Ethical Standards in Educational Technology: Building Trust, Protecting Privacy, and Fostering Fairness

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ABSTRACT
In this paper the author aims to emphasise the importance of ethical standards in educational technology .With the abiding of ethical standards comes trust amongst users,upholding fundamental rights related to privacy and promoting fairness in the online learning realm thereby contributing to a more equitable educational landscape .

I.Introduction
In today's digital age ,educational technology plays an important role in facilitating learning and expanding access to education for everyone and everywhere cited by (Suman, R. 2022).However,with the increase in reliance on online learning environments,it becomes crucial to address the ethical considerations that arise with it.The use of technology in education also raise important ethical considerations related to building trust ,protecting ,privacy and fostering fairness.

This paper will explore the importance of these ethical considerations and their impact on creating a more equitable educational landscape with balance for the users as well as the creators.

1.What are Ethical standards?
Educational technology like any other field is bound by ethical standards that guide the responsible and ethical use of technology in educational settings.Ethical standards are well founded principle of what is right and wrong that an individual can do often in terms of rights, responsibilities, benefits to society, fairness, or specific virtues.Moreover, ethical standards ensure researchers can be held accountable to the public by addressing issues like research misconduct, conflicts of interest.

2.Types of Ethics
In the realm of educational technology, various types of ethics come into play to ensure that the creators as well as the users are responsible and ethical in the creation and use of digital tools in learning environments.According to (Moore, S.L. and Ellsworth, J.B., 2014) some key types of ethics relevant to educational technology include

- **Data Privacy and Security Ethics:**
This type focuses on safeguarding students and users for data collected

through educational technologies .This involves making sure personal information is not shared without consent and is used for its intended purpose .Educators need to be aware of data privacy laws and regulations that uphold the confidentiality and security of student data collected .

- **Intellectual Property Ethics:**
These ethics in educational technology pertain to respecting copyright laws, fair use, and intellectual property rights when using digital content and resources.Teachers and students alike must understand how to appropriately cite sources, hence avoiding plagiarism, and also to respect the intellectual work of others when creating or sharing content online.

- **Accessibility Ethics:**
This addresses the importance of ensuring that educational technologies are inclusive to all irrespective of gender, race and any other issues .They should be accessible to all learners, including those with disabilities or diverse learning needs.Educators should consider all factors such as usability, compatibility and design features.

- **Ethical Use of Student Data**
 This ethics revolves around data collection for students and how it is done and how it's stored, analysed, and utilised within educational technology platforms. It should be transparent about data practices, obtaining consent for data collection, maintaining data security is done .Student data use should be ethical to

enhance learning outcomes without compromising privacy.

- **Digital Citizenship Ethics:**
This focus on promoting responsible and ethical behaviour among students in their online interactions and use of technological tools.This includes issues like cyberbullying, online etiquette, digital footprints, online safety, and many more .

3.Key issues due to Ethics
Ethical considerations in educational technology are crucial .As technology plays a very significant role in modern education. Along with its use comes several key issues

- **Data Privacy:**
One primary ethical concern is data privacy. Educational technologies often collect vast amounts of student data to personalise learning experiences for each individual. It is essential to establish vigorous policies and practices to safeguard this data, ensuring that sensitive information remains secure and is used for its main purpose, that is educational purposes only.

- **Algorithmic Bias:**
As machine learning algorithms are increasingly used in educational decision-making processes, there is alot of risks are can be faced . perpetuating inequalities inadvertently is one of the risks that they face . Educators and developers must collaborate to find a middle ground to identify and rectify biases, ensuring

fair and equitable outcomes for all students.

- **Digital Literacy and Awareness:**
Promoting digital literacy and awareness among students is essential for responsible technology use. Educating students about potential risks and ethical considerations is essentially associated with digital tools that empowers them to navigate the digital world responsibly.

- **Student Well-being:**
The well being of the students should be prioritised when implementing the educational technology .Ethical guidelines should focus on creating safe, supportive, and inclusive learning environments that promote positive student outcomes.

4.Causes of unethical behaviour in educational technology
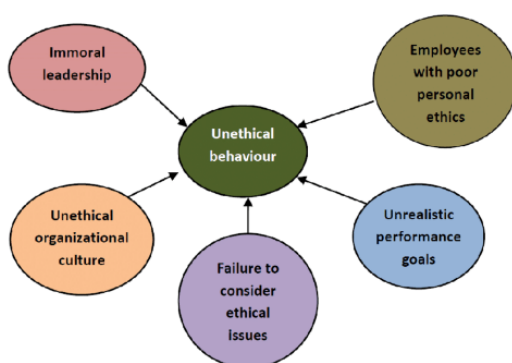
Unethical behaviour in educational technology stems from various factors that influence individuals or organisations to act unseemly or dishonestly within the digital realms

according to Fisher, T. (2010) . Some key causes of unethical behaviour in educational technology include:

- **Lack of Clear Ethical Guidelines:**
Absence of clear ethical guidelines or standards governing the use of technology in educational settings is one of the most significant causes of unethical behaviour . When no established rules or principles guide educators, students, and administrators on what constitutes ethical behavior, it can lead to confusion and ambiguity, making it easier for individuals to engage in unethical practices.

