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Changing Education with ChatGPT: New Roles for Teachers and the Challenges Ahead

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Abstract

The rapid integration of artificial intelligence into education is transforming traditional teaching and learning dynamics. Among the most impactful tools is ChatGPT, a conversational AI developed by Open AI, which offers students and educators powerful capabilities such as real-time information access, personalized learning assistance, and content generation. While these advancements present immense opportunities, they also redefine the role of the teacher in modern classrooms. This paper explores how ChatGPT is reshaping education by supporting individualized instruction, enhancing student engagement, and streamlining lesson planning. Teachers, once primary knowledge providers, are now shifting toward roles as facilitators of critical thinking, curators of digital content, and mentors in ethical technology use. The emphasis is moving from rote memorization to guiding students in evaluating and applying AI-generated content critically and responsibly. However, this transition is not without challenges. Key concerns include overdependence on AI tools, potential misinformation and bias in outputs, inequitable access across socio-economic backgrounds, and rising threats to academic integrity. Moreover, there is a growing need for targeted professional development to equip teachers with the skills to use AI effectively and ethically. Ultimately, the success of AI in education depends on a balanced approach-leveraging the strengths of tools like ChatGPT while preserving the irreplaceable human elements of empathy, inspiration, and mentorship that teachers provide.

Keywords: Artificial Intelligence in Education, ChatGPT, AI-Powered Learning, Teacher Roles, Educational Technology

Introduction

Artificial intelligence (AI) is changing education. chatGPT, an AI tool from Open AI, can talk like humans, give quick information, and help in many subjects. It's being used more in classrooms and online learning, offering benefits like personalized learning and helping teachers. But it also brings concerns about cheating, trust in AI content, and changing teacher roles. Teachers are now becoming guides and mentors, not just information providers. They need new skills, like understanding AI and checking AI content. This paper looks at how chatGPT is used in education, the challenges it brings, and how teachers' roles are changing with this technology.

Methodology
Statement of the Problem
Integrating AI tools like chatGPT into education offers both opportunities and challenges. ChatGPT can enhance personalized learning, automate administrative tasks, and support curriculum development, potentially improving educational outcomes. However, its implementation raises concerns about academic integrity, the accuracy and dependability of AI-produced information, and ethical considerations. Teachers must adapt by developing new competencies, including AI literacy and the ability to critically evaluate AI outputs, to effectively integrate chatGPT into their teaching practices. Balancing the benefits and challenges of chatGPT is essential for meaningful educational transformation, ensuring that AI serves as a tool to enhance, rather than replace, traditional teaching methods. Hence the topic "Changing education with chatGPT: New roles for teachers and the challenges ahead." is taken for study.

Objectives

1. To examine the impact of chatGPT on improving teacher and learning outcome
2. To analyse the new demands and skills required of teachers in an A.I enhanced educational environment
3. To analyse the effectiveness of chatGPT in supporting diverse learners
4. To access the impact of chatGPT on student engagement learning outcomes and academic performance
5. To examine the challenges and ethical concerns surrounding the use of chatGPT in education
6. To explore the future potential of A.I tools like chatGPT in shaping the future of education systems.

Scope of the Study

- Focus on chatGPT in education – This study examines how chatGPT impacts teaching, learning, and student performance.
- Teachers and Students – The study considers perspectives from both teachers and students to understand how AI affects their roles and experiences.
- Student Engagement and Performance – It assesses whether chatGPT increases student participation and improves academic results.
- Challenges and Ethical Concerns – The study identifies issues such as data privacy, bias, and over-reliance on AI in education.
- Future Potential of AI in Education – It explores how AI tools like chatGPT could shape the future of teaching and learning.

Limitation

This study has several limitations that may impact its findings. It focuses on chatGPT, excluding other AI tools that might have different effects on education. The research relies on self-reported data from teachers and students, which can introduce bias or subjectivity. Additionally, the study's limited sample size may not fully represent all educational settings. The varying ways in which chatGPT is utilized by different educators and learners also make it challenging to measure its overall effectiveness. Furthermore, the research primarily examines short-term effects, leaving long-term impacts unexplored. Issues related to technology access, such as differences in internet availability and infrastructure, may also influence the findings. Despite these limitations, the study provides valuable insights into chatGPT's role in education and highlights key areas for further research.

