

**ETHICS AND INTEGRITY IN THE USE OF GENERATIVE AI IN EDUCATION:
THE EXPERIENCES, PERSPECTIVES AND ATTITUDES OF STUDENTS AND
EDUCATORS**

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Abstract

The onset of artificial intelligence (AI) in education brought about widespread concerns regarding its pedagogical value, ethical implications, and long-term impact on teaching and learning. Generative AI (GenAI), including tools like ChatGPT, facilitate human-like text generation and real-time responses. However, while such tools provide opportunities to personalise learning, they also pose a threat to academic integrity, student effort, and the role of educators. This qualitative study investigates student and educator perceptions of GenAI in middle and secondary schools, using semi-structured interviews with six students, four educators, and one Head of Department. Thematic analysis was used to identify recurring patterns and contrasting participant opinions, exploring three key questions: (1) How do students and educators experience and use GenAI in education? (2) To what extent is GenAI perceived as a form of cheating, and how does this perception affect views on academic integrity? (3) What ethical concerns emerge from GenAI usage, and how do these differ between students and educators?

Four overarching themes emerged: (1) Responsible Use vs. Misuse, (2) Ethical Guidance and the Need for AI Education, (3) Fairness, Access, and Equity, and (4) Future Orientation of AI in Education. Students principally perceived GenAI as beneficial for enhancing productivity and understanding material in their curriculum but were uncertain where to draw the line between support and academic dishonesty. Educators acknowledged GenAI's supportive role for lesson planning but expressed concern on decreased student critical thinking and engagement, and that it could widen existing divides and inequalities if not equitably implemented.

Participants advocated for formal instruction and policies on responsible GenAI use and the inclusion of AI ethics in educational curricula.

This study calls for the development of policies founded on investigation and dialogue, with the aim of drafting and implementing effective, ethical and responsible AI use policies and guidelines in academia.

Keywords: Generative AI (GenAI), Academic Integrity, Ethical Implications

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Acronyms and Abbreviations

AI	Artificial Intelligence
ChatGPT	Chat-Generative Pre-Trained Transformer
CLT	Cognitive Load Theory
GenAI	Generative AI
GPT	Generative Pre-trained Transformer
HOD	Head of Department
ITS	Intelligent Tutoring System
SBA	School-Based Assessment

Introduction

Introductory Remarks

Although the undeniable influence of Artificial Intelligence (AI) is having a significant impact on various global sectors, education is one of the areas that is undergoing significant and rapid changes because of the role of AI. It is noteworthy that throughout history, educational practices have consistently adapted to include new technologies, ranging from the global adoption of printing to the widespread adoption of the internet. However, the current influence of AI presents a significant challenge and opportunity, requiring and calling for a deeper and more urgent re-evaluation of established practices. A particularly important subsection of AI introduction relates to the development and use of Generative AI (GenAI). This branch of AI redefines how information is accessed, processed, created, and disseminated within learning environments. Traditional AI systems primarily function by analysing significant quantities of existing datasets to identify patterns or provide recommendations to the end user. However, GenAI goes a step further by having the more advanced capability of producing entirely new and original content. Furthermore, GenAI's significantly more advanced contribution and influence are reflected in its ability to provide images, code, and human-like text, generated in response to end user prompts and input. Most importantly, with the release of ChatGPT and other easily-accessible programmes, GenAI is at the fingertips of users, old and young alike.

The integration of GenAI into education is significantly revolutionary in nature and potential. It draws close comparison with other preceding historical technological integrations in the educational sector, such as the introduction of calculators and personal computers. Nevertheless, as opposers of GenAI tools highlight, GenAI's advanced capability of directly engaging in sophisticated cognitive tasks pose may arguably pose a more significant threat

than the aforementioned calculators and personal computers, as whilst the latter are arguably viewed as aiding tools that may be used by an end user to generate output, GenAI takes it a step further by leveraging skills that were previously deemed as exclusive to humans, such as drafting novel text and solving complex problems based solely and exclusively on a question and prompt being provided by the end user. These capabilities result in a double-edged blade, as GenAI has the capability of creating both significant opportunities for progress, as well as significant disruptions to established pedagogical practices. Reflecting on the wider patterns of technology integration, Camilleri (2012) identifies three crucial aspects of technological use, namely adoption, adaptation, and enactment. These concepts are particularly relevant in the context of GenAI tools, as such tools are not simply introduced and made available to the general public but are being actively adopted and adapted to different contexts in ways that influence learning outcomes.

Members of Gen Z, who grew up in an era where their social, emotional, and cognitive health is heavily influenced, characterised, and dependent on technology. Hence, it is not surprising that young people are increasingly drawn to GenAI tools due to their efficiency, accessibility, and customisation. Livingstone and Third (2017) even go a step further and argue that nowadays, children have a fundamental right to use technology for information access and social participation, as per the United Nations Convention on the Rights of the Child. This digital exposure is particularly evident in Malta, where over 98% of children have internet access (Lauri et al., 2015) and spend more than three hours a day online, making them the second-highest internet users in the EU (Smahel et al., 2020). Similarly, educators are also implementing Camilleri's advice, by exploring GenAI tools for lesson planning, assessment design, and administrative support, highlighting its adoption, adaptation and enactment capabilities (Camilleri, 2012). However, GenAI's ability to mimic human reasoning and behaviour raises crucial concerns about its ability to influence learning

integrity, the evolving role of educators in the educational sector, and the authenticity of student performance and output. Furthermore, GenAI's global integration also faces educational challenges and ethical concerns, such as students' unequal access to such tools due to socio-economic restrictions, variations in pedagogical practices, and pressures on student performance, which ultimately call for a complete and comprehensive re-evaluation of salient educational values such as originality, effort, and ethical responsibility.

Rationale for the Study

Understanding how GenAI is viewed, interpreted, and utilised by students and educators is fundamental for various reasons, each uniquely contributing to an informed evaluation and responsible integration of this technology into the educational sector.

Firstly, this study significantly supplements ongoing ethical discourse related to the potential role of emerging technologies in education. As GenAI plays a substantial role in students' completion of academic tasks, the boundaries between what is perceived as legitimate support and academic misconduct, particularly cheating, have been blurred. Accordingly, what was once clearly perceived as plagiarism is now seen as a less clear-cut scenario, with advocates in favour of AI holding that AI's role was that of assisting with the completion of such tasks. This study provides empirical foundations for such ethical discussions, particularly by analysing the lived experiences of students and educators on the concepts and balance of fair use and academic integrity in the current AI era.

Secondly, key findings and observations from this study are instrumental in guiding and shaping policy development on AI and its use in educational settings. This is particularly important in an era when educational institutions are integrating AI without unified frameworks or clear guidelines on AI. Without empirical insights into how GenAI is experienced in classrooms, policies risk being either overly restrictive, with the result being

that of restricting innovation, or rather vague in nature, thereby failing to provide clarity on the matter. In such instances, neither extreme serves educational equity, or academic integrity. This research will offer data-backed evidence to help educational institutions draft equitable and effective policies that strike a fair balance between leveraging AI's potential, while mitigating its risks.

Thirdly, this research provides crucial insights on the evolving demands of digital literacy and technological readiness in education. While GenAI can enhance and improve learning through the use of personalised content and immediate feedback, its widespread use has the potential of creating new dependencies, or widening the digital divide. This is particularly relevant as students with greater digital proficiency, or reliable access to devices, are at an advantageous position when compared with other students who do not have access to such technological means. This can ultimately result in an increase in existing educational inequities, which is an undesired result. Understanding these dynamics is vital for striving to achieve equitable access, as well as developing targeted digital literacy programs aimed at empowering students to engage critically and productively with AI.

Fourthly, this study aims to empower educators by shedding light on their genuine concerns, and emerging strategies in adapting to the GenAI era. This is especially relevant as educators, who are responsible for assessing students and fostering their critical thinking, must play an important and fundamental role in the implementation of a successful GenAI system. Hence, understanding their perceptions, including their concerns about job security, demands on pedagogical skills, and practical experiences with these GenAI tools, is vital and essential. This research will help ensure GenAI tools enhance, rather than diminish pedagogical value, allowing educators to use AI as a powerful tool to supplement their teaching skills.

Lastly, this research plays a vital role in supporting student growth and fostering a feeling of student ownership of their academic journey. By closely examining how students interact with GenAI, educators and educational institutions can design more thoughtful and adaptive academic and teaching strategies, with the ultimate goal of educating students in the development of their critical thinking skills for assessing AI-generated content, promoting responsible student use of AI tools, and reinforcing the importance of student academic integrity. The aim is therefore to help students use AI as a meaningful support tool in their academic journey, rather than a replacement for genuine and effective effort to learn.

Aims of the Study

The aim of this study is to investigate how educators and students perceive, engage with, and ultimately evaluate the transformative role of GenAI in education. This study specifically aims to clarify the complex pedagogical, ethical, and practical aspects of using GenAI in middle and secondary school settings, while taking into account the distinct developmental stages and educational requirements of these age groups.

The study aims to evaluate the actual and potential impact of GenAI in education, particularly by:

- *Exploring the extent and nature of GenAI use among educators and students.* This objective seeks to understand to what extent students and educators use and adopt GenAI tool in their teaching and learning processes. This includes questioning students and educators on any specific platforms that they use, the frequency of use of such GenAI tools, and the types of tasks for which GenAI is used, which can range from research-based purposes to summarisation or essay writing.
- *Understanding the perceived advantages and disadvantages of GenAI in academic contexts.* This objective aims to evaluate the subjective experiences of both students

and educators regarding the advantages and disadvantages of integrating GenAI into their educational journey. On the one hand, benefits might include increased efficiency, personalised learning experiences and enhanced research capabilities. On the other hand, disadvantages could relate to concerns about potential over-reliance on AI, issues of information accuracy, or the potential for increased plagiarism and academic cheating.

- *Investigating whether the use of GenAI is perceived as a form of cheating, and how this perception affects academic integrity.* This objective aims to delve into the ethical dilemmas related to AI-assisted outputs. It seeks to investigate the students and educators' views on what constitutes appropriate and ethical AI use, and when such ethical use turns into academic dishonesty and cheating.
- *Examining ethical concerns such as fairness and bias related to the use of GenAI.* This objective investigates participants' awareness and concerns related to potential biases in algorithms of GenAI tools, which ultimately result in promoting stereotypes and generating inequitable content. Relatedly, the study will explore the participants' view upon the fairness of using AI in assessment in academia.
- *Identifying and examining the degree of support, training, or policy guidance that educators and students receive regarding GenAI.* This objective assesses the awareness and preparedness of educational institutions to the accelerated integration of GenAI. It aims to understand if clear policies, adequate professional development training for educators, and sufficient support are being provided to help both educators and students use GenAI in an effective and ethical manner. It follows that the inadequate, or complete lack, of such instruments can significantly hinder the responsible integration of AI in education.

By addressing these objectives, the study seeks to provide an empirically based understanding of GenAI's role in education, and to guide future educational strategies towards a more equitable, effective, and ethical integration of GenAI in academia.

Research Questions

To address these aims and objectives, this study poses the following key research questions. These questions are aimed at carrying out an in-depth analysis into the practical experiences, as well as the ethical dilemmas, that result from the integration of GenAI into a learning context, with particular reference to the secondary and middle school contexts.

- *To what extent do students and educators use GenAI in their education journey, and how do they experience it?* This question seeks to investigate how GenAI is used and adopted, focusing not just on whether it is used, but also on how it is used and integrated into the academic journey of the participants. Relatedly, this question seeks to explore the participants' lived experiences associated with its use, both with regards to their perceived benefits and challenges of such GenAI use and adoption in academia. This question looks into the motivations, frequency, preferred tools, perceived benefit of GenAI, and the difficulties encountered by educators and students.
- *To what extent do students and educators perceive the use of GenAI in education as a form of cheating, and what are the potential consequences of such a classification on academic integrity?* This fundamental ethical question investigates the participants' views on academic honesty in an AI-influenced educational context and reality. It explores what constitutes legitimate AI assistance, and what constitutes academic cheating and plagiarism. Relatedly, it investigates what influences these perceptions (such as when AI is used in specific contexts such as assessments), and other wider

considerations such as originality, and the true value of genuine effort and work that is not supplemented by AI in the academic context. It also seeks to understand the potential repercussions on students' learning behaviours.

- *What are the ethical considerations and concerns that emerge from the integration of GenAI technology in educational environments, and how do these considerations vary between educators and students?* This question expands the ethical investigation beyond cheating to look into a wider range of ethical and practical concerns such as AI algorithmic biases which can potentially intensify societal biases in an educational context, leading to inequitable outcomes. Furthermore, this question aims to explore the notions of fairness in access and application across diverse socio-economic contexts, and the potential long-term impact on student critical thinking and problem-solving abilities. Accordingly, this question aims to differentiate between the concerns and perspectives of educators, who might be concerned with pedagogical efficacy and assessment validity, and the concerns and perspectives of students, who might prioritise fairness, accessibility, and utility of GenAI in an educational environment.

Conceptual Framework

To better understand this complex topic, the study analyses the results within the context of key educational theories and established ethical principles. This multi-theoretical approach enables the researcher to investigate how participants think, by linking their views to how people learn, and what is considered right or wrong, especially in the context of new technologies.

Educational Theories:

- *Constructivism:* This theory holds that students develop their understanding and knowledge through their own lived experiences and thoughts. GenAI can enhance this

process by providing user-oriented resources or personalised learning paths. However, over-reliance might reduce the need for active thinking, thereby reducing the importance and exposure to real-life learning. This mindset helps to strike a balance between using AI tools and the true value and meaning of actively understanding and building personal knowledge.

- *Behaviourism*: This theory focuses on observing behaviours and learning through feedback and repetition. This mindset helps understand how GenAI might support or undermine traditional skill gain process of an individual, particularly when immediate feedback is beneficial.
- *Connectivism*: This theory views knowledge as a phenomenon that is spread out across diverse groups, and that knowledge is attained by exploring and leveraging connections. In this context, GenAI, being a knowledge centre operating and functioning on an information aggregation method, directly supports students and users in accessing and connecting diverse information sources. This theory is particularly relevant for understanding how students might use AI to extend their learning networks and engage with different groups, individuals and ideas.
- *Cognitive Load Theory (CLT)*: CLT focuses on mental effort during information processing, and differentiates between intrinsic, extraneous, and germane cognitive load. GenAI can reduce extraneous cognitive load by simplifying complex information or offering adapted explanations. However, over-reliance poses a significant risk, as it might evade the germane cognitive load, being the deeper mental effort of an individual, which is necessary for understanding and critical thinking. This mindset helps analyse how AI might influence the efficiency and extent of cognitive processing.

Ethical Principles:

- *Academic Integrity:* This key principle and notion evaluates how the use of AI relates to crucial risks such as cheating and plagiarism. The study will explore how students and educators view these rules, what they consider to be fair and unfair use of AI in an educational context, as well as delve into their perspectives on identifying and addressing AI-fuelled cheating.
- *Fairness and Bias:* This principle and concept relates to whether GenAI is truly equitable across the board. It focuses on concerns that AI might be trained on biased datasets, which can in turn lead to discriminatory or unequal results in AI-generated outputs such as content creation or access to learning tools. The study will explore the individuals' awareness of these biases, and how they might affect equal opportunities in education.

These contexts and bases allow the study to interpret participants' opinions, experiences, and concerns within a broader, theoretically based educational and ethical setting, thereby providing a richer and more comprehensive understanding of GenAI's role in academia.

Concluding Remarks

In conclusion, the emergence of GenAI represents a significant and complex development for education, offering both new and substantially favourable opportunities, as well as significant concerns, challenges and risks. This study aims to provide a comprehensive understanding of how transformative technologies such as GenAI are viewed, utilised and integrated into a learning environment by students and educators. By exploring the practical aspects associated with the use of GenAI, the ethical considerations related to academic integrity, and the critical role of educational institutional support, this study seeks to investigate the complexities of integrating AI in a responsible, ethical and effective

manner. The insights derived from this study will provide a vital, real-life perspective on GenAI's impact, guiding educational institutions and policymakers towards a future where technological tools such as GenAI enhance learning, while protecting and promoting the core educational values.

