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Integrating Artificial Intelligence in Education: Opportunities and Challenges

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Abstract

Artificial Intelligence (AI) has become a prominent trend in this era, progressing in every field including education. It offers numerous new opportunities in the education system and on the same side, both students and teachers are also facing new challenges in our education sector. The present study aims to investigate the challenges faced by students and teachers resulting from the integration of AI in Education. It also aims to explore the opportunities brought about by the integration of AI in the field of education. The study is helpful for all the stakeholders in the education sector. The questionnaire was employed to gather data during personal visits. Each set of questionnaire included a five-point Likert scale for quantitative data and semi-structured interviews for qualitative data. The mixed methods study involved the participation of 335 students for quantitative data collection and 32 teachers for qualitative data collection from three universities in Pakistan. Quantitative data were analyzed using Smart PLS version 4 while qualitative data were analyzed using the Phenomenological Approach, (Colaizzi's method). The findings of the study revealed that AI in education streamlines tasks, aiding grading and assistance. However, its integration may challenge creativity and critical thinking skills. It is recommended that teacher may create environment and provide opportunities to students to enhance their critical thinking skills and creativity. Additionally, it is suggested that training programmes be arranged for teachers to enhance their technical skills and ensure the effective use of AI.

Keywords: Artificial Intelligence, Opportunities, Challenges, ChatGPT

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Introduction

In our rapidly advancing world, technology is at the forefront of transformative change (Zhang & Aslan, 2021). Among the most talked-about technological innovations, Artificial Intelligence (AI) has emerged as a formidable force (Borenstein & Howard, 2021). AI, a branch of computer science focused on constructing intelligent machines that carry out actions typically associated with human intelligence, is progressing in every field whether it is business, agriculture, economics, medicine, or education (Ouyang, 2021). Indeed, Artificial Intelligence in Education (AIED) has a history spanning more than six decades (Chaudhry, 2022). Some countries have been early adopters and pioneers in leveraging AI in education. In Pakistan, educational institutes adopted technology at the time of COVID-19, making us more aware of its relevance. Artificial Intelligence is advancing rapidly, and it is already having a profound impact on the nature of services in higher education (Guilherme, 2019). According to some studies, AI is even replacing human teachers, although it also serves as a valuable tool for teachers to enhance their teaching methods (Sumra, Alam, & Aftab, 2022). Among these innovative solutions are Squirrel AI Learning, the pioneering Chinese AI company, that has made significant strides in personalized learning. ALEKS (Assessment and Learning in Knowledge Spaces) stands as another prominent tool, offering tailor-made learning experiences. Duolingo leverages AI for language learning, while Automatic Grading Systems provide efficiency in assessment (Zhang, 2021). In addition, AI tracking and monitoring solutions enable in-depth analysis of students' progress, and the concept of AI smart campuses is revolutionizing both physical and digital learning environments. Furthermore, chatbots and virtual Assistants have become invaluable aids, offering support and guidance to both students and staff. The integration of these AI technologies marks a turning point in higher education, promising a future defined by innovative and efficient educational practices. While AI Integration in education brings numerous opportunities, it has also led to several challenges, such as cheating and plagiarism (Borenstein, 2021). Students often copy assignments from virtual assistants, neglecting their own critical thinking abilities. This situation creating problems for teachers during the evaluation process. Consequently, in response to the issues caused by AI, many countries have reverted to traditional physical exams conducted with pen and paper. The integration of AI with the education system brings both new opportunities and challenges for us. The rapid integration of Artificial Intelligence (AI) into our education system is transforming our examination criteria, grading system, and teaching methods. While numerous studies have explored the challenges and opportunities of AI, the specific challenges and opportunities arising in the education system after AI integration have not been sufficiently explored. Therefore, the study aims to:

1. Investigate the challenges faced by students and teachers resulting from integrating AI into education.
2. Explore the opportunities brought about by the integration of AI in the field of education.

