Impact of Artificial Intelligence (AI) on Education

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ABSTRACT

AI is affecting how education is delivered, personalized, streamlined and accessed. The research was based on surveys among 1,032 participants, each one discussing the roles of AI in education. The way AI readiness and future tasks in education for students and their trust in AI content were studied. Students seem confident about AI tools helping them learn better, but they are less sure about trusting AI throughout their educational life. Many opinions in academic literature remain about how well AI works in education, considering its moral, practical and teaching aspects. It is suggested by the report that adopting AI is interesting, but it should always be done in a way that is ethical and respects all the details discussed here for the outcome to be fair and meet learner expectations.

KEYWORDS

- Artificial Intelligence (AI)
- Education
- Learning Accessibility
- Personalized Learning
- AI Tutoring
- Teacher Integration
- Administrative Automation
- Data Privacy
- Engaging Learning
- Future of Education

1. INTRODUCTION

Artificial Intelligence (AI) is rapidly becoming a main part of education, helping to change how students learn, teachers work and schools provide information. By using artificial intelligence for grading, predictions, tutoring and adjusting learning paths, things in education are being changed (Holmes et al., 2021). Because the world is becoming more digital after COVID-19, applying AI in

education is not only coming, but is necessary to deal with challenges including capacity, individual needs and equal chances.

A main advantage of AI is that it can tailor instruction to each student. As students learn, intelligent systems and modern tech platforms give them help that is precise and immediate which maximizes both their interest and their understanding (Chen et al., 2020; Roll & Wylie, 2016). Such technologies assist students with special educational needs by including tools like predictive text, vocal support and custom speed settings (Luckin et al., 2016). Thanks to adaptability, students can use the right resources based on what they are able to do and find challenging (Zawacki-Richter et al., 2019).

Thanks to AI, handling school workflows is easy, quick and able to be changed to help everyone in the school. Automated marking, better timetabling, catching plagiarism and using data on learning now help teachers manage their work (Greller & Drachsler, 2012; Ifenthaler & Yau, 2020). AI is able to spot issues that could cause students to struggle and act as a safeguard, making sure students can stay successful (Panigrahi et al., 2021; Nistor & Hernández-García, 2022).

Still, while these looks promising, the increased use of AI in schools causes significant worries. People who study educational technology warn about the possible reduction in critical thinking and teachers' personal connections with students if AI is used too much (Selwyn, 2019; Williamson & Eynon, 2020). Problems such as biased algorithms, hidden decision-making in AI and risks to the relationship between teachers and students may stop AI from being implemented ethically (Holmes et al., 2021; Renz et al., 2020). Certain AI systems work in such a way that their decisions cannot be easily explained which reduces both trust and responsibility (Chassignol et al., 2018).

So, how much trust exists will decide the extent AI is used in education. Students will benefit more from AI in education if they feel these tools are fair, helpful and allow them to reach their learning goals, according to Cope et al. (2020) and Bakharia et al. (2016). Other important things that build trust in AI are giving reliable information and making just decisions, in addition to accuracy (Knox, 2020; Renz et al., 2020). In spite of solid technology and beneficial features such factors can discourage people from using the service (Baker, 2016).

Teachers are not going away but adapting their methods. Since AI is not able to show empathy or understand cultures well, human teachers can offer things that AI cannot. Using information gained from AI, teachers assess if the results computed fit with the core values of their school (Holmes & Tuomi, 2022; Luckin et al., 2016). It is the teacher's job in a technology classroom to have students understand why they are learning, help students communicate and act responsibly.

This study examines what students believe about AI in education by looking at replies from 1,032 students. The research addresses these areas: accessibility of learning (with or without AI), students' view on AI in education and trusting AI's ability to provide accurate information. The ideas discussed illustrate how AI combines with people's values, giving a solid view of AI's effects on academia.

2. SURVEY'S AIM

This survey focuses on learning what students think and feel about the effects of Artificial Intelligence on their studies at a local university. By studying students' views on AI, the study aims to give educators and educational institutions new evidence-based ideas for using AI mindfully in their schools.

3. Methodology / Material and Methods

Google Forms were sent to all participants as an online survey. The survey was open for a set period and a total of 1,032 students decided to participate. The survey was spread online to make it easier for many students to take part.

There were 10 survey questions meant to discover how students see the impact of AI on education. All the questions were answered by giving ratings on a Likert scale, where "Strongly Disagree" meant the least agreement and "Strongly Agree" meant the most agreement. Using the scale, it was now possible to do mathematical research on emotions.

After the surveys were collected, all the data was downloaded to proceed with the analysis. All the questions were analyzed by looking at the percentage of answers. For every question, the pie chart was used to show which response choice was

preferred by how many students. Dependability emerged as an important feature, so this idea was featured in the text to illustrate the student group's struggles with AI in class.