Literature Review

Introduction to Generative AI in Education

The concept of ‘intelligence’ has been widely understood to be a notion and a state that manifests in various forms (Mitchell, 2019) and includes various abilities such as problem-solving, creativity, stimulus processing, learning, awareness, communication, language acquisition, and social-emotional skills (Mitchell, 2019; Senior & Gyarmathy, 2021). However, this definition is becoming increasingly complex in view of the ever-increasing influence of AI on our lives (Lim et al., 2023). In this regard, an elusive aspect of AI is humans’ capability of recognising, interpreting and understanding the interaction between the widely recognised concept and understanding of *intelligence*, with the ‘artificial’ element. A difficult aspect of AI is how people understand the connection between *intelligence* (which typically refers to human or natural intelligence) and *artificial* (machine-driven intelligence). The challenge lies in how people conceptualise and make sense of the intersection between human intelligence and AI, which is not as straightforward as it may seem.

Whilst acknowledging the controversial nature of defining AI (Akgun & Greenhow, 2022), a concise definition and explanation of the interaction between the *artificial* element and the concept of *intelligence* is that AI is “the tangible real-world capability of non-human machines or artificial entities to perform, task solve, communicate, interact, and act logically as it occurs with biological humans” (Gil de Zúñiga et al., 2023). Hence, AI can be broadly understood to comprise of a technological development aimed at developing, and thereafter be driven by theories, methods and algorithms in machine learning applications and natural language processing, designed to stimulate, emulate, and arguably extend, aspects of human intelligence (Deng, 2018).

Nevertheless, it is important to highlight that AI consists of various classes and subsets, with GenAI being one such distinct subset which can be defined as a technology that leverages deep learning models to generate and create human-like content, such as text and images, in response to human prompts, such as instructions and questions (Lim et al., 2023). Therefore, unlike traditional AI, which is often designed to recognise patterns and make decisions based on existing data (Bengesi et al., 2024), GenAI is designed to generate novel content that mimics the characteristics of the data it was trained on, as well as assist humans by acting as intelligent question-answering tools (Feuerriegel et al., 2024). However, GenAI can be further segregated into different classes. One such class of GenAI consists of generative adversarial networks, being a class of machine learning frameworks where two neural networks are pitted against each other (Goodfellow et al., 2014). In this context, the ‘creator’ creates new synthetic content while the ‘evaluator’ evaluates and tries to detect synthetic content from the actual training samples, so that the distribution of synthetic samples by the creator is eventually close to the distribution of the training samples. Over time, the creator becomes better at producing content that is indistinguishable from real data, and the evaluator improves at distinguishing real data from fake data (Feuerriegel et al., 2024).

On the other hand, Generative Pre-trained Transformers (GPT) consist of another prominent class of GenAI. GPT is a machine learning model that is pre-trained on a large database of content, that, through self-supervised learning (Luo et al., 2022), produces coherent and contextually relevant text and language responses that can be indistinguishable from human-written content (Chan, 2023). Chat-Generative Pre-Trained Transformer (ChatGPT), a conversational AI chatbot developed by OpenAI and based on GPT-4, is one such GenAI tool that has gained global popularity, due to its user-friendly interface (Nazir & Ze, 2023) and ability to learn from millions of human-generated text and sources (Shyam

Sundar & Liao, 2023), which enables it to understanding complex and varied human languages (Lim et al., 2023). As a result, ChatGPT can mimic human writing styles and generate coherent and structured responses that resemble human communication (Lim et al., 2023). Its popularity is evidenced by the fact that it reached one million users in five days and one hundred million users two months after it was launched to the public in November 2022 (Lim et al., 2023). GenAI can potentially be used in many industries and fields, such as content creating and communication (Biswas, 2023), healthcare (Nah et al., 2023), and education (Lim et al., 2023), with the ultimate result of potentially altering the way these activities are currently conducted and carried out (Haleem et al., 2022). Hence, it is not surprising that there is uncertainty and scepticism of its trustworthiness and its ability to shape our society (Braun et al., 2021), particularly whether GenAI models, such as ChatGPT, will potentially challenge and can even replace traditional human tasks, functions and professions (Stokel-Walker, 2022), rather than function as a tool and means to enhance human capabilities and delivery (Pavlik, 2023).

This element of uncertainty is expected, as although technology often represents human progress, history shows that innovation which introduces untraditional or unorthodox manners of doing things can lead to societal disputes over their interpretation, characteristics and use (Bates, 2000). A clear example from recent history of a bold powerful technology that was significantly cheaper and quicker than the human brain, which caused great concern, was the introduction of the calculator, which became popular in the 1970s and was gradually introduced in schools the next decade (Steele, 2023).

Similarly, the use of GenAI tools like ChatGPT in education reflect this uncertainty, as evidenced by significant debates within the academic sector, especially regarding their potential impact on academic integrity and learning outcomes (Haleem et al., 2022), with

supporters of ChatGPT seeing it as a reformation that enhances quality of education, and critics seeing it as a tool that will lead to the destruction of the education system (Lim et al., 2023). While GenAI offers clear advantages in education, such as enhancing student and educators' knowledge and learning processes (Steele, 2023), concerns about data quality (Alshater, 2022) as well as a potential reduction in students' ability for critical thinking and problem-solving skills (Kasneci et al., 2023), academic dishonesty and cheating, particularly in the form of plagiarism, remain equally pressing (Sallam, 2023; Yu, 2023).

However, although debates between supporters and critics of GenAI tools like ChatGPT are expected, the relevance and significance of studying GenAI in education lies in an in-depth evaluation of its transformative potential to reshape and enhance the way we teach and learn (Steele, 2023) in contrast to its ethical issues and concerns (Margono et al., 2024). As educational practices evolve alongside technological advancements, it becomes increasingly important to understand how GenAI tools like ChatGPT can challenge, enhance or alter traditional methods. By closely examining the role of GenAI tools like ChatGPT in education, we can explore their potential benefits, such as their ability to provide opportunities for educators to identify and evaluate gaps in student learning (Lim et al., 2023) as well as to assist in developing personalised resources and learning activities, creating lesson plans, conducting assessments and evaluations, and aiding in the research writing process (Rahman & Watanobe, 2023). Furthermore, understanding its impact is equally crucial for addressing ethical concerns, ensuring academic integrity, and preparing students for an AI-driven future (Chiarello et al., 2024). This analysis is vital for developing strategies that maximise the benefits of GenAI while mitigating potential risks to critical thinking and academic quality.

Theoretical Foundations and Conceptual Frameworks

GenAI is reshaping the educational landscape, offering new ways to personalise learning, enhance engagement, and expand access to educational resources (Ruiz-Rojas et al., 2023). This technology intersects with educational theories such as constructivism, behaviourism, and connectivism, providing unique opportunities and challenges.

Constructivism posits that students actively construct their own understanding and knowledge of the world through experience and reflection, evaluation and opinions (Saleem, Kausar, & Deebea, 2021). GenAI can support constructivist learning by providing interactive, adaptive learning environments (AlDahdouh et al., 2015). For instance, AI-driven platforms can offer personalised feedback and learning paths tailored to individual students' needs and pace. This customisation enables students to explore concepts at their own pace, engage in problem-solving activities, and reflect on their learning, fostering deeper understanding. Moreover, GenAI can simulate real-world scenarios where students can experiment and make mistakes in a low-stakes environment, thus constructing knowledge through trial and error, a core principle of constructivist theory (AlDahdouh et al., 2015).

Behaviourism, on the other hand, focuses on observable behaviours and the responses to stimuli (AlDahdouh et al., 2015). It uses mechanisms of reward and punishment. Behaviourism is based on the belief that learning depends on the student's innate likes and dislikes. It emphasises reinforcement and repetition as key to learning. GenAI can enhance behaviourist approaches by providing consistent, immediate feedback and reinforcement, crucial for shaping behaviours and reinforcing learning (AlDahdouh et al., 2015). Some primary school educators consider this method useful as rewards and challenges may speed up the process of learning and transferring knowledge (Payne, 2015). AI-driven tools can track a student's progress, identify areas of struggle, and provide instant feedback, helping students to reinforce correct responses and learn from mistakes (AlDahdouh et al., 2015). For

example, AI in language learning applications can correct pronunciation and grammar in real-time, allowing students to immediately adjust their behaviour and practice correct forms (AlDahdouh et al., 2015). This aligns with behaviourist principles of learning through repetition and positive reinforcement (Anwar et al., 2024).

Connectivism is a theory that sees learning as a process of connecting specialised nodes or information sources (AlDahdouh et al., 2015). Connectivism has drawn insights from AI advancements in recent years (Plueger, 2024). In a world overflowing with information, the ability to find, filter, and make sense of information is crucial. GenAI intersects with connectivism by acting as a tool that facilitates connections between different pieces of information. AI can help students identify relevant information, suggest connections between seemingly unrelated concepts, and provide diverse perspectives, thus expanding the student's network of knowledge. Moreover, AI can facilitate collaboration and communication among students by connecting them with peers and experts, promoting knowledge sharing, and fostering a learning community. This enhances the social aspect of learning, which is central to connectivism (AlDahdouh et al., 2015).

Accordingly, GenAI intersects with and enhances educational theories like constructivism, behaviourism, and connectivism by providing personalised, interactive, and connected learning experiences. As AI technology continues to evolve, its integration into educational settings will likely deepen (Chen et al., 2020), offering new ways to support and enrich the learning process across different educational paradigms.

Cognitive Load Theory is a key cognitive theory that examines how information is processed in the human brain. It suggests that working memory has a limited capacity, and when it is overloaded, learning can be impeded (Mayer, 2003). CLT emphasises three types of cognitive load: intrinsic load, which is inherent to the task; extraneous load, which is the

way information is presented; and germane load, which is the mental effort used to process and create new schemas. Effective learning occurs when intrinsic load is optimised, extraneous load is minimised, and germane load is effectively managed (Mayer, 2003).

AI-assisted learning has significant implications for applying the CLT. AI technologies can be utilised to personalise the learning experience, ensuring that the content is tailored to the student's current level of understanding, thereby managing intrinsic cognitive load (Kalyuga & Liu, 2015). For example, AI tools can adjust the level of difficulty of tasks based on a student's background, avoiding overload and supporting the creation of meaningful schemas.

Furthermore, AI can help reduce extraneous cognitive load by providing clear, structured, and interactive resources. For instance, AI can use natural language processing to simplify complex text, highlight key concepts, and provide real-time feedback, making information more accessible and easier to comprehend. This allows students to focus on understanding the content rather than struggling with its presentation (Kalyuga & Liu, 2015).

Accordingly, AI can help increase cognitive effort by encouraging deeper engagement and active learning. With tools like adaptive quizzes, simulations, and interactive activities, AI can boost critical thinking and problem-solving skills, helping students to apply and expand their knowledge (Kalyuga & Liu, 2015).

The integration of AI into education is recognised as one of the most significant advancements of the century (Becker et al., 2018; Seldon & Abidoye, 2018). Despite the rapid expansion of AI in education and the increased demand fuelled by the impacts of COVID-19, there remains limited understanding of the ethical principles that should guide the design, development, and implementation of trustworthy AI in education. Even when

these principles are considered, the extent to which existing ethical and regulatory frameworks can adequately address the evolving impacts of AI remains unclear (Nguyen et al., 2023). In response to these needs, UNESCO has established global standards for AI ethics, which were adopted by its 193 member countries on November 25, 2021. This document acknowledges the “profound and dynamic” influence of AI while also warning of potential dangers to cultural, social, and ecological diversity (UNESCO, 2021). It outlines a universal framework of values for AI ethics, offering stakeholder-driven guidelines for AI adoption. Although this international agreement underscores the critical role of ethics in AI, it provides a broad framework that may not be fully applicable across all disciplines and settings. In fact, a laissez-faire or one-size-fits-all approach are neither sufficient nor appropriate for the development and governance of AI technologies across different contexts.

One challenge in integrating AI technologies into educational settings is the issue of cheating, which is closely linked to academic dishonesty, which can be defined as a ‘deceitful or unfair act intended to produce a more desirable outcome on an exam, paper, homework assignment, or other assessment of learning’ (Miller et al., 2017). AI chatbots enable students to swiftly obtain automatically generated answers and responses, which may lead them to violate core principles of academic integrity (Bakar-Corez & Kocaman-Karoglu, 2023; Li et al., 2023). Hence, it is tempting for students to exploit GenAI models to cheat (Xie et al., 2023). Notably, some students may deliberately use AI-generated content to engage in academic dishonesty, as these responses often appear highly credible and may not be easily detected by plagiarism-checking software (Choi et al., 2023; Livberber & Ayvaz, 2023; Sweeney, 2023). Furthermore, when students observe academic cheating and dishonesty going unpunished, they may start to view it as acceptable and become more likely to participate in similar unethical behaviour (O’Rourke et al., 2010). This growing intersection between AI chatbot usage and academic misconduct presents new challenges for educational

institutions in upholding academic integrity (Guo & Wang, 2023; Kasneci et al., 2023), and may extend beyond the school setting. In this regard, research in higher education indicates that academic misconduct often starts in high school, persists through undergraduate and postgraduate studies, and ultimately undermines ethical standards in the workplace (Ferguson et al., 2022). The challenge of AI-assisted cheating is not just a technical issue, but one that is deeply rooted in ethics and education, thereby requiring educators to adopt a broader approach to academic integrity (Xie et al., 2023). One effective strategy is integrating ethics training into curricula, whether through standalone courses, embedded discussions in class, or expert-led seminars (Xie et al., 2023). Also, establishing AI ethics as a distinct academic subject taught in schools may be beneficial, since when examining AI-related academic integrity, it is valuable to consider it within the broader context of AI ethics (Boardman, 2022). Doing so allows us to apply existing ethical frameworks, principles, and best practices to address integrity challenges in education.

Bias is a significant ethical issue in AI. Algorithms, if not carefully designed, can create, or even exacerbate existing biases, leading to unfair outcomes (Sumanth, 2019). In education, these biases could influence admissions decisions which may limit access to opportunities, through social inequalities, grading, or the allocation of resources. To address this, ethical frameworks emphasise the need for diverse data sets and continuous monitoring of AI systems to identify and mitigate biases. Ensuring transparency in AI decision-making processes is also crucial, enabling students have equal access to higher education and the opportunities it offers (Roshanaei, 2024) .

Fairness in AI involves ensuring that all students have equal opportunities to benefit from educational technologies. Ethical frameworks advocate for AI systems that are designed to be inclusive and accessible, catering to the diverse needs of students. This includes

considerations and equal treatment without discrimination, such as for students with disabilities, those from different cultural backgrounds, and those with varying levels of access to technology. It should also address individual needs, since equality may not mean equity. Fairness also extends to the deployment of AI, ensuring that it does not create or widen the digital divide. Educational institutions must consider whether all students can equally access AI-driven tools and whether these tools support equitable learning outcomes. Fairness should include transparency and clearly explained AI decision-making processes, to ensure accountability and build trust. Furthermore, it should include diverse perspectives and ensure diverse representation in training data to prevent bias and underrepresentation (Sumanth, 2019).

Data privacy is another critical ethical concern. AI systems in education often require access to huge amounts of personal data and private data, including academic records, behavioural data, and even biometric information. Protecting this data from misuse is essential to maintaining trust and safeguarding students' privacy. Ethical frameworks call for robust data governance policies, including clear consent processes, data anonymisation, and strict access controls. These measures help ensure that data is used responsibly and only for its intended educational purposes. Furthermore, students and their families should be informed about what data is being collected, how it is used, and their rights regarding that data (Wang & Siau, 2018).

Hence, ethical frameworks in AI and education are essential for addressing the challenges of bias, fairness, and data privacy. By adhering to these frameworks, educational institutions can leverage AI to enhance learning while ensuring that the rights and interests of all students are protected. This approach not only fosters a more equitable and inclusive educational environment but also builds trust in the use of AI technologies.