Literature Review

In 1956, the idea of artificial intelligence (AI) was first proposed. The advancement of AI technologies and disciplinary applications has gone through several highs and lows during the past fifty years. In order to speed up the reform of education, including adjustments to the skills and development model and teaching strategies to create a new educational system, the idea of intelligent education has been proposed (Lu, 2021). The term artificial intelligence (AI) describes the intelligence that is manually programmed into machines (including computers) or that is stimulated by humans and other species via machinery. Humans, as we all know, are physically, energetically, and intellectually finite. AI helps humans' natural intelligence to some extent surpass its bounds. AI serves to extend and expand human potential rather than to completely replace humans in some situations (Matthew N.O. Sadiku, 2022).

Artificial intelligence (AI) system is one that possesses human-level intelligence and can learn, adapt, solve problems, make judgements, and comprehend language. One aspect of technology advancements that facilitates the field of education and learning is artificial intelligence. Artificial intelligence has found widespread use in every field including education. An established interdisciplinary field called Artificial Intelligence in Education (AIEd) applies AI techniques to instruction, learning, and decision-making processes. AIEd can assist students in other ways to learn, such as by teaching them, offering them educational materials tailored to their requirements, identifying their knowledge gaps and areas of strength, encouraging independent learning in students, or encouraging cooperation among students. Different AI techniques have been successfully deployed to provide intelligent learning teaching environments for building predication models, learning recommendations, detecting behavior. These include virtual mentors, voice assistants, creative content, smart classrooms, automatic assessments, and personalized learning (Shidiq, 2023).

Artificial intelligence in education is now experiencing a boom. When applied properly, AI has the potential to be a useful tool for teachers and students alike. The mainstream educational system, which includes both primary and secondary schools as well as institutions of higher learning, is rapidly implementing AI tools and solutions. But there's also a growing backlash against AI in education due to worries about privacy and how it will affect instruction. This opposition to various AI applications is part of a larger "tech-lash" and is not limited to the field of education (Baber, Nair, Gupta, & Gurjar, 2023).

AI chatbots are becoming more intelligent than ever, able to write scripts, answer queries, and even programme. ChatGPT, one of the most sophisticated AI chatbots, has drawn a lot of interest from users and researchers alike for its ability to converse like a human and for being comparable to humans in some situations (Bruneau, 2023). ChatGPT's ability to continuously learn from fresh data and get better at it is one of its unique selling points. The GPT-4 version of the model has exhibited human-like performance on specific tasks, like high school-level assignments (Thu, 2023).

Artificial intelligence has been used in education as a result of technology's ongoing development, and this has drawn academics' and practitioners' constant attention. The "artificial intelligence + education" educational system was developed by Wu Yonghe and colleagues using the three factors of application form, technical structure, and business trend (Yonghe, Bowen, & Xiaoling, 2017). The goal is to develop an intelligent learning environment where "everyone can learn, everywhere can learn, always can learn," as well as to innovate in teaching strategies and methods and offer appropriate and individualized instruction to all parties involved in education, such as parents, teachers, students, and managers. One way to enhance individualized learning is by tracking and monitoring student learning data through the use of artificial intelligence and data mining technologies. Conversely, new educational AI products are also making their way onto the scene. These include intelligent educational resource creation tools, LearnSmart, Smart Books, interactive teaching materials, and more. These products have established a strong basis for the use of AI in education (Yang, 2020).

Artificial intelligence (AI) driven tools present innovative teaching and learning opportunities. AI-based tools, for instance, present a promising possibility to support a learner-centered approach. This method uses AI-based tools to deliver individualized learning experiences (Luan, 2020). AI can help teachers assess students' complicated knowledge in an efficient formative and summative manner (Chen, Zou, Xie , & Cheng, 2021).