Pressure to Achieve Results:
In today's world there is pressure due to social and economic factors in the education sector for high level academic success, improving performance metrics, or demonstrating technological proficiency cited by Stromquist, N. P. (2002). This pressure often creates a competitive environment where individuals resort to unethical means, such as cheating, plagiarism, or misusing technology tools to meet unrealistic expectations.

Lack of Training and Awareness:
Another very common cause of unethical behaviour is stakeholder's lack of adequate training and awareness about ethical issues related to technology use. Educators and students often do not understand the implications of their actions or are

unaware of other alternatives they can use when it comes to using technology ethically in educational settings.

Lack of Oversight and Accountability:
Sometimes it is hard to determine the part accountable when an unethical behaviour takes place hence individuals may feel less compelled to adhere to ethical standards. Without proper monitoring and consequences for unethical behaviour, some may take advantage of the situation.

Cultural Factors:
Cultural norms and values play an important role in influencing unethical behaviour in educational technology. Different cultures have varying perspectives on what is considered acceptable conduct when using technology for learning purposes, leading to conflicts or misunderstandings.

5.infrastructure of educational Ethics
Educational ethics focuses on ethical questions arising from educational policy and practice.This providing frameworks ,pedagogical, and policy-oriented tools to help practitioners and policymakers navigate the ethical dimensions of their work. This involves various components that guide educators in making ethical decisions and actions in the best interest of students. These components include codes of conduct, oaths, and ethical standards that outline the responsibilities and obligations of educators towards their students, schools, communities, and the profession.

6.Promoting the ethical standards
It is essential to focus on guiding students on how to use technology responsibly and ethically and clearly outlining the consequences of unethical practices. The integration of ethical reflection into the curriculum can help students navigate the digital world with integrity and respect for others and their work . Some key strategies that can be employed to promote ethical standards in educational technology are incorporating ethical discussions, providing guidance on copyright and fair use , encouraging critical thinking.Incorporating these strategies into the educational curriculum and fostering a culture of ethical awareness and responsibility, educators equips students with the necessary skills to navigate the complexities of the digital world while upholding ethical standards

7.Principles for managing ethics in educational technology
According to Bengtsen, S. S., & Barnett, R. (2020) it is essential to adhere to a set of principles that guide responsible implementation and usage of technology in educational settings. The four main pillars

- **Do No Harm to Yourself:**
This principle emphasises the importance of safeguarding one's well-being in the digital realm and ensuring that you do not harm yourself when using technology. This

means promoting digital literacy among students, teaching them about online safety, privacy protection, and responsible technology use.

- **Do No Harm to Your Property:**
This principle encourages one to protect their digital assets such as data, devices, and intellectual property. Stakeholders should be aware of copyright laws, fair use policies, and proper handling of technology equipment to prevent damage or misuse.

- **Do No Harm to Others:**
In the digital realm it is essential to respect the well-being and rights of others is crucial in educational technology. This principle aims to achieve a safe and inclusive online environment, addressing issues like cyberbullying, promoting respectful communication, and ensuring equitable access to educational resources for all students.

- **Do No Harm to Others' Property:**
As one protects their digital assets it is encouraged to respect other people's digital assets . Students should be educated on proper online behaviour, including respecting intellectual property rights, avoiding plagiarism, and using technology responsibly in collaborative projects.

II.LITERATURE REVIEW

In recent years, there have been several real-life case studies where educational standards were breached due to various factors, including cyberattacks, negligence, and insider threats. Here are some notable examples:Some notable examples are Prince George's County Public Schools Cyberattack in Maryland where about 4,500 users were affected by a cyberattack in August.
The attack was detected on August 14, with cybersecurity experts and law enforcement working to assess the full extent of the breach. Fortunately, the main business and student-information systems were reportedly not affected.

In Minnesota sensitive files published online after a ransom demand was not met.The attack disrupted various systems within the district, affecting internet access, building alarms, and more. Confidential information like campus rape cases and student health records were compromised.

Also in the Lebanon School District Cyberattack in New Hampshire. Student-information and payroll systems offline following an attack in June.Students faced delays accessing final grades due to system disruptions.

These cases demonstrate how educational institutions face significant challenges in safeguarding their networks, data, and operations against cyber threats and breaches that can disrupt learning environments and compromise sensitive information.These cases have led to a lot of educated individuals to publish many research papers that have tried

to explain this in detail; however these different research have proved to have their strengths and weaknesses .