Positive Impacts of Generative AI in Education

The impact of AI on future learning and teaching has sparked discussions reminiscent of those held over 2,000 years ago by famous Greek philosophers like Socrates (469-399 B.C.), Plato (427-347 B.C.), and Aristotle (384-322 B.C.) These ancient thinkers explored theories on how new knowledge is acquired and disseminated. Drawing these historical comparisons provides valuable insights into the current discourse on AI's influence in education. For instance, does Socrates' dialectic method, where truth is discovered through peer discussions, still have relevance in modern learning processes? In this context, could a chatbot be considered as a peer? (Wu, 2023).

In recent years, AI has advanced rapidly, resulting in numerous applications across various fields, including education (Zawacki-Richter et al., 2019). These changes, such as the adoption of AI technologies, mobile technologies, and online meeting platforms, have become unavoidable in the post-COVID-19 era (Agbaglo & Bonsu, 2022). The global interest in and use of AI technologies are rapidly increasing (Hirsch-Kreinsen, 2024) making it crucial to consider the societal and policy implications of AI, as well as the potentially diverse impacts these technologies may have on different populations.

ChatGPT's application in higher education spans various affordances, such as creating assignments (Sullivan et al., 2023), aiding in essay writing (Crawford et al., 2023), and promoting critical reflection on the societal use of AI (Van Dis et al., 2023). However, despite its benefits, there are concerns about the potential for AI-assisted cheating among students (Sallam, 2023).

A recent study by Baidoo-Anu et al. (2024) shows that the majority of students are already using ChatGPT for their academic work.

Given that AI relies on extensive data, there are significant concerns about data access, processing costs, and management to ensure privacy and rights protection. Additionally, most empirical discussions have primarily involved academics and professionals (Khalil & Er, 2023).

Personalised learning, which aims to provide an alternative to the one-size-fits-all educational approach, has emerged as a focal element in educational development (Zhang et al., 2020). By adopting a personalised educational experience which is focused on individual student needs, personalised learning aims to increase student engagement, refine learning outcomes, and ultimately devise and adopt a more personalised and impactful educational experience (Ouyang et al., 2022). Using AI to reach such aims is one viable approach (Zhou et al., 2024), as AI can address the unique needs of individual students, provide adaptive learning methods, and assist educators in providing a more effective educational journey for students (Mulaudzi & Hamilton, 2024).

A clear example is the success of Duolingo, which is built around the AI-driven Intelligent Tutoring Systems (ITS), aimed at leveraging AI automatic speech recognition for language instruction to provide one-on-one personalised support and instructional guidance (Alam, 2021). Such success stories highlight the potential benefit of integrating ITS to enable students to customise their educational journey and set a learning pace that is most suitable for them (Alam, 2021).

Such an understanding also ties in with Gen Z students' learning and educational expectations founded on technology-driven independent learning (Chan & Lee, 2023; Schwieger & Ladwig, 2018). This was also confirmed in research by The Harris Poll, conducted on behalf of the education company Pearson, which suggests that such students have grown to be more self-reliant learners, who often use technology to solve problems and

gather information on their own, as well as seek content that is brief, concise and easily understood (Genota, 2024). This need to develop learning methods that are direct and concise was also confirmed in studies by Bíró (2014), and Borys and Laskowski (2013), which emphasised that gamification can boost Gen Z's engagement in learning by leveraging group-based motivation and feedback systems.

Similarly, GenAI can help educators create course materials like summaries, quizzes, and discussion prompts. By modifying existing content, it can save educators significant time and energy. In addition, GenAI can assist educators by enabling them to initially produce rough drafts of lesson plans and learning resources that they may then refine further by using their own skills (Denny et al., 2022). GenAI may also assist automating tasks such as grading and responding to students' inquiries, which in turn allows educators to dedicate more time to teaching and other important responsibilities (Bonde, 2024). This allows educators to concentrate on more challenging elements of the curriculum and teaching methods. Such an understanding backs a study by Chen et al. (2023) on AI in education, which noted that AI systems made it increasingly possible for educators to tailor and personalise curriculum and content to meet students' individual needs, which in turn led to better learning experiences.

Moreover, GenAI educational developments and implementations, such as personalised e-learning systems, provide an efficient and cost-effective solution for delivering education to large groups (McCutcheon et al., 2015). This is especially true as Machine Learning (ML) and Deep Learning (DL) models can be applied to assess and align content with the student's appropriate skill level (Panjaburee et al., 2022).

Current Applications of Generative AI in Education

GenAI is increasingly shaping educational content creation, enabling new approaches to personalised learning and instructional support. By using AI-driven models, educators can

produce tailored lesson plans, quizzes, and study materials that adapt to each student's unique learning style and pace (Chung & Lee, 2021). AI applications, such as automated tutoring systems, use natural language processing to answer questions in real-time, often mimicking human conversational patterns to engage students and clarify concepts (Woolf et al., 2013). These tools not only support student learning but also assist educators in automating repetitive tasks like grading and feedback generation, allowing for a more efficient classroom experience (Luckin et al., 2016).

Moreover, GenAI aids in the development of interactive educational simulations and virtual labs, which provide students with hands-on learning experiences that would be difficult to replicate in physical classrooms (De Jong et al., 2013). However, while the benefits of GenAI are significant, concerns persist about its potential to perpetuate biases present in training data, as well as its impact on critical thinking skills (Holmes et al., 2019). As research progresses, it remains vital to create ethical and transparent AI systems to fully leverage their educational potential.

ITS and virtual assistants represent transformative applications of AI in personalised education, offering tailored learning experiences and support. ITS uses AI algorithms to analyse student progress, identifying strengths and weaknesses in real-time and adjusting lessons accordingly (VanLehn, 2011). By personalising instruction, these systems improve student engagement and learning outcomes, making them invaluable in fields like maths, science, and language learning (Graesser et al., 2012). AI-based virtual assistants also support students by answering questions, providing hints, and facilitating problem-solving, often simulating human-like interaction to enhance user comfort (D'Mello et al., 2017).

Examples like Carnegie Learning's "MATHia" and IBM's Watson Tutor show the potential of these systems to scale personalised learning, delivering high-quality education to

diverse populations (Koedinger et al., 2010). These systems are further enhanced by adaptive assessments that guide students based on ongoing performance, promoting mastery learning (Pane et al., 2014). Yet, challenges remain. The accuracy of ITS and virtual assistants depends heavily on data quality and can suffer from biases if trained on incomplete datasets (Holstein et al., 2019). Continuous development and ethical considerations are crucial to make AI-driven tutoring systems more equitable and effective for all students.

AI is playing a significant role in transforming assessments and feedback in education. AI-driven assessment tools now automate grading processes, particularly for objective questions, such as multiple-choice or true-false formats, saving educators considerable time (Luckin et al., 2016). More advanced algorithms are even being applied to grade open-ended responses and essays by evaluating factors like coherence, grammar, and content relevance, often achieving high reliability (Page, 2003).

AI's capacity for personalised feedback is equally impactful. These systems analyse each student's strengths and areas needing improvement, offering specific, timely feedback that helps students progress at their own pace (Wang et al., 2024). Platforms like Gradescope and Turnitin utilise machine learning to identify patterns in student responses, thus guiding personalised study suggestions and resources for improvement (Piech et al., 2015). This process not only makes feedback more efficient but also more accurate, allowing for tailored learning experiences.

However, concerns remain about AI's limitations in nuanced feedback, especially for complex subjects requiring subjective judgment (Holstein, 2019). As research advances, continuous refinement is essential to ensure AI-driven assessments uphold fairness, accuracy, and adaptability in diverse educational settings.

AI is enhancing collaborative and social learning by facilitating dynamic group interactions and supporting peer-based education. AI-powered platforms now enable collaborative learning environments that foster communication, track participation, and personalise experiences for each student (Rosé et al., 2008). These systems can form diverse groups based on students' strengths and learning preferences, ensuring balanced skill sets that enhance collaborative outcomes (Shum & Ferguson, 2012). By analysing students' interactions and progress, AI systems provide real-time insights to instructors, allowing timely intervention to guide discussions or resolve conflicts within groups (Trausan-Matu & Rebedea, 2009).

In addition to managing group composition, AI supports social learning by recommending resources based on group needs and individual roles within a project. For example, tools like Microsoft Teams and Google Workspace, when combined with AI, promote seamless document sharing and virtual collaboration, tracking engagement to help instructors monitor group dynamics (Chatti et al., 2012). AI-based recommendation engines also suggest study materials relevant to the group's project goals, promoting deeper discussions and more effective learning (Heffernan & Heffernan, 2014).

However, challenges remain regarding privacy and data ethics in tracking student interactions (Slade & Prinsloo, 2013). Ongoing research and ethical guidelines are essential to fully harness AI's potential for collaborative learning in a responsible way.

Educators' Perspectives and Experiences with Generative AI

While educators utilise educational technologies in the classroom, their current use is often of a passive nature (Sailer et al., 2021). Although GenAI can be seen as means to alleviate educators' workload (Bryant et al., 2020), the integration of AI technologies raises concerns regarding job replacement among educators. Studies by researchers such as

Nazaretsky et al., (2022) and Rienties (2014) point towards academic resistance against adopting new technologies, which could also be related to fear of replacement by AI in education, resulting in a reduction in teaching positions (Bates et al., 2020). This fear seems not so profound in other fields, such as medicine, wherein studies among physicians (Ahmed et al., 2022) reveal that while they generally acknowledge AI's potential to assist with diagnoses, they largely believe it will not replace them in the future. This perspective aligns with the intended role of educational AI: being a powerful tool in the hands of educators to assist them, automate time-consuming tasks, and enhance educational experiences without replacing human educators.

Accordingly, whilst integrating AI in education may be seen as a new era of teaching and learning, characterised by increased personalisation, efficiency, and engagement, it is essential to critically examine the effects of GenAI from the perspective of educators, particularly their perceptions, experiences, and expectations of GenAI's role in the future of education.

Ferikoğlu and Akgün (2022) delved into this study by creating a scale to measure educators' awareness and perceptions of AI technologies. Their research reveals how educators, as key facilitators of learning, engage with AI in their professional environments. By highlighting educators' awareness, their study emphasised the need to equip educators with the knowledge and skills essential for effectively navigating an AI-enhanced educational setup.

Similarly, Yu (2021) contributes significantly to the evaluation from an administrative viewpoint by examining the development and implementation of AI in education. Through a qualitative analysis, the study uncovered AI's dual role in educational administration, as it highlighted its advantages, ranging from enhanced efficiency to the educators' ability to take

data-driven decisions in formulating their teaching approaches that are student-specific, while also flagging challenges such as ethical considerations and the necessity for comprehensive training. This study illustrates that the influence of AI reaches beyond the traditional classroom setup and teaching methods, impacting the broader operational frameworks of educational institutions.

Parallely, Rios-Campos et al. (2023) specifically examined ChatGPT within the wider context of AI in education. Their study on the use and effects of AI-operated tools such as ChatGPT revealed important and valuable insights into its applications for educators and educational systems. The study highlighted GenAI's positive elements in education, particularly its ability to automate routine tasks, enable personalised learning, and improve administrative efficiency. Hence, this study demonstrated the diverse ways GenAI can be used to act as a catalyst for educational innovation and enhancement.

Nevertheless, it is important to point out that research has shown that educators' perspectives over AI in education vary depending on various factors, such as the educators' age and teaching subjects. In this regard, O'Bannon and Claire (2014) found that educators under 50 are more likely and willing to use technology such as phones as educational tools compared to their older counterparts. This understanding was also backed by Ellen and Storey (2000) and Vadakkemulanjanal et al. (2021), who, in their respective studies, noted a significant negative relationship between age and technology use in educational settings.

Similarly, the area of knowledge also influences technology use. A study by Taimalu and Luik (2019) identified that educators' perspectives about the value of technology affect its integration into education. This is further supported by Mercader and Gairín (2020), who in their study noted that arts and humanities educators face more barriers to digital technology use than those in social sciences, such as economics and sociology.

Accordingly, as AI-based technologies become more integrated into future classrooms, it is essential to equip educators with the knowledge, skills, and attitudes needed to use this technology effectively as this is crucial for preventing rejection and frustration regarding these resources (Galindo-Domínguez et al., 2024). Accordingly, various types of training can facilitate this integration, focusing on both technical competencies and pedagogical approaches. In this regard, technical training for educators is critical as educators need hands-on experience with GenAI tools to understand their functionalities. Such technical training should focus on how to operate AI software and also how to analyse data generated by these systems. This is also confirmed by Luckin et al. (2016), who opine that effective AI integration requires educators to engage with the technology actively, enabling them to harness its full potential in the classroom.

Furthermore, pedagogical training for educators is equally important as educators must learn how to incorporate GenAI into their existing curricula in a meaningful manner. In this regard, professional development programs should focus on and promote AI-enhanced learning experiences that encourage student engagement and achievement. A study by McLaughlin and Talbert (2016) highlighted the importance of aligning technology with pedagogical goals to ensure that GenAI tools complement, rather than replace, traditional teaching methods.

Additionally, a supportive environment aimed at enhancing educators' confidence and competence in AI integration and use can be beneficial and facilitated by collaborative learning opportunities, such as professional learning communities where educators can share experiences, challenges, and successes related to AI (Hirsch & Emerick, 2007). However, such methods are ineffective unless educators are given access to ongoing support and resources such as creating workshops, online courses, or mentoring programs. The reason for this is that as AI technologies evolve, educators need access to continuous

professional development opportunities that keep them updated on new tools and best practices (Davis et al., 2020).

Such an approach is increasingly important in view of GenAI potential to enable personalised learning experiences by adapting content to meet individual student needs, thereby fostering greater engagement (Luckin et al., 2016), as well as enabling educators to leverage AI tools to provide real-time feedback to students, allowing educators to adjust instruction dynamically (Zawacki-Richter O. et al., 2019). These innovations encourage a shift from traditional, educator-centred approaches to more student-centred methodologies that promote active learning and critical thinking.

Students' Perspectives and Engagement with Generative AI

Investigating students' acceptance of GenAI tools in educational setups has become increasingly important, as GenAI becomes ever more widespread in learning environments. Research indicates that students' perception and acceptance of GenAI tools are influenced by multiple factors, such as their perceived usefulness, ease of use, and the relevance of GenAI tools to achieve and reach their academic goals and aspirations (Tarhini et al., 2015). GenAI applications that support writing or research are often viewed positively by students, who find such tools beneficial in improving their academic performance by enhancing their efficiency, allowing them to understand complex academic concepts and providing them with relevant study materials (Jowarder, 2023). Similarly, Söğüt (2024) found that students who used GenAI tools to assist with their writing frequently claimed that such tools helped them overcome writer's block, suggesting that the GenAI tools' functional and practical advantages directly influence their engagement with such GenAI technologies.

Trust in AI also plays a substantial role in student acceptance. Studies on AI in educational settings suggest that students are more likely to accept AI tools when they

perceive them as high-performing, trustworthy and accurate (Zhang et al., 2021). This trust is often built over time as students witness AI's reliability and accuracy in performing specific tasks (Nindya & Taufiqullah, 2024). Also, a study by Dai et al. (2020) held that GenAI acceptance increased when students felt that they could control how they interacted with GenAI tools (Huang et al., 2020). In contrast, students express reluctance toward GenAI tools that they perceive as intrusive, or as compromising their privacy. According to a study by Irfan et al. (2023), students' concerns about their privacy associated with the use of GenAI tools limits their willingness to adopt such tools, despite recognising their potential benefits.

A significant factor promoting student engagement with GenAI tools is the sense of personalised support that these technologies can potentially provide. GenAI tools, such as ChatGPT, have the ability to adapt to individual students' learning needs and offer tailored recommendations. In this regard, studies by González-Rico and Lluch Sintes (2024) and Hashim et. al (2022) held that students using GenAI tools felt that their learning experience was more individualised, which in turn enabled them to focus on their specific weaknesses.