4. Results And Discussion

1. AI tools have made learning more accessible for students.

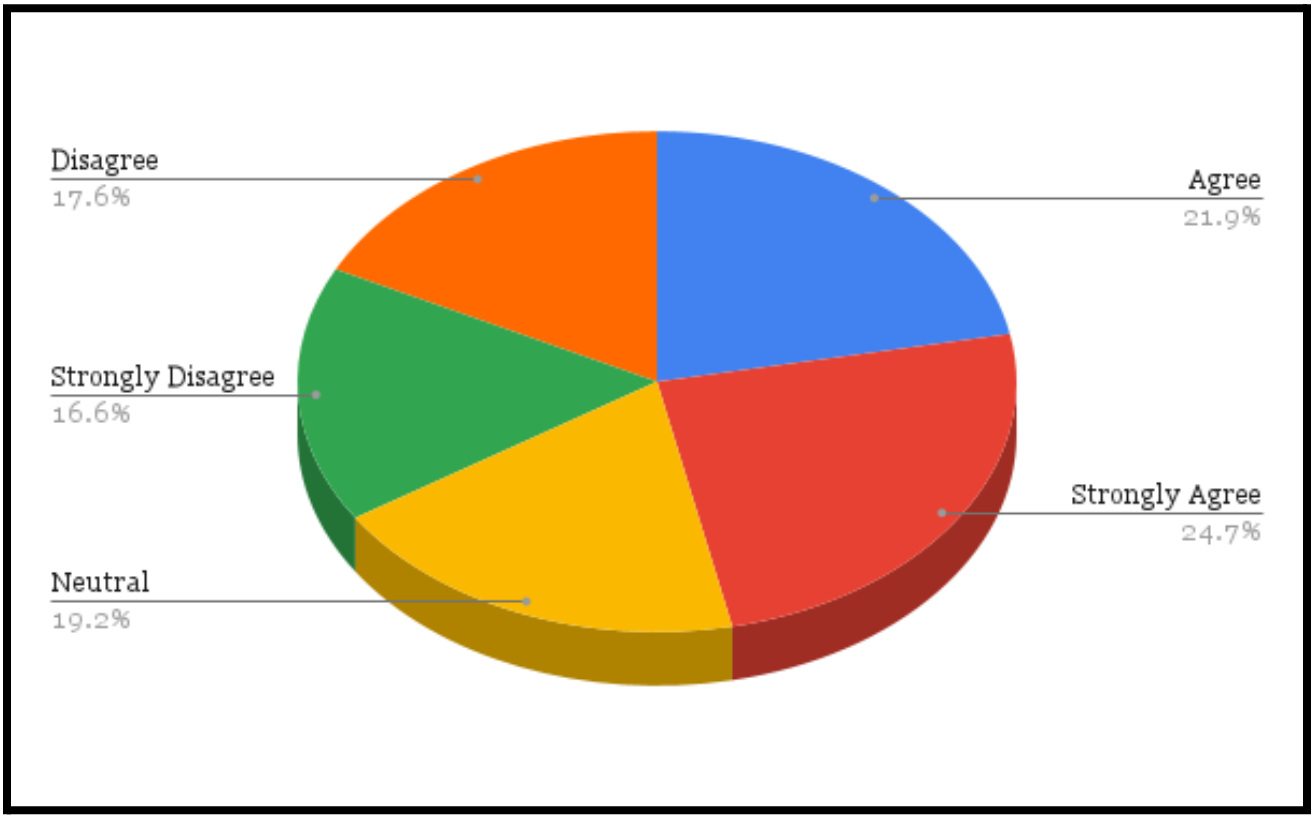

Fig 1:AI is improving the accessibility of learning for students.
The chart above spells out the student consensus on AI's function in bringing learning to everyone. Roughly one out of two respondents (46.5%) sees AI as being helpful for inclusivity, while almost a third (34.1%) thinks AI could hinder it and the rest (19.4%) don't hold strong feelings either way