Literature Review
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As education begins to change with the help of AI, teachers need to be ready for both the challenges and the new opportunities. By learning how to use technology well, working alongside AI, and helping students grow in both skills and values, teachers can lead this change. This way, they can help create a future where technology and people work together to build a better and kinder world.

Research Design

- **Sample Size:** 60 respondents
- **Tools for Data Collection:** primary data was collected by a questionnaire, and secondary data was gathered from various scholarly articles, reports and journals.

Data Analysis, Interpretation and Suggestion

48% of the respondents are belongs to the age group of 20-30 years, 30% of the respondents are belongs to the age group of 30-40 years and 17% of the respondents are belongs to the age group of 40-50 years. 47% of the respondents are lecturer, 27% respondents are belongs to the professor.

Often usage of ChatGPT Influenced Teaching Practices

The table shows that most teachers found chatGPT to be helpful. 52% said it slightly improved their teaching, and 23% said it significantly improved it. This means that many teachers feel chatGPT is a useful tool in the classroom.
25% of the teachers said there was no change, and none felt it had a negative impact.

Skills needed to be developed in an AI-enhanced Educational Environment

42% of respondents identified advanced coding and programming as crucial competencies. Additionally, 28% emphasized the importance of data analysis and interpretation skills, while 25% highlighted communication and critical thinking abilities as essential. Notably, only 5% of teachers believed that none of these skills are necessary for working with AI in educational settings.

Integration of AI Tolls Like ChatGPT in Teaching Practices

37% of teachers feel somewhat prepared, and 20% feel very prepared to use AI tools like chatGPT in their teaching, indicating that over half have some confidence in integrating AI into their classrooms. However, 27% reported feeling not very prepared, and 13% said they are not prepared at all, highlighting a significant portion of educators who are uncertain or require additional support. Only 3% of teachers were neutral on the matter. These findings underscore the necessity for comprehensive training and resources to ensure all teachers can effectively utilize AI tools in education.

Aspect of Diverse Learners in the ChatGPT Support Most Effectively

52% of teachers find chatGPT most helpful for creating individualized learning pathways, allowing students to learn at their own pace and style. Additionally, 30% believe it aids in language translation and accessibility, assisting students who speak different languages or require easier access to information. Furthermore, 17% feel it supports differentiated instruction by enabling lesson adjustments to meet diverse student needs. Notably, only 1% think chatGPT doesn't effectively support these areas.

ChatGPT has Increases Student Engagement in the Classroom

The many teachers think chatGPT has helped students become more interested in learning. 37% said it somewhat increased engagement, and 17% said it significantly increased it. 32% of teachers were neutral, meaning they didn't see much difference. A small number said there was no effect (8%), and 7% felt that student engagement actually decreased.

The Biggest Challenge Can Face by Using ChatGPT in Education

47% of teachers see privacy and data security as the main challenges when using chatGPT in education. Additionally, 27% worry that relying too much on AI might reduce students' independent thinking. About 20% feel they lack

proper training to use chatGPT effectively in their teaching. A smaller group, 7%, mention insufficient technical support as a concern. These results highlight the need for better data security, balanced AI use, and more teacher training.

Ethical Concern in Integrating AI Tools like ChatGPT in Education
48% of teachers are most concerned about fair access to AI tools, fearing that unequal availability could lead to unfair learning experiences. Additionally, 22% worry about protecting student data privacy, while 17% are concerned about potential biases in AI responses. Furthermore, 13% fear that increased AI use might reduce valuable teacher-student interactions. These findings highlight the importance of ensuring equitable access, safeguarding privacy, addressing biases, and maintaining human connections when integrating AI into education.

Table 1: Showing the greatest potential benefit of using AI tools like chatGPT in the future of education.