The impact of GenAI on student learning outcomes is widespread, ranging from cognitive to social elements. From a cognitive perspective, AI can serve as a powerful tool providing students with targeted support to enable them to address challenging academic tasks, thus improving their critical thinking and problem-solving skills. In this regard, a study by Florido and Hernández-Leo (2024) found that students who engaged with AI-driven tutoring systems showed improvement in problem-solving skills.

Similarly, GenAI tools that support collaboration have been identified as potentially important tools to positively affect students' collaboration skills. In this regard, a study by Mena-Guacas et al. (2023) held that students using AI tools for group work reported a higher level of engagement with their peers and educators, as AI facilitated better and more effective

communication, as well as encouraged students to experiment with their ideas in a non-judgmental environment, thereby fostering collaboration and creativity.

Emotionally, GenAI can also play a supportive role in reducing academic stress. In this regard, a study by Eldon (2023) confirms such understanding, as it was found that by providing immediate feedback and reducing the pressure to perform, GenAI allows students to engage with learning material at their own pace, together with providing them with continuous feedback, allowing students to make progressive improvements. This emotional support is salient in helping students build resilience and confidence in their academic abilities.

GenAI has the potential to significantly enhance students' ability to self-regulate their learning, thereby increasing their autonomy (Hauske & Bendel, 2024). GenAI tools offer resources that allow students to set goals, monitor progress, and adjust their learning strategies independently (Kohnke, 2024). This self-regulated learning capability is facilitated by AI's ability to provide real-time feedback and adaptive content, which students can in turn use to gauge their understanding of a particular matter and subject, and concurrently identify areas that require improvement (Hauske & Bendel, 2024). Accordingly, it can be stated that AI-driven learning platforms are important tools in academia as they have the potential to assess students' prior knowledge and suggest learning patterns that align with their skill level and learning goals, thereby allowing students to undertake a learning path that is most suited to their own pace (Sahu, 2024). According to a study by Kohnke (2024), students who utilised AI platforms reported an increased sense of control over their learning process. This aligns with the understanding that when students are able to set personalised goals and make decisions on what they perceive to be their most appropriate learning strategies, they tend to be more motivated and successful (Sahu, 2024).

Research by Leon (2024) and Ojeda-Ramirez et al. (2023) indicates that AI tools offering metacognitive guidance positively influence students' reflective skills, making them more conscious of their learning processes and more capable of making necessary adjustments to these processes. However, a noteworthy limitation is students' potential to become overly reliant on AI tools, which in turn can possibly challenge and limit their ability to engage in independent problem-solving (Klingbeil et al., 2024).

While GenAI has significant potential for improving educational outcomes, it also raises significant concerns regarding equity and access, particularly related to students' disparity in access to AI-driven learning tools. Educational inequities are often augmented by disparities in access to technology, particularly as students from lower socioeconomic backgrounds may lack reliable access to the internet or the devices required to benefit from AI tools (Kormos & Wisdom, 2021). Kormos and Wisdom (2021) opine that while AI-powered educational tools can improve learning outcomes for students, their benefits are unevenly distributed, with students from under-resourced educational institutions being less likely to benefit and have access to these advantages.

The digital disparity is restrictive not only in relation to device availability, but also in students' ability to effectively use AI technologies (Mannuru et al., 2023). In this regard, even when access to AI technology is granted, students who lack digital literacy skills may find such AI-powered tools challenging, thereby hindering their engagement and potential learning benefits (Sayo, 2024). Research shows that students who have had previous experience with technology are more likely to benefit from GenAI, as they are better equipped to understand how to utilise these tools effectively (Timotheou et al., 2023). This is echoed by studies by Sayo (2024) and Tsz Kit Ng et al. (2022) that found that students with high digital literacy levels adapted more quickly to AI-powered learning environments and in turn were able to obtain more substantial benefits.

In addition to socioeconomic barriers, GenAI may also result in the introduction of biases that negatively impact certain groups. As AI-powered tools rely on large datasets to gathered data, they may inadvertently reinforce existing biases, leading to inaccurate feedback for minority students (Bhavana et al., 2024). This bias can create disparities in how students from different backgrounds experience and benefit from AI tools.

Concluding Remarks

GenAI is reshaping AI in education by introducing transformative possibilities alongside critical challenges that require thorough examination. This literature review has explored the role of GenAI in education, its alignment with key theoretical frameworks (including constructivism, behaviourism, and connectivism), its ability to enhance personalised learning, and its ethical implications. While GenAI offers substantial benefits in supporting educators, streamlining administrative tasks, and fostering student engagement, its integration must be approached with caution to mitigate potential risks.

Empirical studies indicate that GenAI-powered tools, such as ChatGPT, can significantly enhance student learning experiences by providing adaptive feedback and personalised content. However, concerns surrounding academic integrity persist, particularly regarding the facilitation of cheating and plagiarism. The ability of GenAI to generate human-like responses raises questions about its impact on students' critical thinking and problem-solving skills, as well as the role of educators in assessing genuine academic performance. Furthermore, disparities in digital literacy and access to AI-driven learning tools risk exacerbating existing educational inequalities.

Ethical considerations, including bias, fairness, and data privacy, reinforce the need for robust governance frameworks to ensure the responsible use of AI in education. While GenAI has the potential to democratise education, its widespread adoption necessitates

ongoing research, policy development, and the implementation of best practices to uphold academic integrity. Moving forward, a collaborative approach involving policymakers, educators, and researchers is essential to maximising GenAI's benefits while minimising its risks, ensuring that it serves as a tool for enhancement rather than a means of academic misconduct.

Methodology

Introduction

This chapter outlines the methodological approach employed to investigate the experiences, perspectives, and attitudes of students and educators towards ethics and integrity in the use of GenAI in education. The study aims to address the following research questions:

- Research Question 1: To what extent do students and educators use Generative Artificial Intelligence in their education journey, and how do they experience it?
- Research Question 2: To what extent do students and educators perceive the use of Generative Artificial Intelligence in education as a form of cheating, and what are the potential consequences of such a classification on academic integrity?
- Research Question 3: What are the ethical considerations and concerns that emerge from the integration of Generative Artificial Intelligence technology in educational environments, and how do these considerations vary between educators and students?

Thematic analysis was chosen to identify and interpret patterns in the data (Braun & Clarke, 2006; 2021). This method allows for an in-depth exploration of participants' perspectives while maintaining their anonymity (Clarke & Braun, 2017). It provides a structured way to examine recurring themes, ensuring a thorough understanding of their experiences (Riger & Sigurvinsdottir, 2016). This study also considers the evolving nature of AI technology and its potential future implications on educational ethics, ensuring a forward-looking approach to the research. The chapter will detail the research philosophy and approach, the qualitative research design, the data collection process including participant selection and ethical considerations, the data analysis procedure, and finally address trustworthiness and rigor, ethical considerations, limitations, and a concluding summary.

Research Philosophy and Approach

This study adopted a qualitative research approach due to its ability to deeply explore how individuals interpret and make sense of their experiences (Braun & Clarke, 2006). Qualitative research is particularly effective in investigating complex and context-dependent phenomena (Hong & Cross Francis, 2020), such as the ethical challenges faced by students and educators when engaging with GenAI in educational environments. By focusing on personal perspectives, this approach allows for a nuanced understanding of the participants' lived experiences (Clarke & Braun, 2017; Jason & Glenwick, 2017). Understanding the *how* and *what* of these experiences was central to addressing the research questions (Yadav, 2022).

The epistemological stance of this research is founded in interpretivism, meaning that knowledge is not objective but is shaped by social interactions and experiences (Alharahsheh & Pius, 2020). Interpretivism is appropriate for this study as it aligns with the goal of uncovering the personal meanings that individuals attach to their interactions with AI. It emphasises the importance of context, recognising that knowledge is shaped by the individual's background, experiences, and social interactions. For this reason, the study focuses on exploring the ethical implications of AI from the unique viewpoints of students and educators.

This study uses an inductive approach, meaning it did not start with a fixed idea or hypothesis (Boyatzis, 1998). Instead, it identifies patterns and themes that naturally emerge from the data. This approach is well-suited to qualitative research, as it focuses on understanding people's real experiences rather than testing existing ideas. By doing this, the study remained open to new insights from participants as they shared their thoughts, concerns and interpretations of AI in education.

This study adopts a qualitative methodological stance. This approach is well-suited to exploring the ethical dimensions of AI integration in education, as it allows for a deeper understanding of how participants view and respond to AI technologies. Thematic analysis was employed to identify recurring patterns within the data, facilitating a comprehensive exploration of the ethical concerns raised by participants (Braun & Clarke, 2006). Additionally, a phenomenological perspective was incorporated to ensure that the lived experiences of students and educators are captured in detail. This combination of thematic analysis and phenomenology allows for an in-depth understanding of the ethical challenges surrounding AI in educational contexts (Braun et al., 2019).

Accordingly, this study employs a qualitative, inductive approach grounded in interpretivism to ensure a rich, detailed exploration of the ethical implications of AI in education. By focusing on participants' personal experiences (Alharahsheh & Pius, 2020), the research aims to provide insights that are both context-specific and deeply human, offering a comprehensive understanding of this evolving issue.

Research Design

To implement the methodological approach outlined in the previous chapter, this study was designed using a qualitative framework that emphasised rich, in-depth engagement with participants. The research design prioritised flexibility in data collection and analysis to accommodate the complex and evolving nature of ethical concerns surrounding GenAI in education. Rather than starting from predefined categories, the design allowed for open-ended inquiry, enabling participants to articulate their experiences and views in their own terms. This structure was particularly important for capturing the nuances of how students and educators perceive and respond to AI's ethical implications within educational contexts. The core method used for data analysis was thematic analysis, a widely employed approach for identifying, analysing, and reporting patterns (themes) within qualitative data (Braun &

Clarke, 2006). Thematic analysis enables researchers to examine underlying meanings in participants' responses, helping to identify recurring patterns of thought and behaviour that shed light on their ethical concerns regarding AI in education (Braun & Clarke, 2021). This method is ideal for examining both expected and emergent themes (Clarke & Braun, 2017), providing a comprehensive understanding of the diverse ethical perspectives that students and educators hold.

Thematic analysis was chosen over other qualitative methods due to its alignment with the research aims. While content analysis focuses on categorising and quantifying data and discourse analysis emphasises the role of language and power, thematic analysis allows for a deeper exploration of participants' lived experiences and perceptions (Jason & Glenwick, 2017). Unlike phenomenology, which seeks to understand the essence of individual experiences, thematic analysis offers a more flexible approach that is well-suited to identify broader patterns across diverse participants' experiences (Clarke & Braun, 2017). This flexibility is crucial for understanding both common and divergent ethical concerns about AI in education. Moreover, thematic analysis is well-suited to analysing large volumes of qualitative data, providing a structured process for identifying themes across various responses (Clarke & Braun, 2017).

An inductive approach to data analysis was utilised, where codes and themes were developed directly from the data rather than based on predefined categories. This approach ensures that the findings remained grounded in the participants' actual experiences rather than being influenced by the researcher's pre-existing assumptions. The process of thematic analysis follows several stages, including data familiarisation, code generation, theme identification, and final reporting (Braun & Clarke, 2006). These stages ensure a rigorous and systematic analysis of the data, with codes and themes emerging organically from the participants' responses.

The research also incorporates a comparative analysis approach to examine variations in experiences between students and educators. This helped to identify how these two groups perceived the ethical implications of AI in education differently, based on factors such as role, experience, and expertise. By comparing the perspectives of students and educators, the study offers insights into common ethical concerns and those that were more relevant to one group over the other. This comparative analysis enriches the study by providing a more nuanced understanding of how GenAI was perceived within the educational context, allowing for a broader exploration of how these ethical issues might be addressed in practice.

Thematic analysis was especially advantageous for this study because it allows for the identification of both anticipated and unexpected themes. Given the rapidly evolving nature of AI technologies and the diversity of opinions on their ethical implications, it was crucial to adopt a method that could capture the complexities of participants' views. Thematic analysis enabled the identification of subtle differences in how participants conceptualised AI's ethical challenges, whether in terms of privacy, fairness, bias, or accountability. This method also facilitated an understanding of how these ethical concerns manifested across different educational settings, making it a robust tool for investigating the broader social implications of AI.

In summary, the qualitative research design, combined with thematic analysis, provided a comprehensive framework for examining the ethical implications of GenAI in education. By adopting an inductive approach to coding and utilising comparative analysis between student and educator perspectives, this study uncovers key ethical concerns and offered valuable insights into the challenges and opportunities presented by AI in educational contexts. The flexibility and depth of thematic analysis ensure that the findings reflect the complexity of participants' experiences and contribute to the broader discourse on AI ethics in education (Braun et al., 2019).

Data Collection

Participants and Sampling

The study's target population comprises educators and students in middle and secondary schools, as well as Heads of Department. A purposive sampling strategy was employed to select participants. Purposive sampling was deemed appropriate as it allowed for the selection of participants who could provide rich and relevant insights into the research topic (Robinson, 2024). Maximum variation sampling was used to ensure the inclusion of diverse perspectives from different educational roles and experiences (Forero et al., 2018; Patton, 2002). The inclusion of diverse backgrounds aimed to provide a more comprehensive understanding of the ethical concerns surrounding AI usage.

A sample of four educators, six students, and one HOD was selected. All educators taught in middle or secondary schools, while the HOD held a leadership role. Students were enrolled in middle or secondary schools. Age, sex, and sector were not considered criteria for selection. This sample size was determined based on the principle of data saturation, aiming to reach a point where no new relevant information emerged during data collection (Weller et al., 2018), as well as logistical considerations such as time, resources, and access to participants.

Recruitment of participants was conducted via social media platforms, including Facebook groups such as Etika.mt. Recruitment posts were designed to be neutral and unbiased, avoiding any language or imagery that could be perceived as exclusionary. Interested individuals were invited to participate on a first-come, first-served basis. For students, parental or guardian consent was required before participation. Participants who expressed interest received further information, including consent forms. Once consent was obtained, convenient online interview dates were scheduled. Each participant engaged in a

one-on-one interview via Zoom, lasting approximately 30 minutes. To ensure data diversity, the researcher made efforts to include participants with varying levels of exposure to GenAI, capturing insights from both frequent and infrequent users.

Data Collection Methods

Semi-structured interviews were conducted to collect data for this study. This approach offered flexibility while keeping discussions aligned with the study's goals (Naeem et al., 2023). Using thematic analysis and semi-structured interviews, participants were able to share their views openly. Their insights were explored in depth (Pietkiewicz & Smith, 2012). This method encouraged a holistic understanding (Giorgi & Giorgi, 2003; Brooks & Wearden, 2006). Interviews were deemed most appropriate for this study as the research required participants to share their unique perspectives on the research topic, which in turn enabled the researcher to dissect the data and extract meaningful conclusions (Coe, 2017).

The semi-structured interviews provided an opportunity to gain insight into the personal and contextual cues that might have been missed in quantitative methods. Accordingly, by engaging in one-on-one conversations during this study, the researcher sought to establish rapport, allowing interviewees to express themselves freely, thereby ensuring a more authentic and personal narrative of their experiences (Höglund & Öberg, 2011). Additionally, interviews facilitated the exploration of diverse viewpoints within the research sample (Bolier et al., 2013). Hence, through targeted questioning and follow-up probes, the researcher uncovered an array of perspectives, contributing to a more holistic and broad analysis of the research topic (Ritchie & Lewis, 2023). Interviews offered flexibility in adapting to developing insights. Unlike structured surveys, interviews allowed for the exploration of unexpected themes or issues that arose during the research process. This adaptability enhanced the study's responsiveness to the dynamic nature of the research

context (Qu & Dumay, 2011). Also, in-depth interviews were tailored to be culturally sensitive and inclusive. The researcher was therefore able to adjust the interview structure and questions to accommodate the cultural backgrounds and communication preferences of the interviewees, enabling a more inclusive and respectful research environment (Höglund & Öberg, 2011).