The paper Artificial intelligence in education: Addressing ethical challenges in K-12 settings by Akgun, Selin, and Christine Greenhow its benefits are the authors present a detailed analysis of the ethical considerations that educators, policymakers, and stakeholders need to address when implementing AI technologies in schools.The paper indicate the importance of encouraging ethical practices and responsible use of AI to safeguard student privacy and data security.However the paper could have benefited from more empirical evidence or case studies to support its arguments and recommendations.

The paper Ethical Considerations in AI for Education: Addressing Privacy and Bias Concerns by Rawat, A.The paper l offered practical recommendations or strategies to mitigate privacy risks and biases in AI applications for education. These insights are valuable for policymakers, educators, and developers looking to implement AI technologies responsibly; however the paper identifies privacy and bias concerns which is good but fails to provide robust mitigation strategies.

 The research above could benefit from expanding their focus beyond privacy and bias concerns to encompass a wider range of ethical dilemmas associated with AI

implementation in education like how this focus on all the factors that affect ethical standards.They failed to stress ethical concerns related to AI implementation in schools which where addressed in this paper.

III.OBJECTIVES AND SCOPE
1. Building Trust:
The main aim for ethical standards is to establish trust among all involved stakeholders by promoting transparent communication, accountability, and integrity in the use of technology in education.

2. Protecting Privacy:
Ethical standards should focus on safeguarding individuals' privacy within the educational ecosystem by addressing data protection, consent mechanisms, data ownership, and responsible data use.

3. Fostering Fairness:
Ethical standards should strive to promote fairness and equity when implementing educational technology by advocating for inclusive practices, accessibility features,as well as equal opportunities for all learners.

IV.METHODOLOGIES

Interactive design levels and associated concerns
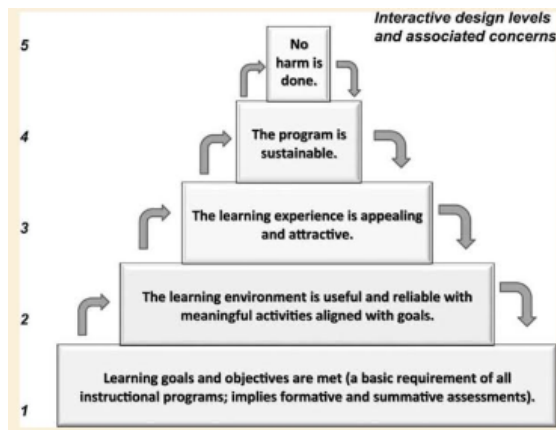
A systematic approach is essential when establishing ethical standards .To help this there are various methodologies that can be employed such as

- **Research and Analysis:**
When venturing into a new environment it is essential to conduct thorough research on existing ethical frameworks and issues in educational technology. One has to analyze case studies, academic papers, and reports to understand the current landscape.

- **Stakeholder Engagement:**
The involvement of all stakeholders, including educators, students, parents, policymakers, and technology providers, in discussions about ethical standards is essential. Their perspectives are crucial in shaping effective guidelines.

- **Expert Consultation:**
It is vital to seek guidance from experts in the fields of education, technology, and ethics. Collaborating with professionals that are experienced in the field is a plus since they can provide valuable insights.

- **Policy Development:**
It is crucial to develop transparent policies and guidelines based on the research findings and stakeholder input. These policies should address key ethical concerns such as data privacy, intellectual property rights, and online behaviour.

- **Training and Education:**
Provide training workshops for educators and students on ethical practices in educational technology. This will raise awareness about the the consequence one might have to face if they take the wrong path on educational platforms.

- **Monitoring and Evaluation:**
Before the creator releases any educational technology they should implement mechanisms to monitor compliance with ethical standards. Regularly evaluate the effectiveness of the policies and make adjustments based on feedback and outcomes.

V.CONCLUSION AND FUTURE SCOPE
In conclusion, ethical standards in educational technology are crucial for ensuring that the integration of technology in learning environments is done responsibly and with the well-being of all stakeholders in mind as well as establishing trust, protecting privacy, and promoting fairness.

The four main pillars mentioned in the paper provide a solid framework for guiding decisions and practices in educational technology. As technology continues to advance rapidly, it is

essential for educators, policymakers, and technologists to uphold ethical principles that prioritise the safety, privacy, and equitable access for all students to all educational resources

Future Scope

It is essential that when creating a technology we do not just focus on the present factors but also look at the future .The future scope of ethical standards in educational technology lies in extensive research and development of frameworks that can adapt to the evolving landscape of technological innovations. Continued collaborations between stakeholders will be essential in addressing emerging ethical challenges related to new technologies such as AI, virtual reality, and learning analytics. Promotion of digital literacy among students and teachers will be crucial in fostering a culture of responsible technology use and ethical decision-making in educational settings.

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