AI has also had a significant impact on how instructional pedagogy is implemented. Teachers need to be aware of the pedagogical benefits of AI-based tools in order to fully take advantage of the prospects AI presents for education. When educators possess the necessary pedagogical understanding to make good use of AI-based tools, they can effectively implement AI technology in the classroom. For example, teachers use AI-based tools more to encourage learner motivation and engagement when they realize their benefits (Popenici & Kerr, 2017). In the same way, educators who possess a deeper understanding of AI are better equipped to choose relevant AI-based teaching tools. Because of this, teachers who are knowledgeable about AI can employ AI-based solutions for rapid feedback and individualized learning. It is crucial to comprehend their level of expertise when it comes to using AI-based solutions into the classroom. In actuality, the effective integration of any technology into education depends heavily on both technological and pedagogical knowledge (Edwards, Edwards, Spence, & Lin, 2018).

It is not anticipated that in the future, AI would take the role of teachers (Hrastinski, Olofsson, & Arkenback, 2019). This is due to the fact that teacher-student interaction is essential to both the advancement of learning and the personal growth of each student. However, because AI and its related domains are developing so quickly, they will soon encircle learning and teaching environments. Thus, in order to implement AI-based instruction, teachers' professional knowledge will change due to AI (Xu, 2020).

The outputs of automated scoring systems sometimes emerge concerns in terms of fairness. Further, it is sometimes challenging for educators to understand the justifications underlying the decisions of AI-based tools. This may be due to the black-box nature of AI-based decisions (Almusharraf & Alotaibi, 2023). Ethical concerns about AI-based tools may also arise from uncertainty on developers of the relevant AI software. Therefore, it is a controversial issue when teachers or students are provided with less information on the responsible organization for the AI-based technology (Akgun & Greenhow, 2021).

Stakeholders engaged in education must think about and assess AI-based judgments due to ethical concerns. Therefore, we contend that educators need to be knowledgeable about how to interpret, support, and assess data generated by AI-based systems. It is vitally necessary for educators to understand ethical assessments in order to develop inclusive future generations. Effective AI integration depends in large part on instructors' ethical judgments in addition to their technological and pedagogical expertise (Holmes, Bialik, & Fadel, 2023).

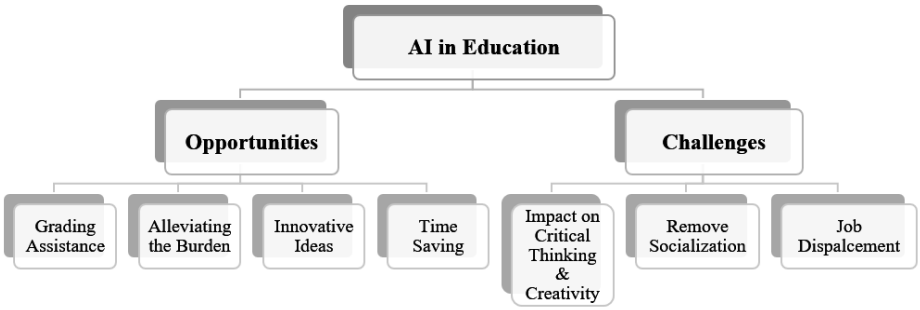

Figure1. *Conceptual Framework*

Figure 1 illustrates that AI introduces numerous opportunities and challenges in our education system. The opportunities encompass facilitating grading, alleviating the burden on both teachers and students, fostering innovative ideas, and saving time. Conversely, it has been observed to diminish critical thinking skills, impede creativity, erode socialization, and potentially replace various jobs.

Methodology

The present study employed a convergent parallel mixed-methods design, combining both quantitative and qualitative approaches to explore the challenges and opportunities of Artificial Intelligence (AI) integration in higher education. This design was chosen to gain a comprehensive understanding of the issue by collecting both numerical data (student perceptions via questionnaire) and in-depth insights (teacher perspectives via interviews) concurrently, analyzing them separately, and then integrating the findings. The population of the study comprised students of the Education Department from three universities in Punjab the province of Pakistan. The population of students was 2600 and the teachers were 35. The sample was randomly selected by using LR Gay Table (Gay, 2000). The sample size was 335 for students and 32 for teachers. The sampling process was carried out using simple random sampling technique to guarantee that each sample had an equal probability of being chosen for the study.