The interview guide included questions such as:

1. How would you describe your experience with the use of Generative AI in education?
2. What are your general attitudes towards the integration of Generative AI in educational settings?
3. In your opinion, what ethical considerations should be taken into account when using Generative AI in educational contexts?
4. How do you perceive the transparency and accountability of Generative AI systems in educational settings?
5. Can you share any experiences or observations regarding how Generative AI has impacted teaching or learning in educational environments?
6. From a student's perspective, how do you think the use of Generative AI in education influences the learning experience?
7. As an educator, what challenges and opportunities do you see in integrating Generative AI into your teaching practices?
8. Do you feel adequately prepared or trained to use Generative AI in your educational role? If not, what additional training or support do you think is necessary?
9. What recommendations or improvements would you propose to enhance the ethical and effective use of Generative AI in education?

These questions were aimed at gathering comprehensive insights from both students and educators. These questions covered various aspects, beginning with participants' backgrounds and initial experiences with GenAI in education, followed by queries into their attitudes and perspectives towards its integration and the ethical considerations surrounding its use. Transparency and accountability of GenAI systems were also addressed in the questions, alongside reflections on their impact on teaching and learning. Specific questions were tailored to students' experiences and educators' perspectives, including challenges, opportunities, and the need for training and professional development. Additionally, participants were invited to propose recommendations for enhancing the ethical and effective utilisation of GenAI in educational settings. These questions, developed in collaboration with a supervisor and refined systematically, guided open-ended semi-structured interviews, ensuring a thorough exploration of the study. Adhering to ethical standards, interviews, which lasted approximately 30 minutes, were audio recorded with participants' consent. Verbatim transcription of the interviews was carried out, followed by pseudonymisation of the data to ensure participant confidentiality (Pietkiewicz & Smith, 2012).

Data Analysis

Following the completion of data collection, the researcher employed thematic analysis as the primary method for analysing qualitative data. Thematic analysis is a widely recognised qualitative research method that enables the systematic identification, analysis, and interpretation of recurring themes and patterns within the dataset (Braun & Clarke, 2006). This approach is particularly suited to this study as it allows for an in-depth exploration of participants' experiences, perspectives, and attitudes toward the ethical dimensions of GenAI in education (Braun et al., 2019).

Transcription and Initial Data Familiarisation

The data analysis process commenced with the verbatim transcription of all interview recordings. This step was crucial to ensure that every detail of participants' responses was accurately captured, preserving nuances such as pauses, hesitations, and emphases that may carry meaning. Where interviews included responses in Maltese, these were translated into English by the researcher to maintain consistency. The researcher then engaged in data familiarisation, which involved reading and re-reading the transcripts multiple times to gain a deep understanding of the content (Braun & Clarke, 2006). During this stage, preliminary notes were taken to highlight initial impressions, recurring ideas, and notable phrases that could contribute to the later coding process.

Coding Process

Once data familiarisation was complete, the researcher developed an initial coding framework using an inductive approach (Braun et al., 2019). This means that rather than applying predefined categories, the researcher allowed themes to emerge naturally from the data (Boyatzis, 1998). Codes were assigned to segments of text that capture meaningful aspects related to the research questions (Baugh et al., 2010; Neuendorf, 2018). To ensure systematic analysis, NVivo software was used to facilitate the organisation and management of the coding process. NVivo allowed for efficient handling of large qualitative datasets by enabling the researcher to tag, sort, and retrieve coded data efficiently.

Each transcript was carefully examined to identify key phrases, sentences, or passages that correspond to particular concepts or patterns (Baugh et al., 2010). These segments were labelled with brief, descriptive codes that summarise their content. Coding was done concurrently across all transcripts, rather than focusing on individual participants separately,

to allow for a broader identification of shared themes across different participants (Baugh et al., 2010).

To ensure the reliability and consistency of coding, the researcher periodically revisited previously coded transcripts to check for coherence and uniformity.

Theme Identification and Refinement

Following initial coding, the researcher began the process of theme generation, where related codes were grouped into broader preliminary themes and sub-themes. Themes represented patterns that were significant in relation to the research questions and provided insight into participants' experiences and perspectives (Vaismoradi et al., 2016).

The themes were refined through a continuous process, meaning that the researcher continuously reassessed and adjusted the themes based on further data analysis. Thematic analysis is inherently flexible (Braun et al., 2019), allowing the researcher to compare and contrast emerging themes across different participants. During this phase, some themes were merged, refined, or eliminated based on their relevance and significance within the dataset.

The following criteria were used to assess the coherence and validity of the identified themes:

- Internal homogeneity: Ensuring that all data within a theme were meaningfully related (Heisig, 2018).
- External heterogeneity: Ensuring that each theme was distinct and did not overlap significantly with others (Javadi & Zarea, 2016).
- Relevance to research questions: Ensuring that themes directly contributed to answering the core study questions (Alharahsheh & Pius, 2020).

At this stage, the researcher engaged in peer discussions with her supervisor to further refine and validate the themes. These discussions helped critically assess whether the thematic structure accurately represented the dataset and whether any important aspects had been overlooked.

Research Questions and Thematic Analysis Alignment

The study's research questions served as a guiding framework throughout the thematic analysis process. The key questions explored in this study were:

- To what extent do students and educators use GenAI in their education journey, and how do they experience it?
 - Thematic analysis focused on participants' descriptions of their engagement with GenAI, including their frequency of use, specific applications, and perceptions of its effectiveness.
- To what extent do students and educators perceive the use of GenAI in education as a form of cheating, and what are the potential consequences of such a classification on academic integrity?
 - The analysis sought to uncover diverse viewpoints on the ethical implications of AI-assisted learning, including concerns about plagiarism, originality, and fairness.
- What are the ethical considerations and concerns that emerge from the integration of GenAI technology in educational environments, and how do these considerations vary between educators and students?
 - The analysis compared the ethical perspectives of educators and students, identifying areas of agreement and divergence.

By aligning the thematic analysis with these research questions, the study ensured that its findings remained focused, relevant, and analytically rigorous (Braun et al., 2019).

Ensuring Trustworthiness and Credibility in Data Analysis

To maintain the credibility and rigor of the analysis, several strategies were employed (Jason & Glenwick, 2017):

- **Triangulation:** The researcher compared findings from different participant groups (students vs. educators) to identify consistencies and discrepancies in perspectives (Jason & Glenwick, 2017).
- **Reflexivity:** The researcher maintained a reflective journal to document personal assumptions and potential biases throughout the analytical process (Jason & Glenwick, 2017).
- **Thick Description:** Detailed narrative accounts of themes were provided, supported by direct participant quotes, to enhance the transparency and authenticity of the findings.

Final Presentation of Findings

The final step in the data analysis process involved compiling the research findings into a comprehensive thematic report. Each identified theme is accompanied by a narrative description that explains its significance, supported by exemplary quotes from participants to provide contextual richness (Braun & Clarke, 2006). These quotes illustrate key points and enhanced the authenticity and reliability of the findings.

The results are presented in a structured manner, with each theme discussed in relation to the overarching research questions. The final analysis highlights key ethical concerns surrounding GenAI in education and provided nuanced insights into how students and educators perceive and navigate these issues.

By following this rigorous thematic analysis framework, the study ensures that its findings are systematic, credible, and meaningful, ultimately contributing valuable knowledge to the ongoing discourse on AI ethics in education (Braun et al., 2019).

Trustworthiness and Rigor

Ensuring trustworthiness and rigor is essential in qualitative research to enhance the credibility, reliability, and validity of findings. Scholars such as Amin et al. (2020), Dodgson (2019), and Rawhani (2023) emphasise four key criteria for maintaining qualitative research trustworthiness: credibility, transferability, dependability, and confirmability. These criteria help ensure that research findings accurately represent participants' experiences and maintain methodological integrity:

- *Credibility* - Credibility refers to the extent to which the study accurately captures participants' perspectives, ensuring that the findings are believable and meaningful (Tracy, 2010). To enhance credibility, this study employs semi-structured interviews with open-ended questions that allow participants to provide detailed and authentic responses.
- *Transferability* - Transferability concerns the extent to which the study's findings can be applied to other contexts or populations (Kuper et al., 2008). While qualitative research does not aim for broad generalisability, it seeks to provide rich, contextual insights (Polit & Beck, 2010) that may be applicable in similar educational contexts beyond the immediate focus on Maltese schools. To enhance transferability, the study offered:
 - A detailed rationale explaining the research relevance and its contribution to the broader discourse on GenAI in education.
 - A clear research design outlining the methodology, participant recruitment strategies, and data collection processes.

- Thick descriptions of participants' experiences, which provided detailed narratives and contextual factors to allow readers to assess the applicability of the findings to their own contexts.
- *Dependability* - Dependability refers to the consistency and reliability of the research process, ensuring that the study's methods could be replicated in future research (Jason & Glenwick, 2017). To support this, the study followed a clear and consistent procedure for conducting interviews and analysing data. A structured interview guide and a systematic coding process were applied across all transcripts to promote consistency in data collection and interpretation. Reflexivity was incorporated through reflective journaling, allowing the researcher to critically assess their assumptions and biases throughout the study (Jason & Glenwick, 2017).
- *Confirmability* - Confirmability ensures that the findings reflected participants' experiences rather than the researcher's biases. This is particularly important in qualitative research, where data interpretation is influenced by the researcher's perspective (Jason & Glenwick, 2017). To uphold confirmability, an objective approach was maintained by prioritising participants' voices in the analysis. Direct quotations from participants illustrated key themes and ensured transparency in how conclusions were drawn. Additionally, triangulation was employed by comparing insights across different data sources, such as responses from students and educators, to identify consistent patterns (Jason & Glenwick, 2017).

By adhering to these principles, this study ensured methodological rigor and enhanced the credibility, transferability, dependability, and confirmability of its findings. These measures contribute to the overall trustworthiness of the study, ensuring that the insights generated provided a reliable understanding of the ethical dimensions of GenAI in education.

Ethical Considerations

The research proposal and materials, including participant invitations, consent forms, advertisements, and interview questions, were reviewed and approved by the Faculty of Education Research Ethics Committee. This approval ensured compliance with institutional ethical guidelines and principles of beneficence, respect for persons, and justice. Upon ethics clearance, participant recruitment began, posting advertisements in relevant social media groups. Educators and students were recruited via Facebook advertisements, for students, parental consent was sought before student participation.

Written informed consent was obtained from all participants, ensuring they understood the study's purpose, procedures, risks, and benefits (Jason & Glenwick, 2017). Once approval was granted, the researcher proceeded with participant identification, recruitment, informed consent acquisition, scheduling, and conducting interviews. Over the next three weeks, semi-structured interviews were conducted until data saturation was reached. Each interview lasted approximately 30 minutes, conducted online and audio-recorded with participants' consent for accurate data collection. The collected data was transcribed verbatim to ensure accuracy (Willig & Stainton Rogers, 2017).

To protect confidentiality, pseudonyms were used to replace participants' names in transcriptions (Willig & Stainton Rogers, 2017). A coding system linked personal details to data, ensuring secure and separate storage. This method aligned with best practices in qualitative research (Pietkiewicz & Smith, 2012). A realist perspective was adopted to consider the influence of broader social contexts (McEvoy, 2003). Participants could withdraw at any time without consequences.

Data security was maintained by storing digital data in a password-protected Google Drive account under the University of Malta domain, accessible only to the researcher and

supervisor. All data complied with GDPR standards to ensure confidentiality. Research data shall be retained for three years from date of submission of this study with the University of Malta, after which it shall be securely disposed of.

These ethical considerations ensure a responsible and transparent approach to researching participants' perspectives on the ethical dimensions of GenAI in education, upholding participant rights throughout the study.

Conclusion

This chapter outlined the methodological approach employed to explore the experiences, perspectives, and ethical considerations surrounding GenAI in education. A qualitative research design, incorporating semi-structured interviews and thematic analysis, was selected to provide an in-depth understanding of participants' viewpoints (Braun et al., 2019). Grounded in interpretivism, this approach acknowledged that ethical concerns related to AI were shaped by personal experiences, institutional contexts, and broader societal attitudes. By focusing on how students and educators constructed meaning around AI in education, this methodology ensured a nuanced and contextually rich analysis (Terry et al., 2017).

To uphold rigor and trustworthiness, key measures were implemented, including credibility, transferability, dependability, and confirmability (Jason & Glenwick, 2017). Ethical integrity was maintained through informed consent, voluntary participation, and strict confidentiality protocols (Jason & Glenwick, 2017). These methodological choices enhanced the study's reliability, ensuring that findings were ethically sound and analytically robust.

While qualitative research inherently involved subjectivity in interpretation and potential biases in participant responses, methodological safeguards such as reflexivity, triangulation of themes, and transparent documentation of analytical processes, helped

mitigate these challenges (Jason & Glenwick, 2017). Despite these limitations, the approach provided valuable insights that quantitative methods alone may not capture, particularly in exploring ethical decision-making in AI adoption.

The findings generated through this methodology contributed to ongoing discourse on AI ethics in education, offering insights relevant to policy development, curriculum design, and best practices for both educators and students. The next chapter presents and analyses these findings, drawing on the perspectives gathered through this research to deepen our understanding of how AI is reshaping ethical considerations in educational contexts.

Research Findings

Introduction

This chapter presents the findings derived from thematic analysis of interviews conducted with secondary school students, educators, and a HOD regarding the use of AI in education. Various themes emerged through an inductive coding, which reflect four key areas where participant views converged, namely: (1) Responsible vs. Misuse/Integration of AI, (2) Ethical Guidance and AI Education, (3) Fairness, Access, and Equity, and (4) Future Orientation of AI in Education. Each theme compares perspectives from students and educators, including the HOD. Direct verbatim quotes, which have been anonymised, have been included.

Several tables are included to ensure transparency in the thematic analysis process and to illustrate the progression from the interview data to the aforementioned themes. These tables present the coding and thematic patterns identified in the responses of both students and educators.

Table 1 outlines the codes generated from student interviews, accompanied by brief descriptions and illustrative quotes reflecting their lived experiences with AI in educational contexts.

Table 1*Codes from Student Interviews on AI in Education*

Code	Description	Sample Quotes from Students
Essay Generation	Using AI (e.g., ChatGPT) to write essays or homework.	“For like... if I am doing an essay, I use it, I ask it to give me a plan for the essay like I ask it to give me some points.”
Feedback Utility	Getting immediate feedback from AI tools.	“Sometimes I’ll use it for like English poems to give me like a summary on this poem”
Over-reliance on AI	Using AI instead of trying to learn or solve independently.	“I like [to] put in the PDF of my biology notes and it gives me a summary of some of the topics as notes”
Awareness of Misuse	Recognition that AI use can be academically dishonest.	“it’s cheating but I think it’s helpful. It helps you. And it saves you time.”

Code	Description	Sample Quotes from Students
Access to AI technology	Agreement on the role of AI tools or devices to facilitate learning.	“You can get a library card and what’s on ChatGPT, you could learn from books as well.”
Confusion Over Rules	Unclear or inconsistent rules on when AI is allowed.	“They never told us... but they never really told us about it. It’s kind of like an unspoken rule.”

Table 2 presents the themes identified from student data, showing how related codes were grouped to capture broader patterns in students’ perspectives.

Table 2

Themes Identified from Student Data

Theme	Sub-Themes / Codes	Summary Description
Enhancing Efficiency and Personalisation	- Fast essay writing - On-demand feedback - Personalised learning support	Students find AI convenient and useful for understanding topics, drafting work, and getting immediate help.

Theme	Sub-Themes / Codes	Summary Description
Ethical and Academic Integrity Challenges	- Using AI to complete assignments - Bypassing effort - Awareness of misuse	Some students openly use AI to avoid effort; others know it's dishonest but feel pressured to keep up with the work.
Concerns About the Accuracy of AI-Generated Content	- Doubts About Factual Reliability	Students express uncertainty about whether AI tools provide accurate or trustworthy information, leading to caution in using them for academic work.
Institutional Ambiguity and Lack of Guidance	- No clear rules on using AI - Mixed messages from educators	Students are confused about when and what use of AI is allowed, with different expectations from different educators.