2. Using AI for tutoring (e.g., Chatbots, Virtual Tutors) improves student performance.

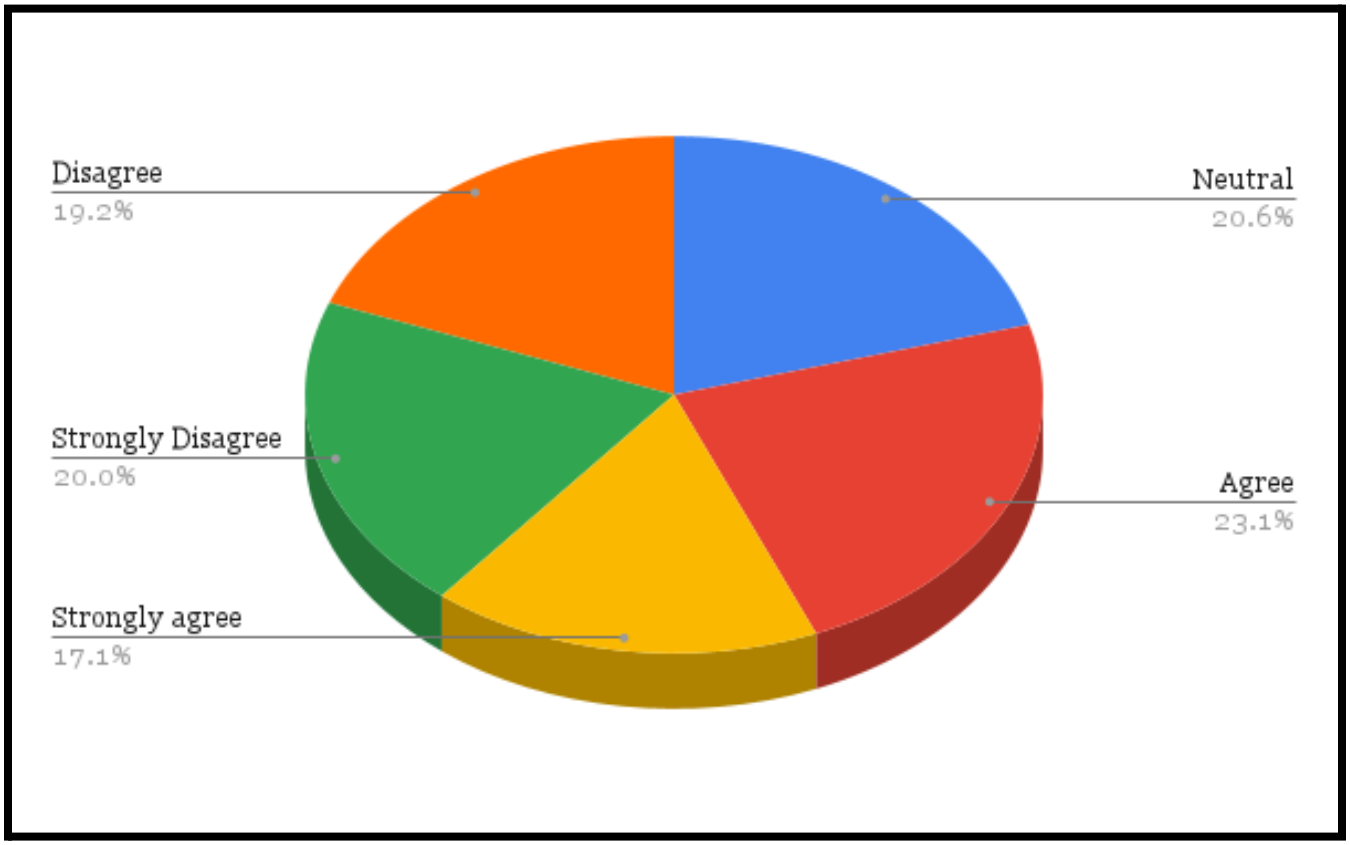

Fig 2: Improvements in student performance occur when chatbots and virtual tutors are used in teaching.
The chart shows that 20% of students agree, along with 19.5% who strongly agree, that AI tutoring improves their performance. On the other hand, 43.7% (20.6% Strongly Disagree, 23.1% Disagree) of respondents disagree and 16.9% do not answer the question.

3. Teachers should integrate AI technology into their teaching methods.

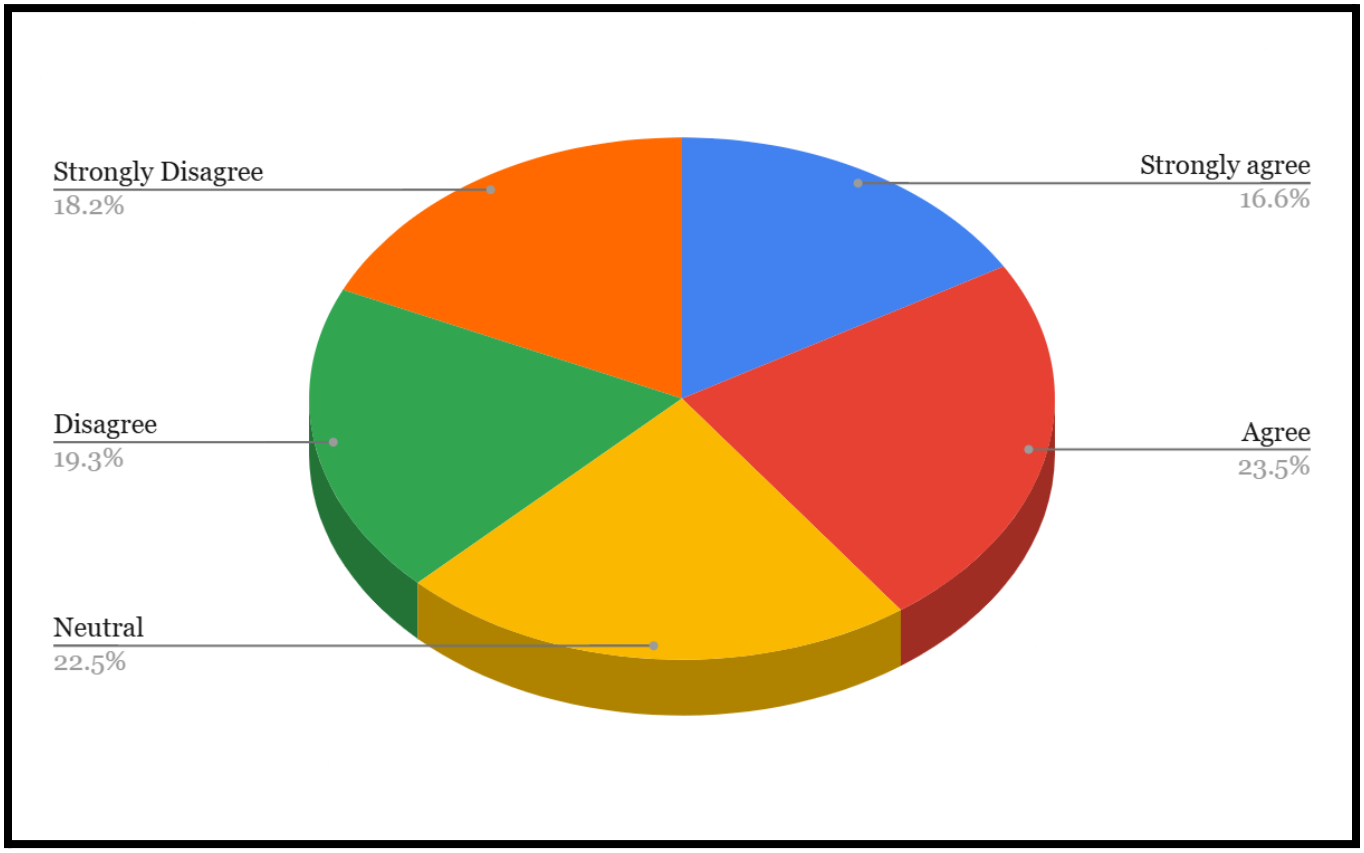

Fig 3: AI should be part of the way teachers deliver their lessons.
39.5% (23.2% Agree + 16.3% Strongly Agree) of students think teachers should make use of AI. More than 60 percent agree, but 38.1% disagree strongly or disagree and 22.7% are not sure.