Instrumentation and Data Collection

The researcher carried out a pilot study in order to assess the questionnaire's reliability. Participants taken for the pilot study was not included in the final data collection procedure. Cronbach's Alpha and Composite Reliability (CR) values for all constructs exceeded the acceptable threshold of 0.70, indicating high internal consistency. The researcher used a questionnaire for collecting quantitative data. The questionnaire consisted of closed-ended statements. The researcher used a five-point Likert scale ranging from "Strongly Agree" to "Strongly Disagree." The instrument was divided into two major themes: Opportunities and Challenges. Data were collected from BS students of the Education Department at two universities and one college in Pakistan, including the International Islamic University Islamabad (IIUI), Wah University, and an affiliated college of Fatima Jinnah Women University, Rawalpindi. The qualitative data were collected from University teachers through semi-structured interviews. Quantitative Data were collected by administrating the questionnaire. The researcher physically visited all the universities and distributed questionnaires to the students for this reason. The researcher collected qualitative data by conducting semi-structured interviews.

Data Analysis

Quantitative data were analyzed using SmartPLS version 4, primarily for assessing the measurement model, including indicator loadings, reliability, and convergent validity of constructs. Although Structural Equation Modeling (SEM) was applied, it was limited to evaluating the validity of measurement constructs rather than developing or testing a full structural model.

Qualitative data were analyzed using Phenomenological Approach, specifically following Colaizzi's seven-step method which involves:

1. Review participants' descriptions to understand their experiences.
2. Extract statements directly related to the phenomenon.
3. Interpret significant statements to reveal hidden meanings.
4. Categorize interpreted meanings into common themes among participants.
5. Integrate findings into a comprehensive description, forming a theoretical model.
6. Validate findings by seeking feedback from participants.
7. Incorporate participant feedback into the final description of the phenomenon (Wojnar & Swanson, 2007).

Results of Quantitative Data

In a quantitative study questionnaire was adapted to investigate the challenges and opportunities faced by students due to the integration of AI into education (Chan, 2023). The questionnaire consisted of closed-ended statements ranging from strongly agree to strongly disagree consisting of two themes. The first theme is related to opportunities consisting of fourteen statements while the second theme is related to challenges consisting of ten statements. Structural Equation Modeling (SEM) is a second-generation multivariate data analysis technique frequently applied in marketing research due to its capability to assess linear and additive causal models supported by theory (Oluwadamilare, 2021).