S No.	Factor	No. of Respondents	Percentage
1	Improved accessibility for all students	24	40
2	Increased automation of administrative tasks	29	48
3	Enhanced student-teacher interactions	5	8
4	Expansion of global learning opportunities	2	4
	Total	60	100

The table shows that most teachers (48%) think AI is most helpful for doing tasks like grading and scheduling. This can give teachers more time to teach. About 40% of teachers believe AI can help students with disabilities or language problems learn better. Only 8% think AI will help improve how students and teachers talk and work together. A small number (3%) think the best thing about AI is helping students learn from around the world.

Hypothesis
H0: ChatGPT will not contribute to student learning outcome
H1: ChatGPT will contribute to student learning outcome

Table 2: Hypothesis

S. No	Factors	No. of Respondents	O-E	$(O-E)^2$	$(O-E)^2/E$
1	Significantly improved	13	1	1	0.083
2	Somewhat improved	28	16	256	21.33
3	No significant change	17	5	25	2.083
4	Decreased	1	-11	121	10.083
5	Neutral	1	-11	121	10.083
	Total	60			43.662

E=60/5=12
Degree of freedom= n-1
Degree of freedom= [5-1] = 4

Table 3: Critical values of the Chi-square distribution with d degrees of freedom Probability of exceeding the critical value

d	0.05	0.01	0.001	d	0.05	0.01	0.001
1.	3.841	6.635	10.828	11	19.675	24.725	31.264
2	5.991	9.210	13.816	12	21.026	26.217	32.910
3	7.815	11.345	16.266	13	22.368	27.688	34.528
4	9.488	13.277	18.467	14	23.685	29.141	36.123
5	11.070	15.086	20.515	15	24.996	30.578	37.697
6	12.592	16.812	22.458	16	26.296	32.000	39.252
7	14.067	18.475	24.322	17	27.587	33.409	40.790
8	15.507	20.090	26.125	18	28.869	34.805	42.312
9	16.919	21.666	27.877	19	30.144	36.191	43.312
10	18.307	23.209	29.588	20	31.410	37.566	45.315

For 4% degree of freedom, the value from the table at the degree of freedom 4 is 9.488 and the value calculated is 43.662. Here calculated value is greater than the table value. Hence the null hypothesis formulated is rejected.

Suggestion
Suggested that teachers receive proper training on how to use chatGPT and other AI tools effectively in the classroom. Schools should provide workshops and support to help teachers build new digital skills. It is also important to guide students on how to use chatGPT in a smart and honest way, so they can learn better without depending too much on it. To support all types of learners, schools should make sure everyone has equal access to AI tools, including students with special needs. Clear rules and guidelines should be created to avoid problems like cheating or misuse of AI. Lastly, schools and education leaders should explore how AI can be used in the future to create more personalized and engaging learning experiences for all students.

Conclusion

In conclusion, chatGPT and similar AI tools have the potential to greatly improve teaching and learning when used in the right way. They can help teachers save time, support students with different learning needs, and make learning more interesting and personal. However, using AI in education also brings new challenges, such as the need for teacher training, fair access for all students, and clear rules to avoid misuse. As education continues to change with technology, it is important to use these tools wisely and responsibly. With the right support and guidance, chatGPT can play a positive role in shaping the future of education.

References

1. https://pubmed.ncbi.nlm.nih.gov/38298626/
2. https://www.sciencedirect.com/science/article/pii/S240584 4024003207
3. https://www.researchgate.net/publication/377249383_The_application_and_challenges_of_ChatGPT_in_educatio nal_transformation_New_demands_for_teachers'_roles
4. https://www.frontiersin.org/articles/10.3389/feduc.2023.1 191060/full
5. https://www.sciencedirect.com/science/article/pii/S26669 20X23001011
6. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1013015 5/
7. https://educationaltechnologyjournal.springeropen.com/ar ticles/10.1186/s41239-023-00376-7
8. https://www.mdpi.com/2227-7102/13/3/309
9. https://www.frontiersin.org/articles/10.3389/feduc.2023.1 163155/full
10. https://theconversation.com/what-does-chatgpt-mean-for-education-197591
11. https://www.theguardian.com/us-news/2025/jun/09/ohio-university-ai-training