4. AI can personalize the learning experience based on individual student needs.

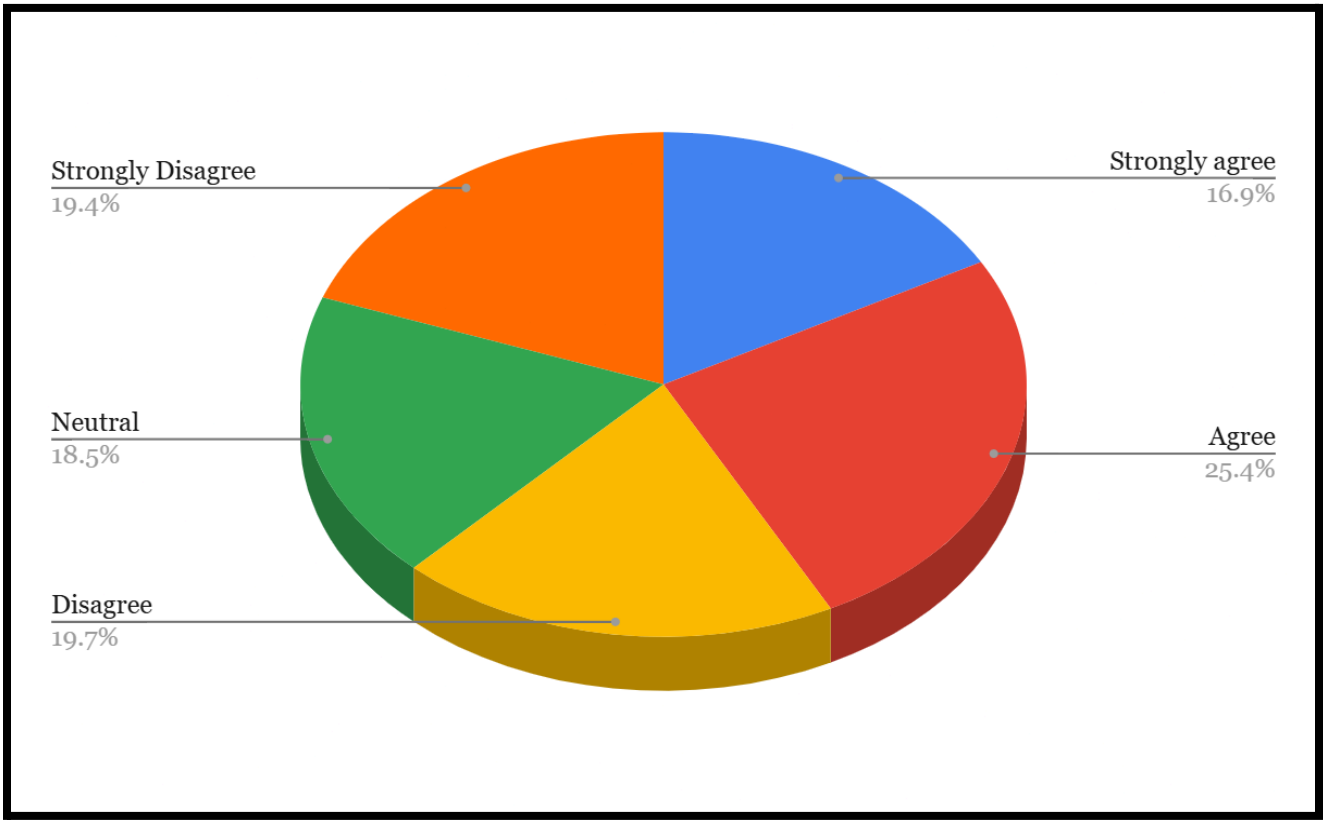

Fig 4: Explains how AI offers a personalized way of learning for each student. According to the chart, 42.2% of students think AI can make learning more personal (25.4% agree and 16.8% strongly agree), 39% disagree (19.2% strongly disagree and 19.8% disagree) and 18.9% are not sure.