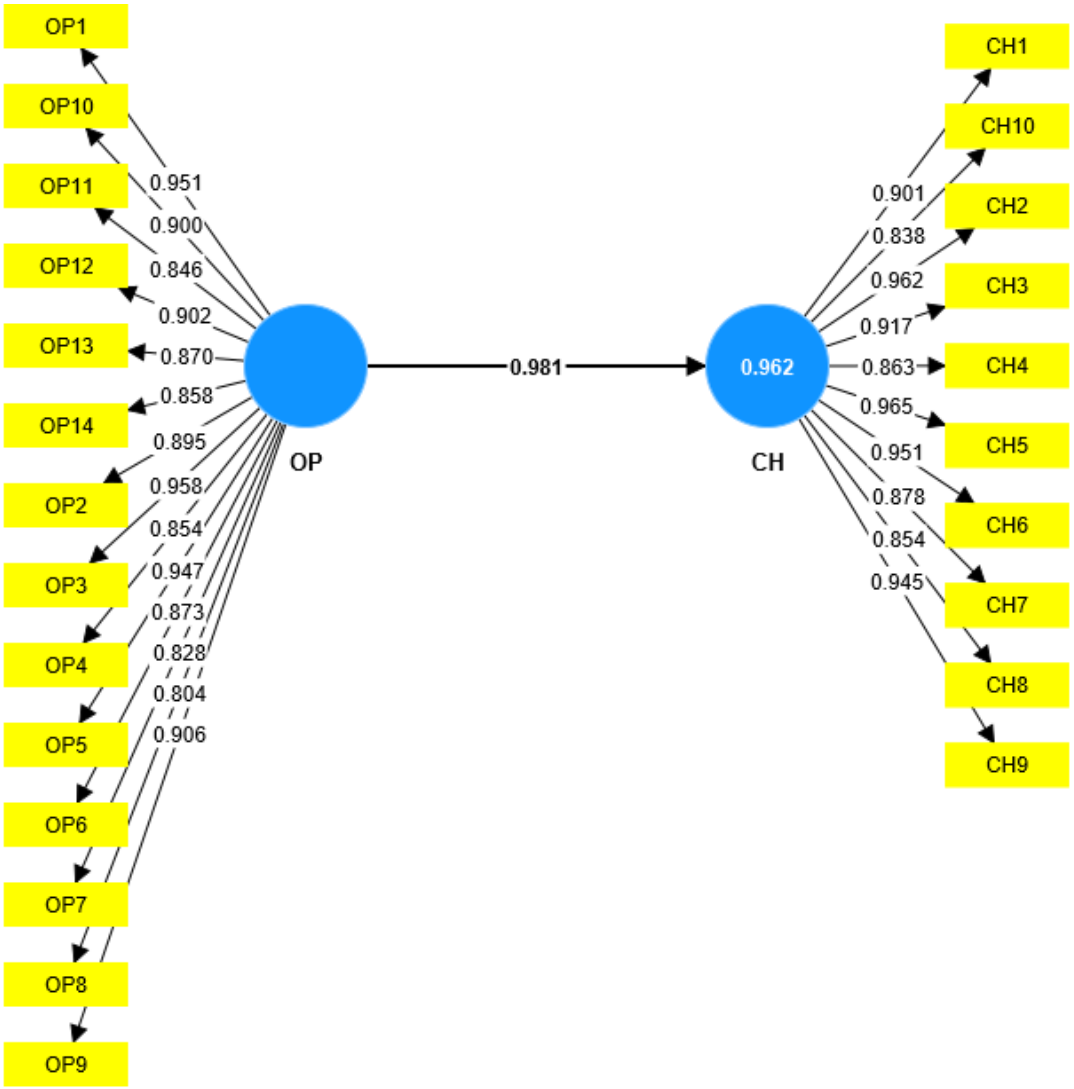

Figure 2. *Measurement & Structural Model*

Table 1
Validity and Reliability of the measurement model

Construct	Indicators	Outer Loadings	Cronbach's Alpha (CA)	Composite Reliability (CR)	Average Variance Extracted (AVE)
Opportunities			0.976	0.978	0.825
AI technologies have improved my academic performance.	OP1	0.951			
AI has the potential to make assessments and grading more objective and accurate.	OP2	0.895			
AI improved my self-study skills.	OP3	0.958			
I copied the generated response, and submitted it to the teacher.	OP4	0.854			
I acknowledged the use of AI tools.	OP5	0.947			
AI technologies assist me in generating initial ideas.	OP6	0.873			
I take feedback from AI technologies and made improvements.	OP7	0.828			
AI assist me in checking grammar for my assignment.	OP8	0.804			
Use of ChatGPT saves my time.	OP9	0.906			
ChatGPT provides me unique ideas.	OP10	0.900			
ChatGPT is a great tool available 24/7.	OP11	0.846			
AI technologies will replace teachers in the future.	OP12	0.902			
I can ask questions to generative AI technologies such as ChatGPT that I would otherwise not voice out to my teacher.	OP13	0.870			
I believe that generative AI technologies can improve my overall academic performance.	OP14	0.858			
Challenges			0.979	0.980	0.786
AI impact on the job market and future employment prospects.	CH1	0.901			
I am worried that an overemphasize on AI and technology might hinder my development of interpersonal skills.	CH2	0.962			
AI-powered plagiarism refers to the use of a computer to copy or rephrase someone's else work without properly acknowledging its origin.	CH3	0.917			
Translating a source in one language into another language and using it as your own, without due acknowledgment of the source.	CH4	0.863			
ChatGPT have limitations in their ability to handle complex task.	CH5	0.965			
ChatGPT limits my opportunities to interact with others and socialize while completing coursework.	CH6	0.951			
ChatGPT hinders my development skills such as teamwork, problem solving, and leadership skills.	CH7	0.878			
AI may replace the job that I am interested in.	CH8	0.854			
ChatGPT limits students' opportunities to interact with others and socialize while completing coursework.	CH9	0.945			
AI disrupts my academic writing.	CH10	0.838			