Table 3 provides the codes from educator interviews, as supported by descriptions and illustrative quotes reflecting their lived experiences with AI in educational contexts.

Table 3*Codes from Educator Interviews on AI in Education*

Code	Description	Sample Quotes from Educators
Lesson Planning Support	AI helps prepare materials more efficiently.	“ChatGPT helps me write lesson plans faster.”
Assessment Challenges	Difficulty evaluating AI-assisted or generated work.	“I can’t tell anymore if students actually wrote it themselves.”
AI Misuse Detection	Concern about detecting plagiarism or AI-written content.	“Some essays are too perfect, you just know it’s AI, but you can’t prove it.”
Adapting Teaching Methods	Needing to adjust pedagogy to incorporate AI.	“I used translation and my voice for his language - so this student is Egyptian - he understands very little Maltese; English, it was very hard... erm, and for him to understand the lesson I was using my voice in English and it was transcribing for him to read so he could understand what was going on in the lesson.”

Code	Description	Sample Quotes from Educators
Fear of giving false information	Concern that AI might invent information or hallucinate.	“I am afraid that it will give me false information even when I want to reference my work, for example. That makes it mistrustful, and I don’t think it should be given to the students. Because I will then give them false information”
Lack of Institutional Support	No clear guidance or training from leadership.	“We’re just figuring it out as we go...there’s no policy, no direction.”

Table 4 presents the themes emerging from educators’ data, highlighting how related codes were grouped to capture broader patterns in students’ perspectives.

Table 4

Themes Identified from Educator Data

Theme	Sub-Themes / Codes	Summary Description
Enhancing Efficiency and Personalisation	- Saves time on lesson planning - Potential for supporting diverse students	Educators noted that AI helps reduce workload and has promise for differentiated instruction.

Theme	Sub-Themes / Codes	Summary Description
Ethical and Academic Integrity Challenges	- AI-generated student work - Difficulty identifying plagiarism	Educators are concerned that students submit AI-written work and find it hard to detect or penalise.
Concerns About the Accuracy of AI-Generated Content	- Difficulties in verifying the authenticity, correctness and reliability of AI generated content.	Educators are concerned about students relying on AI-generated content that may be incorrect or misleading, complicating assessment and feedback.
Institutional Ambiguity and Lack of Guidance	- No training on AI tools - Lack of school-wide policy	There is a lack of formal guidance or training, leaving educators to figure out AI integration on their own.

Table 5 presents the overarching themes identified across student and educator interviews, highlighting both shared perspectives and key differences in their experiences and views on AI in education.

Table 5*Overarching Themes Across Student and Educator Interviews*

Theme	Key Findings	Participants
Responsible vs. Misuse/Integration	AI acceptable for support but not for substitution; misuse leads to guilt or poor outcomes	Students, Educators
Ethical Guidance and AI Education	Both groups lack structured education; students want guidance; educators request training	Students, Educators
Fairness, Access, and Equity	Students divided on fairness; educators highlight socioeconomic inequality in AI access	Students, Educators
Future Orientation and Role of AI	AI seen as inevitable; both groups call for education and curricular change	Students, Educators

Whilst the tables, collectively, demonstrate the analytic rigor and traceability of the thematic process and provide insight into both student and educator perspectives across the thematic categories, Table 5 provides an in-depth comparison highlighting both converging

and diverging perspectives between the students and educators. The analysis of these similarities and differences enabled the identification of a set of overarching themes, as presented in Table 5. These themes exhibit the key insights across groups and form the basis of the results, and the analysis of said results in the following discussion section.

Theme 1: Responsible versus Misuse/Integration of AI in Learning

Both students and educators expressed support for the use of AI in education, provided it is used ethically. However, their understanding of what constitutes appropriate use of AI varied across groups.

Student Perspectives

Students generally viewed AI as a useful tool for brainstorming, note-taking, and summarising resources. Most students drew a clear boundary when it came to using AI for assignments, especially when it involved using AI to fully complete assignments that would be graded. Generally, such actions were seen as crossing an ethical line, making their actions closely linked with cheating or unfair behaviour. In this regard, there was near-universal agreement that copy-pasting AI output, especially in coursework such as School-Based Assessments (SBAs) constitutes academic dishonesty, with one student reporting feelings of guilt when over-relying on AI: “I feel bad sometimes if I just let ChatGPT write it for me” (Ana). Similarly, one student remarked “I feel like I don’t learn if I use it and if I’ll just copy like straight off it” (Emily). This sentiment captures a shared concern among students about their possible overreliance on AI, which ultimately hinders and impedes their learning and growth.

Educators’/HOD Perspectives

Educators were generally open to the use of AI, as long as it is used to support and enhance learning, and not replace it. All educators said that they used AI tools themselves for

professional tasks and encouraged students to engage and use it carefully in class and during their academic journey in school. An educator explained that “I tell them to use it smartly not just copy and paste from it” (Sarah). Another pointed out that students who misused AI typically underperformed and held that “those who rely on it blindly end up with the lowest marks” (Claire). One educator explicitly advised students to use AI to explore ideas, but not to generate and obtain full answers for their queries, as this will help them think critically rather than become over-reliant or overdependent on it:

I mean, I would like them to try to themselves first And then they can refer to ChatGPT to check their work and if it's wrong and the ChatGPT gives this right solution, they can understand where their problem lies or where they did the mistake. And I hope they don't rely too much on it that they go straight to ChatGPT. (Jessica)

Theme 2: Ethical Guidance and AI Education

Formal AI education and more precise ethical standards were strongly supported by all groups. They believed that more structured guidance was required in order to limit the misuse of AI and guarantee its responsible use in educational settings.

Student Perspectives

Students pointed out that even though they were cautioned against the misuse of AI by the educators, the educators' instructions on the acceptable use of AI were ambiguous or inconsistent. One student noted, “the educator only told us not to make it obvious” (Zack), while another said, “no one really explained how to use it fairly” (Olivia). The tools that educators provided to the students (such as AI videos) were often optional and not further discussed in class, and none of the students discussed the ethical usage of AI with their peers.

Educators'/HOD Perspectives

Educators openly acknowledged their own lack of formal training in the use of AI, with one participant stating that “we need training just like the students do” (Claire). Many suggested curriculum-based AI training and opportunities for professional development. There was concern that students were too trusting of AI results, with a participant stating that “it’s important someone teaches them, otherwise they’ll misuse it” (David). The HOD also described using questioning techniques to find out if students genuinely understood AI-generated material:

Ok, you may use AI. I don’t have control over what they do at home. However, make sure you understand what you are writing. Put it in your own words, and if I ask you about it, be prepared to answer. If you cannot explain something you wrote yourself, you will not receive any marks. (Thomas)

Theme 3: Fairness, Access and Equity

Although both groups focused on different issues related to the use of AI, each group expressed concerns about the equitable use of AI. While educators focused on assessment fairness, students emphasised the elements of access and digital literacy.

Student Perspectives

Most students agreed that using AI to complete formal assessments such as SBAs constitutes cheating. However, not everyone thought that unequal access to AI is unfair, with one student comparing AI access to the possibility of using any other optional resources: “like what you learn from ChatGPT, you can get a library card and what’s on ChatGPT, you could learn from books as well” (John). One student noted a generational divide, suggesting that older individuals, including educators, were more likely to view AI use as naturally unfair “For me,

yes, but... for other people, probably not. Like all the uh older people, Like for example, educators. They think that it's not fair, but I think it's fair" (Zack).

Educators'/HOD Perspectives

The educators elaborated on the consequences of unequal access, highlighting socioeconomic differences as key factors hindering students' access to devices or internet connection. "They cannot afford Wi-Fi, cannot afford a tablet, cannot afford the car, cannot afford this, cannot afford that" observed one educator (Claire). Another educator delved deeper into the ethical and fairness perspective of using AI and held:

If everyone has access to a computer yes absolutely. However, I mean, if a person generates content to submit for a task... It's not fair, obviously. Especially on a person, and I mean, if a person actually takes time to do the work but doesn't do well. And another person used AI. (David)

Theme 4: Future Orientation and the Role of AI in Education

The participants viewed AI as an unavoidable element in future education and advocated for a proactive response.

Student Perspectives

Students highlighted the need for structured AI education, arguing that simply banning or discouraging AI use was ineffective. In this regard, one student remarked that "then if they tell them they're not allowed [to use ChatGPT], they'll want to use it more" (Ana). Similarly, another student stressed that "we need to learn more about AI, not just be told not to use it" (Mark). Others expressed optimism, describing AI as integral to both education and future careers: "I think AI will be everywhere, it is the future, we can't avoid it." (John).

Educators'/HOD Perspectives

Educators agreed that education about AI, not prohibition is the solution. This sentiment was highlighted by Jessica, who opined:

You have to teach the children how to use it. It's a very important tool and if you give it like that to them, they might abuse it. The use of it might be excessive. So, I think we need to teach them how to use it correctly. (Jessica)

This sentiment was echoed by another educator, who questioned whether the educational system is approaching AI correctly, especially in view of its ever-increasing role and presence in society, and opined: "Are we teaching how to use it properly? Let's not fail the students by being in denial that AI is part of their future and their present" (Claire).

There was a mention of how ethical issues arising from GenAI should be handled:

As I said, if you want something not happening then you have to address it. So, I think the education [system], even the minister himself, must make plans with the people around him to administer it. I mean to tackle the issues well so that obviously they don't arise hux. Obviously, there are going to be issues that you don't think about that will eventually arise. So, every time you are made aware of such issues... (Jessica).

Relatedly, the HOD proposed adapting assessments such as in-class presentations to promote authentic student engagement and learning and opined "you can make a written assignment, but OK for example, and make a presentation in class. So, what you gave me, the paper, let's make it a presentation in class" (Thomas).

Conclusion

The thematic findings from interviews with secondary school students, educators, and an HOD regarding the use of AI in education were presented in this chapter. Four themes that

captured both common and differing opinions on ethical guidance, future readiness, equitable access, and responsible use were identified by inductive coding and thematic analysis. Tables helped track the evolution from raw data to in-depth theme analysis and guaranteed transparency in the analytical process. Overall, the results show broad agreement about the need for more precise guidelines, fair access, and organised instruction on AI, while also highlighting conflicts between student and educator support and uncertainty. These results are discussed in further detail in the following chapter.

Discussion

This chapter critically interprets the findings presented in the previous chapter in relation to the study's objectives and existing literature. The research set out to explore how GenAI is used and perceived by both students and educators in educational settings, with a focus on the ethical, practical, and pedagogical implications of its integration.

Specifically, the study aimed to answer the following research questions:

1. To what extent do students and educators use GenAI in their education journey, and how do they experience it?
2. To what extent do students and educators perceive the use of GenAI in education as a form of cheating, and what are the potential consequences of such a classification on academic integrity?
3. What are the ethical considerations and concerns that emerge from the integration of GenAI technology in educational environments, and how do these considerations vary between educators and students?

The thematic analysis revealed four central themes: (1) the responsible use versus misuse and integration of AI, (2) the role of ethical frameworks and the importance of AI-related education, (3) issues concerning fairness, accessibility, and equity, and (4) forward-looking perspectives on the role of AI in educational contexts. The findings of this study offer a rich and complex understanding of how students and educators perceive the integration of AI, specifically GenAI tools like ChatGPT, into the educational landscape. Both groups acknowledge the transformative potential of AI to reshape teaching and learning, but they also raise critical ethical, pedagogical, and equity-related concerns that demand careful attention and proactive solutions.

Theme 1: Responsible versus Misuse/Integration of AI in Learning

The analysis of student interviews shows that most people consider AI tools to be useful resources for improving and supplementing learning support. A key aspect of this is the use of AI for brainstorming and generation of ideas. This was a shared understanding amongst educators, wherein an educator explained that: “I use it to give me an idea, and in planning sometimes” (Claire), and the HOD held that: “It gives me a job [material] suitable for that [student] level. But I use it mostly to give me Rubric” (Thomas). This resonates with literature, which holds that GenAI can assist educators by allowing them to create draft versions of lesson plans and learning materials, which they can then further refine and personalise using their own abilities (Denny et al., 2022). Relatedly, GenAI’s ability to rapidly produce diverse suggestions and prompts can help students to explore more ideas than they might generate independently, stimulating their creativity and broadening their perspectives. This notion was highlighted during this study, wherein a student opined that AI: “might mention something that the teacher forgot to mention in class or it wasn’t in depth” (Olivia), and another student claimed that he uses AI to “give me ideas for writings and to explain stuff” (John). This purpose is consistent with the literature’s consideration of AI’s ability to stimulate, emulate, and even extend, aspects of human intelligence, as well as facilitate creative processing (Deng, 2018).

Furthermore, many students employ AI for notetaking and summarising complex information, a practice that can contribute to more efficient information processing and the development of study skills. This was evident in the study, wherein a student claimed that “I like put in the PDF of my biology notes and it gives me a summary of some of the topics as notes” (Ana). This understanding reflects literature which holds that AI tools can condense lengthy texts and extract key concepts, which can be particularly beneficial for students who struggle with information overload or who need support in identifying the most important

information, thereby seeking content that is brief, concise and easily understood (Genota, 2024). This aligns with literature which holds that working memory has a limited capacity, and when it is overloaded, learning can be impeded (Mayer, 2003). Accordingly, as suggested in literature, AI-assisted learning can help manage the intrinsic cognitive load by personalising the learning experience and presenting information in a more accessible and manageable format (Kalyuga & Liu, 2015). Hence, by simplifying complex information, AI can free up students' cognitive resources to engage in deeper learning processes.

However, a significant ethical dilemma emerges when considering AI in academic assignments. While students acknowledge and highlight AI's supportive role, there is a strong agreement that using AI to complete entire graded assignments such as SBAs, is ethically wrong. The study shows that students demonstrate a clear awareness of academic integrity, recognising that submitting AI-generated work as their own work, constitutes a form of cheating. This was clearly highlighted by students who stated that: "if you copy and paste it's cheating" (Mark), and "it gives you the answer, that's cheating" (Zack), and "I feel bad sometimes if I just let ChatGPT write it for me" (Ana). These statements exhibit an internal conflict among students, as whilst they are tempted by the efficiency and convenience of AI, they also struggle to cope with the ethical implications of its use, or possible misuse.

This aligns with the literature's concerns about AI-assisted cheating (Miller et al., 2017) and plagiarism, which pose a direct threat to the core values of academic honesty, validity of assessment (Sallam, 2023; Yu, 2023), and academic integrity (Bakar-Corez & Kocaman-Karoglu, 2023; Li et al., 2023). The ease with which AI can generate text and seemingly well-thought and researched-based output that is difficult to detect aggravates this issue (Choi et al., 2023; Livberber & Ayvaz, 2023; Sweeney, 2023). When referring to plagiarism checks carried out by educators, Ana held that "no I'm sure they don't test, and they can't always tell if you used AI". This limitation was echoed by educators, with David

holding that “I don’t manage to understand whether the person has used AI or not”. David then elaborates on this dilemma and holds:

And on what grounds am I going to say that I’m not sure that this content, or this essay was generated by AI? So, it’s a hazy, it’s a grey area to be honest. Fairness with AI is a grey area. And I don’t think it’s a clear-cut discussion, especially because once again, it’s a matter of honesty and cheating. (David)

Accordingly, such responses highlight the challenge of maintaining academic integrity in this GenAI education era.

The temptation for students to exploit GenAI models to bypass effort is a significant academic concern, with some students admitting to using AI to complete homework, as highlighted by Zack which opines that when using AI “it’s easier to do your homework”. This instrumental use of AI, driven by a desire to “save time”, as opined by Zack, contrasts sharply with the understanding that “AI use won’t help you to learn if [you] copied”, as observed by Ana, Emily and Olivia. This highlights a crucial distinction between using AI as a tool to enhance learning and using it as a shortcut to avoid critical thinking. As the literature review emphasises, the relevance of studying AI in education lies in evaluating its potential to “reshape and enhance the way we teach and learn” (Steele, 2023), not to undermine the learning process.