5. AI has reduced the need for human teachers in certain areas.

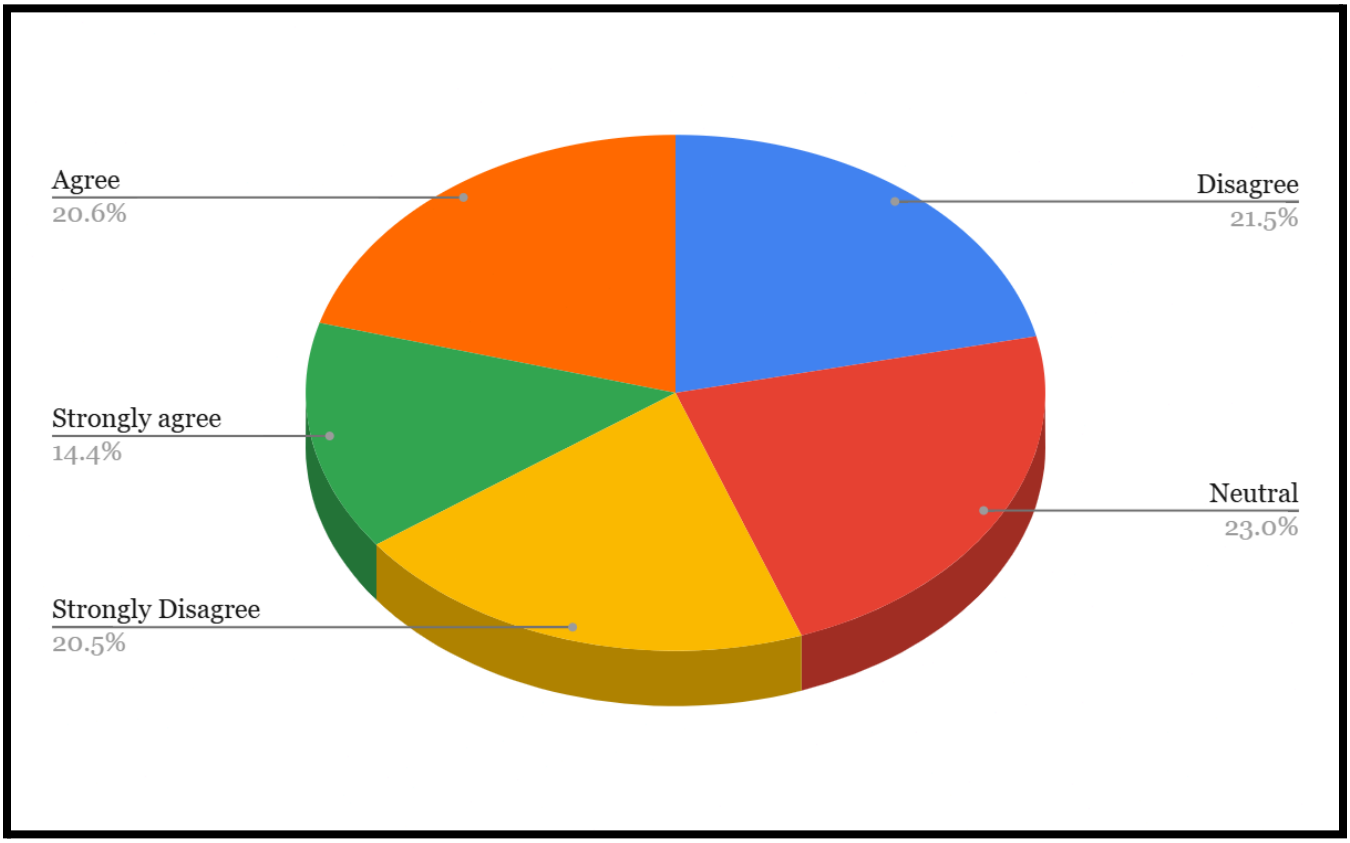

Fig 5: With AI, some students are now receiving education without a live teacher. On this subject, 39.1% (20.5% Strongly Disagree, 18.6% Disagree) disagree that AI will take the place of teachers, 34.8% (20.9% Agree, 13.9% Strongly Agree) feel it could happen and 22.7% of people are uncertain.

6. I trust AI systems to provide accurate educational content.

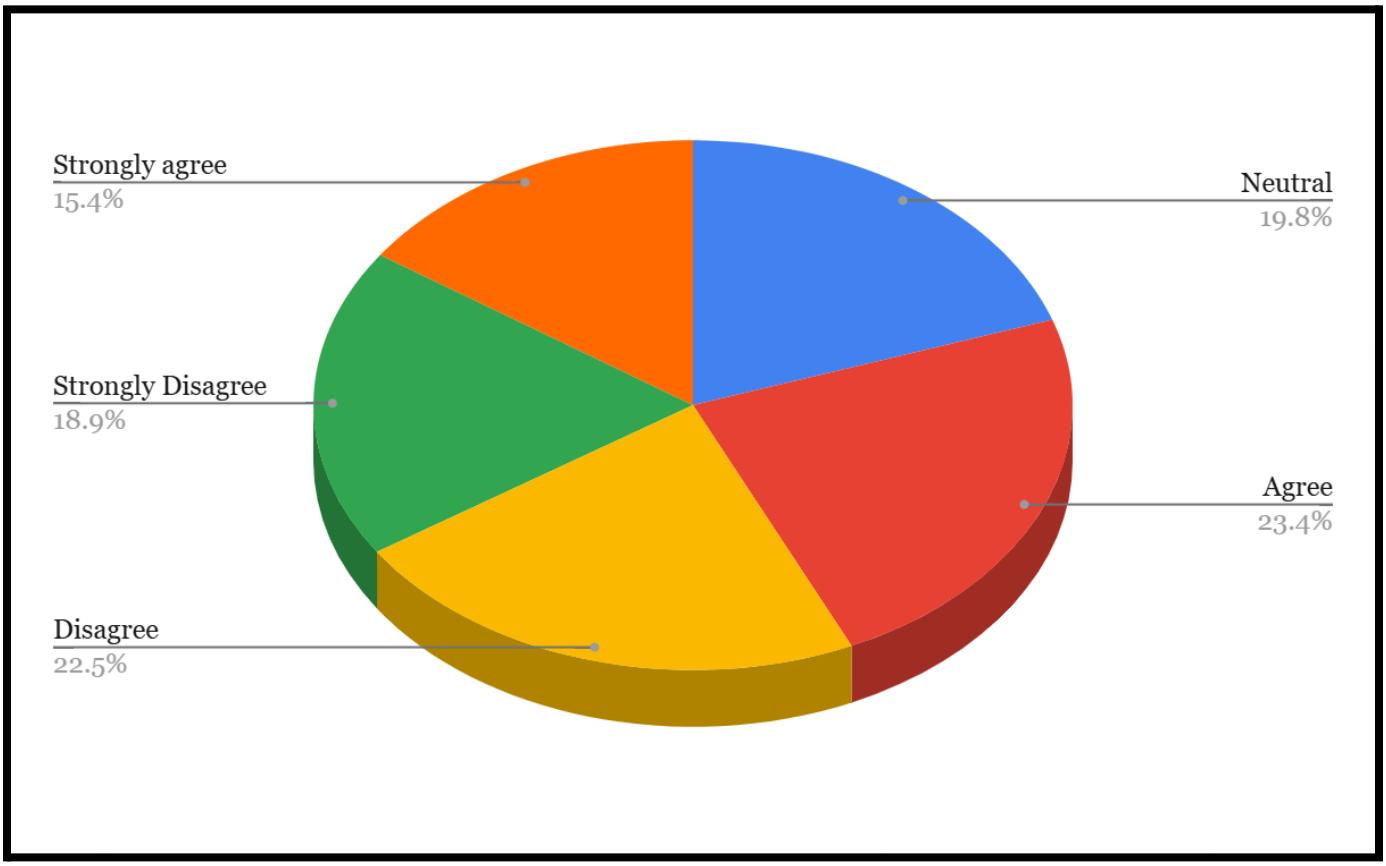

Fig 6: I count on AI to supply learning resources that are genuine.
As this pie chart reveals, 38.8% (Effective Learning Tip: Remember, 38.8% represents the combined total of those who Agree and Strongly Agree) of students have trust in AI when they look for accurate information. Nevertheless, 41.5% (18.8% Strongly Disagree, 22.7% Disagree) are doubtful and another 19.7% have no strong opinion.