It is recommended that indicator reliability would be satisfactory if the outer loadings surpass 0.60 (Hair & Sarstedt, 2011). A loading lower than 0.60 suggests that an item may be eligible for elimination. This action will decrease the composite reliability values and average variance extracted from the constructs unless it is removed from the remaining items (Chin, 2009). Similarly, elevated values signify increased reliability levels according to the composite reliability criterion. The values between 0.60 and 0.70 are acceptable in exploratory research, whereas results between 0.70 and 0.95 represent satisfactory reliability (Hair, 2021). Nevertheless, exceptionally elevated estimates (for instance, surpassing 0.95) pose a difficulty, suggesting that the items are nearly identical and redundant. Cronbach's alpha serves as an additional benchmark for internal consistency, employing identical thresholds but yielding lower rates compared to composite trustworthiness. The results of repeated indicator model estimation are presented in Figure 2.

Figure 2 illustrates that all of indicator loadings on their respective latent variables exceeded the 0.60 benchmarks. Furthermore, In Table 1 the composite reliability coefficient was employed to assess construct consistency, and it is considered appropriate when exceeding 0.70 (Awodiji & Ayanwale, 2023). Composite reliability for all the constructs in the measurement model was higher than 0.70. Therefore, show that the measurement model possesses standard dependability. To establish the convergent validity of the measurement model, the average variance extracted from the constructs must be above 0.50 for their convergent validity to be considered suitable (Ayanwale, Molefi, & Matsie, 2023). Table 1 marks that the average variance extracted from the constructs was above the cut-off of 0.50. Therefore, convergent validity was evident (Amusa & Ayanwale, 2021).

Results of Qualitative Data

Investigating and comprehending the significance that individuals or groups attach to a social and human issue is the essence of qualitative research. The research method includes gathering data from the participant in their environment, processing the data in an inductive manner to move from specific to general topics, and interpreting the results. The format of the final written report is flexible. Researchers who use this type of work support an inductive method, emphasize personal meaning, and stress the value of communicating the complexity of a situation (Creswell, 2009). The result of the qualitative data consisted of the responses of 35 teachers:

Theme 1: Alleviating the Burden of Power

Teachers said that AI reduces their workload. It provides personalized learning experiences and offers tools for more efficient and effective teaching.

> "There are a lot of AI tools that assist me in doing work in less time. I prepare my lectures and slides with the help of ChatGPT(Respondent 4)."

The other teacher said;

> "I just take guidelines or assistance from AI when I have a lot of workload (Respondent 9)."

Theme 2: Challenges Arising from AI Advancements in Education

Teachers are still facing lot of problems due to the integration of AI in Education. They said that students copy their assignments from ChatGPT and submit them. They are not using their mind.

> "Google is hundreds of times better than ChatGPT (AI) because at least when I gave them tricky or conceptual questions they at least searched and read from lot of websites and then wrote answers. But, now they just type questions in ChatGPT and get relevant answers within a minute" (Respondent 11).

The teachers also discussed many other problems, including Plagiarism.

> "Before ChatGPT I asked students that I will check the plagiarism of their assignments through Turnitin then they have a fear in their mind so they study the material and then rephrase which improves their vocabulary and sentence structure as well. But, now they have no fear of Plagiarism" (Respondent 13).

Other teacher said;

> "When I assign topics to students they don't take them seriously and do not discuss their outline with me because they have ChatGPT"(Respondent 6).

One more teacher said:

> "People who rely too heavily on ChatGPT for social interaction may feel inferior to others because they are unable to navigate their social surroundings" (Respondent 10).