The internal conflict experienced by some students, with Ana and Emily expressing that they feel “guilty and bad sometimes” for using GenAI, highlights the complex dilemma surrounding the ethical use and integration of AI in academic practices and settings. In this regard, although students may be aware of the potential negative consequences of over-reliance on AI, the immediate benefits, such as reduced workload and improved grades, can act as a strong incentive for misuse and abuse of GenAI. This aligns with literature that

suggests that when students notice that academic cheating and dishonesty goes unpunished, they may start to view it as acceptable and become more likely to engage in similar unethical practices (O'Rourke et al., 2010).

Likewise, educators tend to agree on these concerns about the potential for misuse of GenAI. Whilst they acknowledge the potential benefits of AI as a supportive tool, they emphasise that its use is acceptable if used ethically. This notion was highlighted by Sarah, who opined that “I tell them to use it smartly not just copy and paste from it”, and the HOD, who opined that “they cannot give me the Copy and Paste [result]” (Thomas). In line with the literature’s demand for a balanced integration of AI that increases, rather than decreases, students’ cognitive engagement, the study emphasises how important it is for students to use AI to support learning, rather than replace it (Steele, 2023). Relatedly, educators express concern that “using AI irresponsibly leads to lower marks” (Claire), suggesting that students who rely almost entirely on AI may develop weaker critical thinking and problem-solving skills, ultimately hindering their academic performance. This notion was highlighted by Jessica, who opined that “if we become too dependent on it, the human being will ultimately lose the potential mind”, which ultimately supports the argument that while AI can provide assistance, it should not act as a substitute for active learning and intellectual effort. As the literature review points out, AI should function as a tool to improve human intellectual abilities and ability to generate meaningful and efficient results (Pavlik, 2023).

Interestingly, educators also report their own use of AI, thereby acknowledging its potential to enhance their professional practices and abilities. As a result, their own experiences with AI tools may affect how they view students’ usage of AI, leading to a more in-depth understanding of its advantages and disadvantages. For example, educators mentioned using AI for tasks such as “lesson planning” (Claire) and “generating notes for students” (Sarah), highlighting its potential to expedite administrative tasks and free up time

for more personalised and meaningful interaction with students. This is also echoed in literature which noted that GenAI enables educators to devote more time to teaching and other crucial academic duties (Bonde, 2024).

Furthermore, educators opined that they often attempt to guide students towards responsible AI use by providing “guidance on selective use” (David) and suggesting AI for “definitions and defining concepts” (Jessica) rather than providing complete solutions. This approach reflects an effort to integrate AI into the curriculum in a way that promotes learning while mitigating the risk of academic dishonesty. However, the inconsistency in these approaches, as will be discussed in Theme 2, presents its own challenges.

The findings of this theme highlight the necessity of an important shift in the way AI is incorporated into education. Institutions and educators must actively encourage ethical and responsible usage of AI tools rather than simply banning it. This calls for educational approaches that use AI to improve learning results while preserving fundamental skills, as well as clear instruction on academic integrity in the AI era. This also calls for a shift from a strictly punitive strategy to one that is more educational and focuses on developing a greater comprehension of the ethical implications of using AI.

Theme 2: Ethical Guidance and AI Education

The identification of an alarming absence of appropriate ethical guidance and formal AI education is a noteworthy and significant finding across both student and educator interviews. Students frequently comment that they are not given enough guidance on how to use AI tools in an ethical and responsible manner. According to many students, educators told them “don’t copy and paste” (Zack), but then “gave no guidance” (Emily), highlighting the gap between actively teaching appropriate use and simply forbidding use altogether. This lack of clear rules on using AI makes it difficult for students to understand what constitutes

appropriate use and what may lead to dishonesty. As the literature review notes, there is a need for a wider and more comprehensive approach to academic integrity (Xie et al., 2023).

Some students describe receiving optional information, such as a “video link, but it was just if you have time” (Mark) or “optional AI info, not enforced” (Olivia), which further highlights the lack of systematic and clear ethical instruction and guidance. This implies that rather than being a fundamental part of the curriculum, ethical issues surrounding AI are generally tackled and addressed as an afterthought. This guidance’s informal or optional tone sends the message that using AI ethically is not a high priority, which could reduce its significance in the eyes of students.

Furthermore, this absence of dialogue with students may hinder the development of a common understanding of ethical norms and expectations. The importance of peer influence in shaping ethical behaviour is well-established in the literature (O’Rourke et al., 2010), and the lack of meaningful conversations with students represents a lost opportunity to promote a culture based on academic integrity. This notion is also highlighted in literature which holds that by discuss ethical dilemmas related to AI, students will be better equipped to develop critical thinking skills and a stronger sense of moral responsibility (Van Dis et al., 2023).

In one particularly instance, a student reported that an educator told them “don’t make it obvious” (Zack) when using AI, which challenges and undermines ethical principles by prioritising concealment over responsible use. Such advice sends a conflicting message to students, suggesting that the primary concern is avoiding detection rather than upholding academic integrity. Additionally, it weakens educator-student trust, fostering an environment in which lying is tacitly accepted.

Educators corroborate the students’ concerns, acknowledging that “teachers are not well-trained in AI” (David). This lack of training not only limits their ability to effectively

integrate AI into their teaching practices, but also hinders their capability to provide adequate ethical guidance to students. If educators themselves are unsure about the ethical implications of AI, they are insufficiently prepared to help students navigate ethical implications.

Educators express a clear need for “free AI training” (Claire) and “teacher professional development” (Claire), recognising that professional development is essential in order to give them the information and abilities needed to handle the rapidly changing dynamic of AI in education. This aligns with the literature review’s emphasis on the importance of educator training as a crucial component of successful AI integration and AI-driven future (Chiarello et al., 2024). Educators need to be trained not only on the technical aspects of AI tools but also on the pedagogical and ethical considerations relevant to their use in the classroom.

The need for AI education extends beyond simply teaching students how to use AI tools, but it requires a focus on why and when to use such AI tools ethically. Educators stress that students must be taught how to use AI properly, highlighting the significance of integrating AI into the curriculum and using it in an ethical and knowledgeable manner. This includes addressing the potential for AI to “give incorrect information” (Sarah), requiring students to develop critical evaluation skills and a critical evaluative approach to AI-generated content, rather than accepting its output blindly. As the HOD reported, “questioning to assess understanding” (Thomas), is a meaningful way to promote active engagement and critical thinking with students in an AI-influenced education scenario.

The literature review also emphasises the importance of addressing bias in AI algorithms, which can introduce or intensify existing prejudices, resulting in unfair outcomes (Sumanth, 2019). This further highlights the importance and need of incorporating AI bias detection awareness and strategies into AI education.

The findings in this theme highlight the necessity of a comprehensive and proactive approach to AI education. Giving educators and students the information, abilities, and moral frameworks they need to successfully integrate AI in the classroom is part of this strategy. Additionally, it calls for the creation of precise and uniform rules for the application of AI, which must be effectively communicated to all parties involved. Incorporating AI ethics into the curriculum and encouraging open and critical discussion on the ethical implications of AI are also crucial. Furthermore, regular support for professional development is essential to guaranteeing that educators are suitably equipped to educate students in AI in a way that is both efficient and morally sound.

Theme 3: Fairness, Access, and Equity

There are some significant differences between students' and educators' opinions on the intricate relationship of fairness, access, and equity. This theme emphasises how, depending on how AI is used and accessed, it has the ability to worsen, as well as improve, current educational disparities.

Students express diverse views on whether unequal access to AI tools constitutes unfairness, with a student opining that:

I don't think it's fair if they use ChatGPT for the SBAs as they will get a mark which is higher than they were supposed to get. And it would be unfair for the other students because they wouldn't have done so well. And unfair for them because they don't know how they can improve. (Mark)

This sentiment was echoed by another student, who held that "it won't be fair and okay" (Ana). Conversely, another student compares access and use of AI with access and use of other traditional resources, and opined that "It's fair, but like what you learn GPT, you can get a library card and what's on ChatGPT, you could learn from books as well" (John). This

perspective suggests that while AI may be used differently by students, using it is not necessarily perceived as a fundamental injustice. It may reflect a belief that students have a responsibility to seek out resources independently, and that those who choose to do so are simply taking advantage of available opportunities and resources. This standpoint was also shared by the HOD, who opined that “but the rest is like Google, like there is school library, like there are information sources. From somewhere you want to get the information. Now if it is from here, from there, from there” (Thomas).

However, although the study indicates that students have different and distinct opinions upon the matter, educators demonstrate a significantly more unified understanding upon AI’s potential to exacerbate existing inequalities and disparities. Claire delved deeply into this notion and explicitly acknowledged that “one of the ethical issues could be, for example concerns. Does everyone have access to the gadgets?” (Claire), and proceeded by highlighting the bearing of socioeconomic disparities that may exist:

Does everyone have access to the internet? Remember we have social different socioeconomic backgrounds especially in our school, with a very multicultural classroom, a very cultural school, we have different socioeconomics, we have some people that are quite well off, especially certain countries. They can only come here in Malta because they’re well-off and some others are here refugees and stuff like that. (Claire)

Relatedly, another educator opined that:

It’s not fair, obviously. Especially on a person and I mean, if a person actually takes time to do the work but doesn’t do well. And another person used AI. And I don’t manage to understand whether the person has used AI or not. I mean, it’s unfair that this person is being given more marks than this person. (David)

It follows that David expressed concerns that AI access could create an unfair advantage for AI users, potentially widening the achievement gap between students with and without access to these technologies.

These findings align with the literature review's discussion of the digital divide and the ethical importance to promote fairness and inclusivity in AI in education (Chiarello et al., 2024). Disparities in access to technology, including AI tools, can create significant barriers to learning and achievement, particularly for students from disadvantaged backgrounds (Kormos & Wisdom, 2021). As the literature review points out, addressing fairness requires more than simply providing access; it also necessitates considering the diverse needs of students and ensuring that AI tools are designed and implemented in a way that supports equitable learning outcomes (Sayo, 2024).

The contrasting perspectives between students and educators on the issue of fairness highlight the need for increased awareness and discussion about digital equity. Educators play a crucial role in fostering this awareness, drawing attention to the socio-economic factors that influence access to technology and pushing for policies and practices that promote fairness and inclusivity. This may involve providing access to AI tools in school settings, offering training and support to students who lack access at home, and designing assignments that do not unfairly advantage students with greater access to technology.

Furthermore, the notion of fairness does not limit itself to just giving individuals access to AI tools. It also involves the need to make sure AI is used in a way that does not reinforce or worsen preexisting biases. It is further supported by research that suggests that AI-powered technologies may unintentionally reinforce preexisting prejudices by using big datasets to collect data, which could result in minority students receiving erroneous feedback (Bhavana et al., 2024). In an educational context, this could result in AI-driven assessment

tools that unfairly disadvantage certain groups of students. Hence, in order to be better equipped to detect and lessen AI biases, ethical frameworks should focus on and call for the use of varied data sets, as well as ongoing AI system monitoring.

Promoting fair access to AI tools and resources for all students, irrespective of their socioeconomic status, is crucial to addressing these issues. This entails implementing policies and procedures aimed at limiting AI from increasing already-existing digital inequalities. To ensure that AI technologies are used in a fair and equitable manner, it is essential to critically assess them in order to detect and reduce any potential biases. It is also critical to provide educators with the education and resources they need to apply AI in ways that promote inclusion and equity. Creating an inclusive and responsible AI-integrated learning environment also requires promoting critical thinking and open discussion on the ethical implications of AI in education, including concerns about access and fairness.

Theme 4: Future Orientation and the Role of AI in Education

Both students and educators have diverse opinions on where the future of AI in education lies, and how it shall develop, acknowledging that AI is an inevitable and increasingly fundamental element of education and society, despite the study finding a number of concerns and obstacles. A growing understanding of AI's transformative potential and the necessity of preparing students for a future led by AI is reflected in this theme.

Students demonstrate a clear desire to learn more about AI, acknowledging the need to develop skills and knowledge to navigate an AI-driven world. John highlighted the need for students to be adequately educated on how to use it, particularly as in John's opinion: in the future I think there would be a lot of things that would have AI in them. So, I think it's good to teach us on AI and how to use it and everything". This understanding was echoed by Emily, who opined that AI is not adequately addressed in education and stated that educators

“never told us and gave no guidance. But they never really told us about it. It’s kind of like an unspoken rule”.

This proactive stance further demonstrates a realisation amongst students that AI literacy is becoming a vital skill for future success at the workplace and in everyday life. Furthermore, Sarah shared the same beliefs on the role of AI in the future and opined that “nowadays it’s part of our everyday life. It’s part of this generation”. This notion is also highlighted in literature which holds that there is a necessity for educational institutions to change and align their curricula and teaching processes to provide students with such essential skills and knowledge (McLaughlin & Talbert, 2016).

Educators similarly acknowledge that AI is the future, emphasising the transformative potential of AI to reshape educational practices, both from an educator and student perspective. This was echoed by Claire, who acknowledged using it to generate ideas to foster student engagement and interest and opined that “I sometimes use it as a boost in lesson planning. Maybe I want something creative, and I tell it to create something, and I get ideas”. Nevertheless, educators voice the same opinion when discussing the role of AI for students and call for proactive measures to prepare students for this AI-driven future. This sentiment was clearly highlighted by Jessica, who stated that:

If you want something not to happen, then you have to address it. So, I think the education [system], even the minister himself, must make plans with the people around him to administer it. I mean to tackle the issues well...So that obviously they don’t arise hux. Obviously, there are going to be issues that you don’t think about that will eventually arise. (Jessica)

Accordingly, educators recognise that it is not enough to simply use AI tools in the classroom, but they must also teach students how to use them effectively and ethically. This

perspective further aligns with literature which highlights the need for curriculum adaptation and pedagogical innovation to effectively integrate AI into teaching and learning (McLaughlin & Talbert, 2016).

However, educators also express concerns about the potential risks of misusing AI tools, highlighting the importance of responsible implementation and ethical considerations. This notion was stressed by Jessica who opined that although students “can do better with the GenAI because it does give ideas”, use thereof needs to be in a responsible and ethical manner, as ultimately when seeking originality “we cannot go relate to ChatGPT because It’s a robot. It’s different from a human being”. Jessica further elaborated on the significant implications and dilemma that emerge from this understanding, as “it is like ChatGPT is taking our creativity, that’s an issue, it’s even better according to these children”.

There is also a recognition of a generational divide in AI perceptions, with some educators being less comfortable or familiar with AI technologies than their students. This sentiment was highlighted by Zack who upon being questioned whether it is fair to use AI for school-related work, opined that “For me, yes, but... for other people, probably not. Like all the uh older people, Like for example, teachers. They think that it’s not fair but I think it’s fair”. This understanding was not entirely confirmed by educators, who opined that as long as it is not a direct ‘copy and paste’ from AI tools, such activity is permissible and a potentially important learning tool. Such a standpoint was expressed by Sarah, who said that “it feels ok that they use it, I don’t mind. But as I told you before. I tell them to use it smartly not just copy and paste from it”, and by Claire who held that “copying directly is very unethical! and it’s you’re plagiarising, you’re being untrue or not honest and all these things”, thereby establishing a distinction between copying word for word, and using AI-generated output to assist the students develop their thoughts, ultimately making them their own.

This difference in interpretation highlights the need for open dialogue between students and educators to bridge the gap and foster a shared understanding of AI's role in education.

Conclusion

These findings show that both educators and students acknowledge the evolving role and use of GenAI in the classroom. Though worries about fairness, responsible use, and the need for institutional guidance limit their approval, both groups generally approve of its use. The fine line between understandings of AI misuse, and its appropriate integration, as well as calls for ethical direction, equitable access, and structured education on AI use, are some of the themes that emerged. Notably, educators and students support proactive measures that encourage ethical and educated adoption of AI tools rather than outright prohibitions.