7. The use of AI in education raises concerns about data privacy.

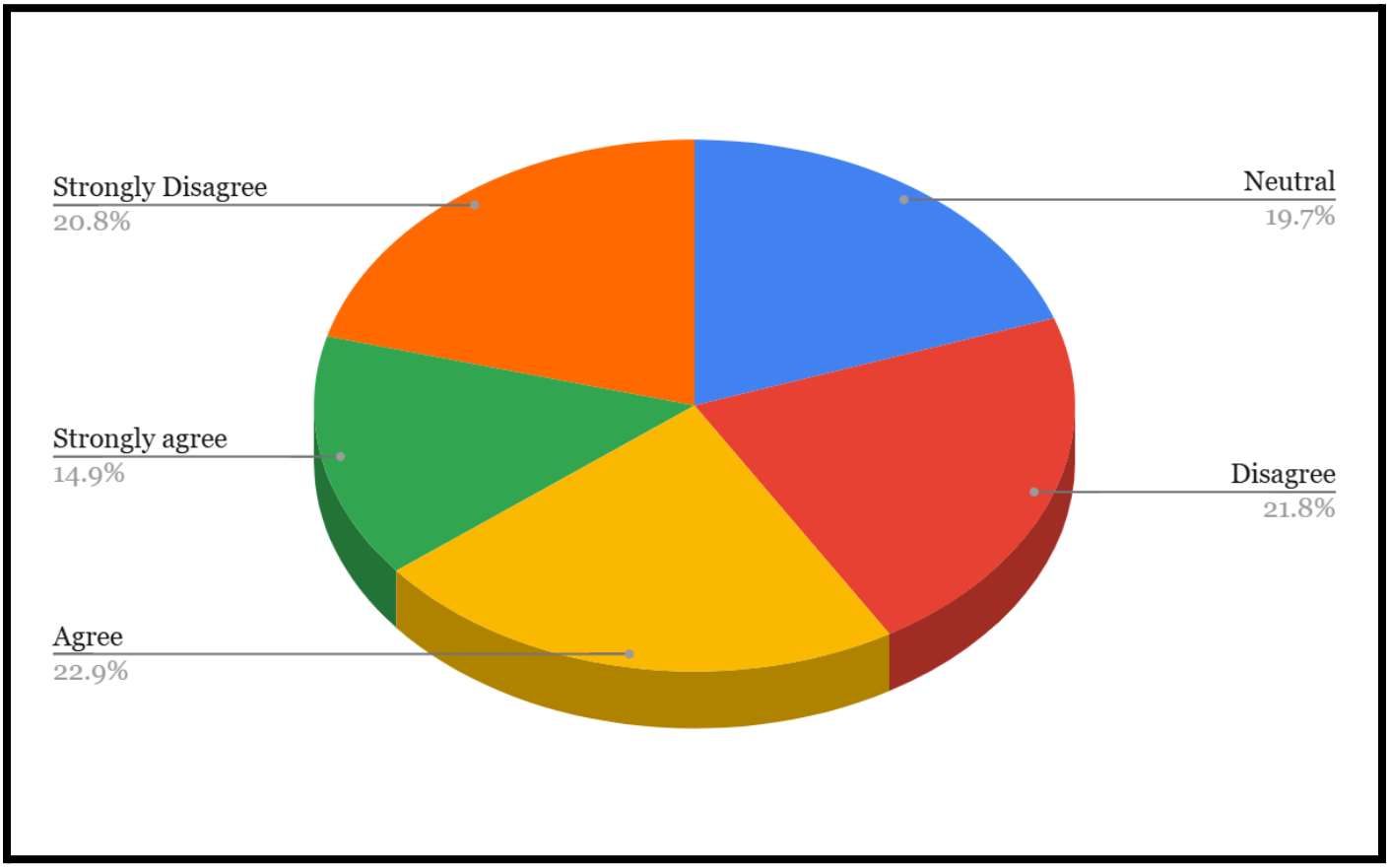

Fig 7: The use of AI in education raises concerns about data privacy.
AI raises many data privacy issues according to 37.3% (22.8% Agree, 14.5% Strongly Agree) of students. 42.9% (20.9% Strongly Disagree, 22% Disagree) think otherwise and 19.8% are not sure.