Another teacher said:

> "I am noticing that advancements in AI like ChatGPT make students weak in thinking critically so that when problems arise in everyday life, it will be difficult for students to resolve them" (Respondent 18).

Theme 3: Addressing Assignment Grading Challenges

Majority of teachers did not feel any problem in grading assignments. AI helps them in automatic grading. It also highlights grammar mistakes when they are checking abstracts or any online assignment."

There are a few teachers who are not satisfied with grading criteria due to AI.

> "Overreliance on AI grading reduced student-teacher interaction and engagement in the learning process" (Respondent 2).

Theme 4: Significance of Acknowledging AI Utilization in Education

Acknowledging AI use in education is crucial for maintaining transparency, addressing ethical concerns, building trust, enhancing learning, promoting accountability, facilitating human-AI collaboration, and customizing education to meet the needs of students effectively. It ensures that AI is integrated into education in a responsible and beneficial manner.

> "ChatGPT gives us novel ideas, tips, and techniques. It saves us from lot of distraction but relying too much on this is not beneficial" (Respondent 16).

Students are not ready to acknowledge the use of AI in front of their teacher.

> "When I ask my students that how you make this assignment they said with the help of search engines like Google Scholar, EBSCO, and from library.
>
> They are not willing to accept that they copied material from ChatGPT" (Respondent 24).
>
> One teacher said:
>
> "ChatGPT has the capacity to offer learners individualized help, taking into account their unique learning objectives and needs. The learners can progress at their own pace and learning style with the support of the chatbot, which can offer information, guidance, and answers to questions based on their requests" (Respondent 29).

Another respondent said;

> "ChatGPT is a helping hand and gives us proper direction and ideas. Sometimes when we are in search of a novel topic or activity for students then it is the best tool that assist us" (Respondent 22).

One teacher said;

> "ChatGPT saves time for both teachers and students. A teacher can't be available for whole day but AI tools like ChatGPT are available all time. It is a source of relaxation for those who don't have access to experts" (Respondent 14).

Theme 5: Hurdles in Implementing AI in Education

AI itself is not creating problems in teaching however, it helps in teaching.

One respondent said:

> "I observed a problem in my class that students' are not focusing on making notes during lecture because they know they will make notes through ChatGPT in more easy and simple language" (Respondent 6).

Another respondent said:

> "There are still a lot of students who don't know about ChatGPT. Some only know its name they don't know how they can use it effectively" (Respondent 17).

Some other respondents said:

> "Implementing AI often involves significant costs for acquiring technology, training staff, and maintaining systems. Not all educational institutions can afford these expenses" (Respondent 4).

Theme 6: Students Satisfaction about AI

Teachers said that students are happy with ChatGPT. They find ChatGPT helpful for various tasks, from generating ideas to getting clarification on concepts. ChatGPT has excellent power to advance academics in new ways.

> "ChatGPT is unable to provide personal experiences. They have limited knowledge up to September 2021.They also do not provide images, videos, graphs,etc" (Respondent 31).

One teacher said;

> "Chabot can create a welcoming and motivating learning environment by offering comprehensive answers and concise explanations. This may promote engagement and stimulate curiosity about the educational process" (Respondent 13).

One other teacher said;

> "I have a lot of students in each class who are struggling students. They don't like reading and are weak in comprehension. They are unable to get difficult vocabulary written in the books. So, they always ignore reading. Now, ChatGPT is best for these students because they just copy paragraphs from articles and books and paste them into ChatGPT and ask it to make it simple or precise it in simple language then ChatGPT make it simple for them. Now, they are getting concepts easily with the help of AI. Struggling students are so happy from ChatGPT" (Respondent 16).

Theme 7: Rethinking assessments and examinations

As we bring generative AI into education, it's time to re-think how we assess students. Teachers suggest creating assessments that let AI enhance learning instead of just producing results.

One teacher said:

> "Let's have activities where students see what AI can and can't do, focusing on understanding rather than just avoiding cheating. We might need new ways to test that use AI in a good way and still keep things fair" (Respondent 8).

