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Using the information inequity framework to study GenAI equity: analysis of educational perspectives

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Abstract

Introduction. Generative AI presents opportunities and challenges for higher education, particularly concerning equity. Understanding stakeholders' perceptions of equity is crucial as AI increasingly influences teaching, learning, and administrative practices.

Method. The study was conducted in a large, research-intensive institution in the US. Participants (n=206) from diverse university roles responded to an open-ended question about how Generative AI affects educational equity. The responses were analyzed based on the information and equity dimensions (Lievrouw & Farb, 2003).

Analysis. Data were analyzed using a combination of deductive and inductive coding to identify key themes. The framework of information inequity underscores how disparities in access, skills, and ethical considerations create uneven opportunities for stakeholders to benefit from Generative AI, making these dimensions essential for understanding educational equity.

Results. Findings revealed differing focal points among the groups: faculty and staff concentrated on issues of physical and financial access to AI tools, while students placed greater emphasis on the ethical implications and value-based considerations of AI in education.

Conclusion. The study suggests that addressing AI equity in higher education requires a comprehensive approach that goes beyond improving access. AI literacy education should include skills development and address ethical considerations, ensuring that all stakeholders' concerns are met.

Introduction

Higher education struggles to keep pace with trends in technology, which has often trailed the industry significantly (Maslej et al., 2023). ChatGPT reached 100 million users in a mere matter of two months, which is exponentially less time than past services reached the same number of users, like Instagram and Facebook (Heath, 2023; Porter, 2023). Employers today want college graduates with experience and skills in GenAI tools (Cengage Group, 2023). Yet, the slow tendency for higher education to adapt to new technologies means a growing inequity is emerging between those who can use the tools effectively and those who cannot.

AI and equity have become a pressing concern, highlighted by organizations like the Bill and Melinda Gates Foundation, which considers AI equity among its top priorities. The foundation emphasizes not only equitable access to AI technologies but also the importance of co-creating tools that foster fairness and inclusion (Suzman, 2023). While the biased output of GenAI models is often cited as being an issue (D'Agostino, 2023), the issues of educational equity are much larger. While the last two years show an increase in research to understand the potential impact of AI technologies, particularly in the sphere of higher education (Petricini et al., 2023; Wu et al., 2024; Zipf et al., 2024), still missing from this growing body of literature are answers to the questions about equity (Bond et al., 2024).

The study of equity in the use of GenAI within higher education cannot be disentangled from the broader context of existing inequities that pervade society, higher education, and technology. These inequities manifest in multiple layers, influencing who has access to AI tools, who benefits from their usage, and whose voices are amplified or marginalized through these technologies. Central to these inequities is the concept of information inequity, which highlights the uneven distribution of access, skills, and agency in using AI tools, often reflecting, and reinforcing broader societal and educational disparities. The introductions of many past technologies have often led to both advocates and resistors, including the support and disdain for tools like the blackboard, calculators, and even the Internet, partly because the power dynamic between the instructor and student changed (see Davidson, 2022). As AI changes the power dynamics of knowledge, higher education structures will undergo fundamental and deeply transformative shifts that will lead to the 'privileging of certain forms of knowledge and communication' (Kurban & Şahin, 2024, p. 34) . Higher education has the potential to reduce or increase inequities of GenAI use for all faculty, students, and staff.

Artificial intelligence continues to grow in use and acceptance, making this a timely investigation for how key groups in the higher educational milieu perceive the impact AI has on equity. Our guiding research question was: What perceptions do students, faculty, and staff hold on the impact AI has on educational equity?

Examining equity and inequity in *GenAI usage and* higher education

Defining equity

Levinson et al. (2022) note a nearly universal commitment in higher education to equity initiatives while, at the same time, a clear definition of equity is absent. Often confused with equality, where everyone is treated the same, equity in education is about recognizing and addressing the specific needs of students to ensure fair access to opportunities. According to the American College Personnel Association, equity involves 'creating opportunities for equal access and success by addressing barriers and disadvantages that exist due to varying social identities and backgrounds' (Quaye et al., 2018, p. 4). This approach actively works to eliminate barriers and maintain an environment where all students, regardless of their differences, have the opportunity to succeed, grow, and achieve their individual goals.