8. AI helps teachers by automating administrative tasks (e.g., grading assignments).

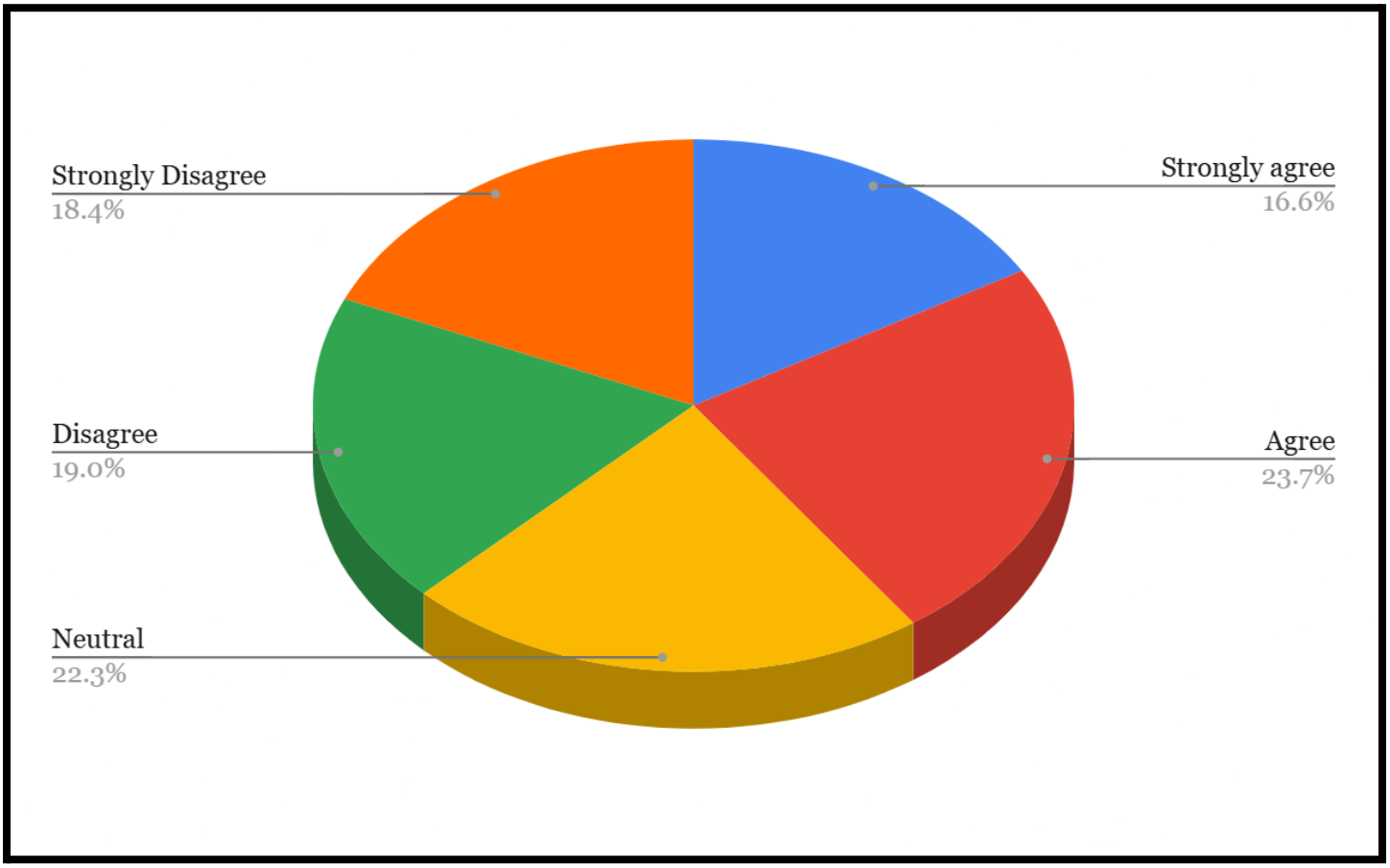

Fig 8: One thing that AI can help teachers with, is automating administrative tasks (grading assignments).
The 39.9% of students who think AI is helpful to teachers with administrative tasks (23.5% agree, 16.4% strongly agree), 37.6% (18.4% strongly disagree, 19.2% disagree) and 22.5% remain neutral.

9. Learning through AI-based platforms is more engaging than traditional classroom methods.

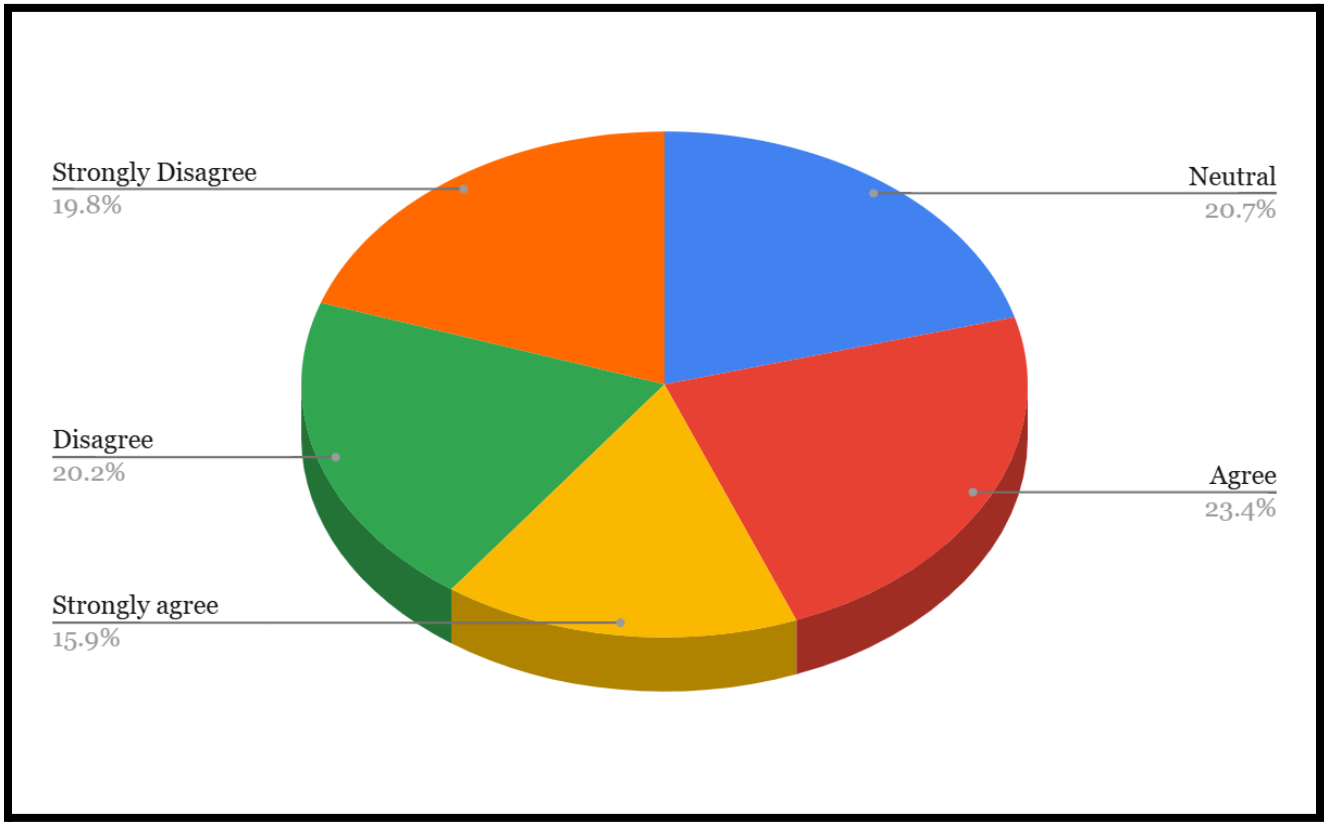

Fig 9: AI based platforms are more fun to learn through, than traditional classroom methods. As shown, 39.2% (23.4% Agree, 15.8% Strongly Agree) of students found AI-based learning as more engaging while 40.3% (20.3% Disagree, 20% Strongly Disagree) of students disagreed and remaining 20.6% (% of Neutral Students) were neutral.