Another teacher said:

> "We should design assessments that not only test knowledge but also assess critical thinking, creativity, and ability to apply information. We are exploring new formats that go beyond rote memorization and encourage a deeper understanding of the subject matter" (Respondent 32).

Discussion

The present research was aimed at investigating challenges faced by students and teachers resulting from integrating AI into education. It also aimed to explore opportunities brought about by the integration of AI in the field of education.

Concerning the first research question, challenges and opportunities faced by students due to the integration of AI in education. According to study's findings, students are encountering many opportunities and challenges after integration of AI in education. According to study's findings, use of AI improved the academic performance of students and helps in their self-study skills. AI such as ChatGPT assist students to assist them in generating initial ideas. It also helps in finding grammatical errors. It is in line with the findings of study's conducted by (Shidiq, 2023) whose findings revealed that Artificial

intelligence (AI) system is one that possesses human-level intelligence and can learn, adapt, solve problems, make judgements, and comprehend language.

The findings also revealed that AI technologies will replace teachers in the future. This finding contradicts the findings of (Hrastinski et al., 2019) who reported that AI will not replace teachers in the future because the interaction of the teacher with students is irreplaceable in learning progress and students' individual development. To consider the overall findings related to the opportunities and challenges faced by students due to the integration of AI in education, it was found that although AI brings numerous advancements but it hinders the development skills of students such as team work, problem solving, and leadership skills.

The findings for the second research question is related to the opportunities and challenges faced by teachers due to the integration of AI in education. The study revealed that AI reduces their power of burden. It provides personalized learning experiences and offers tools for more efficient and effective teaching. This finding is consistent with the findings of (Popenici& Kerr, 2017) who reported teachers' knowledge of AI enables them to use AI-based tools for personalized learning and timely feedback. The study revealed that teachers are still facing lot of problems due to the integration of AI in Education like students copy their assignment from ChatGPT, they don't consider plagiarisms because AI tools provide plagiarism free material. Due to these challenges teachers suggested to rethink about assessments and examination criteria many countries like Australia have reverted to traditional physical exams conducted with pen and paper. This result is supported by (Borenstein, 2021).

Conclusion

Students are satisfied with the integration of AI in education. AI like ChatGPT improved the academic performance of students and their self-study skills. AI assist students in generating initial ideas and help in giving them feedback. On the other hand, overemphasize on AI might hinder their development of interpersonal skills. ChatGPT limits the opportunities to interact with others and socialize while completing coursework. It disrupts academic writing, critical thinking, teamwork, and problem solving skills.

AI reduces the burden on teachers by assisting them in grading assignments and generating novel ideas. While AI tools are undeniably helpful for teachers, they also pose challenges in assessing students. These tools may diminish students' critical thinking skills because they tend to simply copy assignments from ChatGPT, which can negatively impact their reading habits.

Recommendations

Based on findings and conclusions it is recommended that

1. AI impacts the job market and future employment prospects so, it is recommended that we may invest in lifelong learning, promote STEM education, and foster collaboration between humans and AI to adapt to the changing job landscape and mitigate job displacement.
2. AI tools such as ChatGPT hinder the development skills of students such as teamwork, problem-solving, and leadership skills so, it is recommended that there may be proper training for teachers to enhance their technical skills and ensure effective use of AI which focuses on project-based assessments and experiential learning to enhance critical thinking, teamwork, problem-solving, and leadership skills in students.
3. AI disrupts the academic writing of students and they are overemphasizing cheating so, it is recommended that we may rethink assessments and examination criteria. We may replace online exams and assignments with paper-pen assessments.
4. Students are not focusing on making notes during lectures because they know they have ChatGPT so, it is recommended that the teacher may engage students in discussions, and interactive activities to enhance student involvement and discourage over-reliance on ChatGPT during lectures.

Limitations

The study focused on Education department students from only three universities, but future research may include people from different subjects and universities. The current study explores the challenges and opportunities of using AI in education. Therefore, a study might be conducted on the solutions to these challenges.

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