712>
- Zhai, X. (2023). ChatGPT for next generation science learning. *XRDS Crossroads The ACM Magazine for Students*, 29(3), 42-46. <https://doi.org/10.1145/3589649>

<https://www.ejmste.com>