10. The future of education will rely heavily on Artificial Intelligence

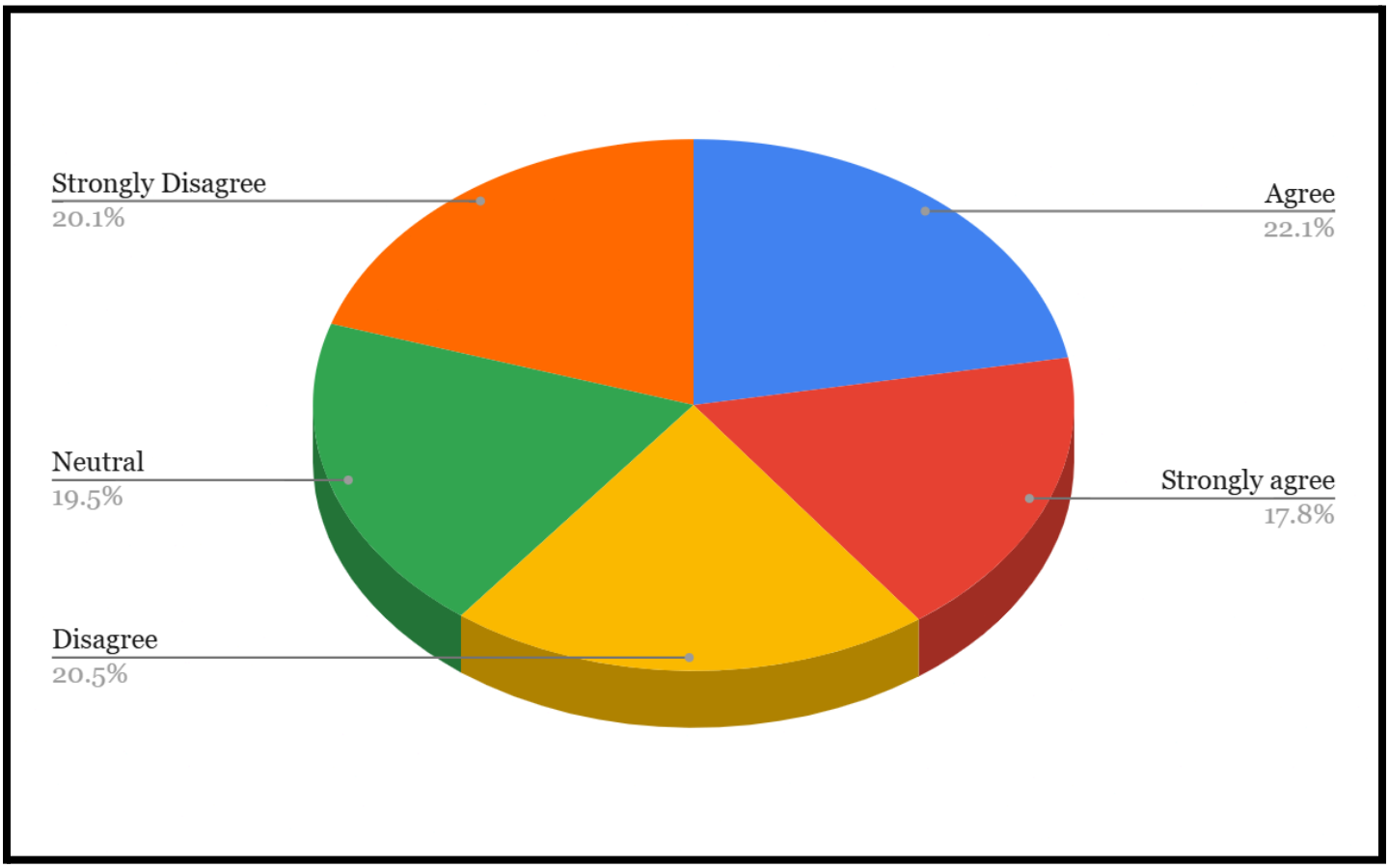

Fig 10: Artificial intelligence will feature tremendously in the world of tomorrow's education. According to this pie chart, 49.7% of students or 22.5% Agree and 17.7% Strongly Agree feel that the future of education will increasingly depend on AI, they were 40.5% or 20.2% Strongly Disagree and 20.3% Disagree and 19.3% were neutral.

5. Conclusion

The impact of Artificial Intelligence for education in the eyes of the students is multi faceted. Nearly half of the students agree that AI will achieve enhanced learning accessibility and personalize learning, but many also think that AI may reduce user control or cause human–human interaction to be overlooked.

Whether AI tutoring is effective, whether human teachers are needed in the age of AI and whether students trust AI systems to churn out great educational content are features of great debate.

Furthermore, it can be seen that data privacy was also an important point to consider for students. A large number, despite finding AI based platforms engaging, are aware that AI has the ability to automate administrative tasks for teachers, but there isn't unanimous agreement on these benefits. There are varied views about the future role of AI in education; many see AI's reliance, but a large chunk of them are of the opinion that AI is not so much relied on.

Yet, these studies point out that there is no single acceptance that AI is the ultimate fix for education. On the other hand, several sets of such benefit-challenge combinations make it a complex topic rather than a simple one. Universities and educators need to respect and address various student opinions when talking about AI, setting strict data privacy guidelines and training everyone to use the tools properly and safely when they are around supervisors.

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