Limitations, Recommendations and Future Research

Limitations

Various limitations emerged in this study, especially with regard to sampling, data collection methods and data interpretation. Although these limitations were not detrimental to the study's contributions, they should be taken into account when evaluating the results.

One key limitation of this study is the small sample size, which consisted of six students and five educators, including one HOD. While a restricted sample size allowed for more in-depth conversations and qualitative data, it inevitably limits the generalisability of the findings.

Accordingly, the insights obtained from the interviews, although valuable, represent a small sample of the broader educational system, and may not reflect the full range of experiences and opinions of different educational settings or institutions.

The use of thematic analysis, which created the possibility of subjectivity in data interpretation, was a significant limitation. Even with the use of methodical coding techniques, reflexivity, peer debriefing, and an audit trail to increase transparency, qualitative analysis remained inherently interpretive. The final analysis may have been influenced by minor inconsistencies in topic classification that arose during the researcher's examination of the dataset.

The purposive sample technique used in this study was a further limitation. Although this method made it possible to intentionally select examples with an array of information, it also inevitably limited the applicability of the results. The study focused specifically on educators and students within Maltese schools, so the findings might not reflect the whole population or other educational settings. Although efforts were made to include participants from various schools with different educational backgrounds, the experiences and perspectives of those involved may not fully reflect the wider range of attitudes toward

GenAI in education that might exist in other countries, or education systems. Furthermore, the voluntary nature of participation added another layer of bias. This might have led to self-selection bias, where those who had strong beliefs, whether they were in favour of or against the use of AI in education, were more likely to choose to take part in this study. These biases might have impacted the data, leading to findings that may not accurately represent the range of opinions regarding GenAI in the context of education. As a result, even if the study offers valuable insight into the opinions of a specific group of students and educators, caution should be exercised when attempting to adapt these findings to a broader context. A more random sample technique can be useful in future research to increase the results' generalisability.

The use of semi-structured interviews as the primary data collection method also presented limitations. While this approach provided deep and insightful information, it also introduced the risk of biases based and aimed at social acceptance, where participants may have provided responses that they thought were more appropriate or expected. Furthermore, the researcher's presence during interviews might have unintentionally influenced responses, especially when delicate ethical issues pertaining to AI were being discussed. The data gathered could have been influenced by these factors, even though efforts were made to reduce them by highlighting secrecy, anonymity, and the use of impartial questioning techniques.

The study was also limited by time constraints. The research was carried out in a specific period of time, which might have limited the scope of the data gathering and analysis. More thorough participant recruitment, follow-up interviews, and a longitudinal examination of changing viewpoints on AI ethics over time would have been possible with a longer study period.

Additionally, the study may have been influenced by the positionality of the researcher. Since the same individual conducted both data collection and analysis, unconscious biases could have shaped the identification and interpretation of key themes. As a result, achieving complete neutrality was unlikely.

Finally, the evolving nature of AI technology and its ethical implications presented a challenge. As AI developments and policies continue to change, some findings may quickly become outdated. Hence, future research could address this by adopting a longitudinal approach to track how attitudes and ethical considerations evolve alongside AI advancements.

Despite these limitations, the study provided valuable insights into the ethical notion of GenAI in education. While the results might not be broadly applicable, they provide qualitative dimension to conversations about AI ethics in educational contexts and lay the groundwork for further study, the creation of policies, and best practices.

Recommendations and Scope for Further Research

Given the aforementioned constraints, a number of suggestions and directions for more study emerge.

Future research should use a longitudinal approach, monitoring the development of attitudes towards the ethics of GenAI, is one of the main recommendations. This would enable researchers to examine if ethical considerations change when AI tools are incorporated into educational environments and as rules and regulations change. A deeper understanding of the long-term effects of AI in education could be achieved with a study that includes different phases of data gathering over a number of years.

Another area for further exploration is the comparative study of AI ethics across different cultural and educational contexts. The current research was conducted within Maltese schools, limiting its generalisability to other regions. A cross-cultural study

comparing educators' and students' attitudes in different countries, particularly those with varying AI regulations and educational policies, could highlight global trends and region-specific challenges in AI integration. This could provide valuable insight on an international scale, which would in turn, allow for policy harmonisation efforts and best practices on a global scale.

A mixed-methods approach that incorporates both qualitative and quantitative data could also be beneficial for future research. Although qualitative interviews were used in this study, an expanded study could support these results by providing statistical insights into broader trends. For instance, a questionnaire that is circulated in several educational institutions could identify trends in the adoption of AI, ethical issues, and degrees of confidence in AI tools, providing a more representative overview of current prevailing attitudes.

Examining how AI affects evaluation procedures and academic integrity is another important recommendation. Concerns about plagiarism, authorship, and originality in student work are intensifying as GenAI evolves. Subsequent studies may benefit from looking at how educational institutions adapt their evaluation procedures, the efficacy of AI detection technologies, and how students handle ethical dilemmas in AI-assisted classrooms.

Future research may also focus on how ethical attitudes are affected by AI literacy and training. The lack of understanding among students and educators about the ethical implications of AI and how it works is a common subject in conversations on AI ethics. Future research could examine if participants' ethical positions and choices regarding the use of AI-powered teaching tools are influenced by specific AI literacy programs.

Relatedly, the institutional approach to AI ethics, specifically, how schools establish guidelines to control AI use in academic settings is another important research area. As AI

capabilities continue to advance, it is imperative that clear guidelines for its responsible usage in education be established. Research into institutional policy-making procedures, the challenges faced by policymakers, and how educators understand and implement these regulations might be helpful in forming ethical AI governance.

Additionally, in view of the ongoing developments and updates in AI technology, future research should focus on the growing issue of academic dishonesty enabled by AI. Given that GenAI enables students to write essays, solve difficult problems, and even construct exam answers with minimal effort, it is critical to research how educational institutions identify and prevent AI-assisted cheating. Future research should focus on the effectiveness of AI detection tools and comprehensive evaluation of the educators' understanding of AI-generated content. This could guide the creation of guidelines and strategies to maintain academic integrity in an educational environment driven by artificial intelligence.

Beyond detection techniques and institutional restrictions, more research might look into the behavioural and psychological aspects that motivate students to use AI. Deeper understanding of the underlying causes of such behaviour, such as academic pressure, a lack of awareness of ethical boundaries, or the broad availability of AI tools, may help alleviate the problem. Psychological studies could also look into how students' perceptions of effort, learning, and academic accountability are affected by the use of AI.

Research on how academic institutions adjust to AI-driven academic dishonesty is a further important topic. Even though AI detection tools are getting better, it is still necessary to evaluate how well educational institutions use them, how well educators are prepared to spot AI-generated content, and how they strike a balance between upholding academic integrity and taking advantage of AI's potential learning benefits. Research should investigate

alternate evaluation techniques that are less vulnerable to AI abuse in addition to detection and policy creation. Examining the feasibility of oral exams, project-based assessments, and AI-assisted but ethically supervised coursework could help establish future educational practices that preserve academic rigour while responsibly integrating AI, as traditional assessment tactics may become less successful.

Finally, a cross-disciplinary approach may be used in studies on academic misconduct and AI ethics. Different disciplines are probably affected differently by GenAI; some see it as a useful learning tool, while others see it as a direct threat to academic integrity. Analysing academic dishonesty enabled by AI across different academic subjects may offer comprehensive insights into how various educational fields adjust to the increasing presence of AI and what approaches would be most effective in each situation.

Conclusion

The development in GenAI does not solely represent a significant technological change, but also extends to a significant pedagogical and philosophical change. This study investigates how educators and students perceive and engage with GenAI tools, especially in view of core considerations such as academic integrity, ethical evaluations, and institutional preparedness. The results indicate that both groups believe that the GenAI tool debate is characterised by tension, opportunity, and uncertainty. In these concluding remarks, the researcher aims to conceptualise and scrutinise the study's findings within a broader evaluation of what GenAI means for the future of education, with particular focus on the concepts of human learning, and the evolution of the educator-student relationship.

It has traditionally been understood that education is an area where individuals develop intellectually, morally, and socially. Essentially, it was based on an inherent agreement: that knowledge is developed and not just received, competence develops progressively, and that learning takes effort and commitment. However, such assumptions, which formed the basis of our core educational beliefs, are suddenly put into question by GenAI tools and technologies. Reason being that GenAI accelerates and alters many of the processes that education has traditionally valued, such as the concept of learning by trial and error. Relatedly, by enabling instant content generation and providing seemingly “correct” outputs and replies, it is argued that GenAI also undermined the traditionally valued cognitive effort and thinking.

This change makes us question the core principles and pillars of learning, as if a machine can do the work for you, what does it actually mean to learn in such a GenAI driven world? Relatedly, what purpose does teaching students to write and express themselves serve if an AI can produce coherent text for the user in seconds? Ultimately, what function does an

educator have in such an AI-driven environment if a chatbot can provide answers to queries as and when required?

The way forward is to reassess the core objective of education, as opposed to giving up on such challenges. In this context, education needs to step away from being heavily focused and oriented on knowledge acquisition and attainment, and instead attribute considerable attention to the development of evaluation and critical thinking techniques, awareness, as well as ethical practices. Accordingly, nowadays the ability to ask relevant questions is even more important in view of student having access to solutions that are attainable in matter of seconds. In this approach, GenAI encourages a return to the Socratic origins of education, where learning is attained by active engagement with discussion and critical thinking and evaluation, and not through passive acceptance of information.

The fear that AI could reduce or replace humans, both on a professional and intellectual level, has been an ongoing concern that emerged in this study. Educators, in particular, were worried that their job may be seen as redundant, while students claimed they were not sure if their own learning “counted” if it was facilitated by technology, and not directly by their educators.

These concerns are not unjustified. The distinction between computerised developed output, and creative thinking, becomes increasingly unclear as GenAI’s ability to mimic human communication increases. However, rather than diminishing human contribution, AI should be leveraged as an opportunity to highlight what makes education distinctively human. In this regard, although AI can supplement learning, it is definitely unproductive if used across the board in a uniform and standard manner. This is especially important as AI is unable to mimic moral thinking, empathy, or life experience, which are notions that humans retain the upper hand upon. Similarly, AI cannot read the emotional meaning and reason of a

student's silence in class during a lesson. Likewise, AI is unable to establish relationships with the end user.

This implies that AI does not reduce the functions of educators, but on the contrary, it improves them. Educators are mentors and guides who assist students in navigating an ever-expanding digital environment, rather than being controllers of knowledge. They are valuable not because they provide facts, but because they stimulate knowledge, encourage critical consciousness, and urge students to consider not only what they know but also how and why they know it.

In a similar vein, students need assistance in order to acquire metacognitive abilities, which enable them to keep an eye on, and control, their own thought processes. Hence, in a context where GenAI can perform the “thinking” for them, students must learn to evaluate the results they receive and are provided with. Accordingly, this requires students to not simply deem outputs provided by AI as factually correct, but to query whether the answer and output provided is indeed correct, or if it is biased, or it follows ethical considerations. By adopting such an approach, we ensure that GenAI acts as a significantly positive tool in the hands of students and educators, as opposed to a tool that hinders and interferes with learning and knowledge attainment.

The ethical uncertainty with which educators and students view GenAI is also one of the study's key findings. On the one side, GenAI helps students get past obstacles including comprehension gaps, writer's block, and language limitations. Conversely, it creates new kinds of reliance that could restrict and limit accountability, creativity, or perseverance.

The ambiguity is an inherent aspect of all technological innovations, not just GenAI. Although it has the ability to facilitate the widespread provision of information, the printing press also faced significant opposition at the time, which was primarily triggered by fear of

spreading misinformation. Likewise, the development of the calculator enabled faster resolution of what were previously perceived as complex mathematical problems. However, calculators were equally viewed suspiciously in view of its resulting effect of questioning of the user's mental arithmetic capabilities and development. Relatedly, social media resulted in global connections being made increasingly possible and quick, but it also brought with social comparison and misinformation. However, it is noteworthy that GenAI's ability to establish cognitive relations with its users is a stark difference and advancement of GenAI when compared with other prior technologies. Therefore, unlike prior technologies, GenAI has the ability to mimic human reasoning, understanding, and conversation. By doing so, GenAI seems to not only assist the user think by providing information, but also seems to think back by interpreting what is being requested by the user, and providing engaging conversations aimed at generating tailored content that reflects the user's reasoning and line of questioning.

Such connectedness fosters a fictitious sense of teamwork and may cause students to submit to the machine's control rapidly and impulsively. This presents significant moral dilemmas ranging from concerns on whether students are dependent on AI to come up with ideas, or whether using AI to write essays is morally acceptable, particularly because it is unclear where to draw an ethical line between when AI help to supplement human thinking turns into AI replacing human thinking in its entirety. Ultimately, in view of such uncertainty on the role and integration of GenAI in education, educational institutions face a moral and ethical dilemma whether the classroom continue to act as a level playing field if some students utilise AI while others do not, and when there is unequal familiarity and digital literacy among students in the classroom.

There are no simple solutions to these issues. However, this study clearly shows that, alongside legislators, educators, and students must also address these concerns. Ethics should

be integrated into the curriculum as an active practice that influences all learning activities and assessments, rather than just being taught as a theoretical concept.

The study's participants also consistently expressed the need for clearer guidelines, instruction, and support systems on the use of AI. Confusion, inconsistency, and even animosity can be created by the lack of direction on the subject matter. The study highlighted the students' fear of being punished if they unintentionally misuse AI. On the other hand, educators expressed feeling unsupported when navigating new responsibilities that are brought about by the use and implementation of AI in education which is not backed by clear guidelines and parameters.

This shows that institutional leadership is urgently required. Policies must be developed following meaningful consultation with all relevant stakeholders, and must be able to adapt to the constantly changing technologies. It follows that policies need to be based on the core educational values of inclusivity, equity, and integrity. Accordingly, it is of paramount importance that for policies to be meaningful and promote growth, they need to view AI as a phenomenon that has the potential to positively and meaningfully reshape relationships and contribute to the growth of human intellectual capabilities, rather than just as a tool to be managed, limited and controlled.

The study's findings highlight that individuals tend to seek and crave acknowledgment, understanding, and connection. This notion was evident from the student's feedback, wherein students seem to appreciate feedback primarily because it is personal in nature, and not necessarily because it is correct or as desired by them. Educators have mixed emotions on AI in education because they fear the diminishing role and relation with the students, and not because they are afraid of AI in general. Nevertheless, even though GenAI can seem to be engaging in conversation, it does not care as a human being is capable to.

Ultimately, although GenAI can mimic and simulate learning, it is unable to share the educational journey with its user.

Consequently, the principal objective that we are facing is not to reject GenAI or succumb to it, but to integrate it in the human learning process in a way that it does not impinge our capacity to inquire, to feel, and to act in an ethical manner.

Hence, the future of the educational experience and journey depends on two main factors, that of technological literacy, knowledge and know-how, as well as the individuals' moral standings and principles. Along with educating students on how to use AI tools, we also need to educate them on how to use such tools responsibly and ethically. Additionally, besides helping educators adapt and adjust to AI, we need to help them become important figures that lead ethical discussions, as AI will definitely influence the shared future of humanity.

In conclusion, the study reveals that students and educators are not afraid of using and leveraging technology to support their learning and teaching. It also shows that students and educators are not passive consumers of AI either as they are thoughtful and inquisitive individuals who value ethics as they explore and integrate these technologies into their daily lives and educational experiences. Although they value and acknowledge the potential benefits of GenAI, they are also aware that significant risks might emerge as a result of unethical or misuse of such powerful tools. Accordingly, AI should not be seen as bringing about the end of education as we know it, but can be classified and viewed as forming an integral part of a revised educational era. In light of this, it is of paramount importance that we interpret and implement this technology in an ethical and morally sound manner, guided by shared values, trust and mutual respect among students and educators.

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