Equity in education is a complex and dynamic concept, often influenced by political ideals. In one study, researchers investigated the term equity and concluded that while there is a growing body of work on equity, there is no established line of research or strong thematic connections, which indicates that this is a very diverse and fragmented field (Jurado de Los Santos et al., 2020). Equity in higher education is closely tied to access (see Wanti et al., 2022), which is often understood as the opportunity to attend college. However, this view of equity overlooks the complexity and nuances of what access truly entails. For example, Amaral argues that discussions of equity should encompass considerations of fairness and inclusion (Amaral, 2022). Embedded within the concept of equity are assumptions and questions about the roles and interactions of various stakeholders in a complex and multifaceted system.

AI's potential to facilitate equity

While AI has been criticized for perpetuating biases when poorly designed, it also has the power to foster equity in meaningful ways. AI has already shown promise in promoting equity in sectors such as law enforcement and the judicial system (Rigano, 2018), healthcare (Dankwa-Mullan, 2024; Schwarzman College of Computing, 2021). This technology carries the potential to address systemic inequities, including gender, race, and students with disabilities, found in educational systems.

The U.S. Department of Commerce recognizes AI's potential ability to enhance diversity, equity, inclusion, and accessibility (U.S. Department of Commerce, 2023). AI has the potential to improve job opportunities and learning experiences for individuals with disabilities. GenAI can help students find resources and draft accommodations (Lyerly, 2023). Other AI tools can assist students with low or no vision in using screen readers with a high level of detail (Brewer et al., 2020). Platforms like Knewton use AI to provide personalized learning experiences, potentially improving equity by ensuring that each student has access to the support that they need. When technology is introduced and controlled by certain groups, it creates 'normative implications that demand critical attention' (Grimes & Feenberg, 2015, p. 4). The on-going criticism of cheating and plagiarism around GenAI tool invalidates the potential for students with disabilities to have a more equitable education experience.

AI's adaptability makes it possible to tailor work environments and educational settings to the needs of diverse groups, further supporting inclusion and addressing racial inequalities. As Sahota (2024) writes in Forbes:

> *In a world grappling with racial inequalities, artificial intelligence* (AI) *offers promising tools for fostering equity and inclusion. By identifying and addressing biases in various areas, people are using* AI *to dismantle systemic barriers and promote racial equality.*

Together, these examples show that there is a wide range of potential applications of AI to promote equity across multiple areas of society. Whether by addressing gender biases, supporting individuals with disabilities, or promoting racial equality, AI offers promising tools for dismantling systemic barriers and creating more inclusive environments.

AI's potential to exacerbate inequities

Despite its potential to promote equity, AI also risks deepening inequities within educational systems. As D'Agostino (2023) highlights, one of the significant issues is the AI literacy divide. Some students are already familiar with and skilled at using AI tools, while others—often from underrepresented or low-income groups—may lack access to these technologies or the guidance needed to develop such skills, creating a disparity in who benefits from AI-powered learning tools. Some students can afford access to premium versions while others cannot (D'Agostino, 2023). The paid or premium versions of AI tools offer advanced features and more personalized learning

experiences. Relatedly, institutional-level access is also an issue, as some schools will be able to afford to provide access to faculty, staff, and students while others will not.

On a broader scale, Western higher education paradigms have traditionally emphasized information transfer—lectures, memorization, and exams—over creativity, critical thinking, and experiential learning. While AI holds the potential to transform this model, it also risks reinforcing the current power structures that privilege certain types of knowledge and learning, potentially sidelining marginalized voices. The deeper issue here lies in the historical and systemic inequities that already exist in society.

Education systems, despite being intended to mitigate these disparities (Amaral, 2022), often replicate them. AI technologies, influenced by societal biases and controlled by groups with significant power, can reflect these inequalities. Information inequity, or the uneven distribution of access to knowledge and tools, becomes a critical factor in this context (Lievrouw & Farb, 2003a). As AI becomes more prevalent in education, the gap between those with access to information and those without widens.

Technological equity concerns

The deployment of Generative AI (GenAI) tools in educational settings illustrates critical aspects of **information inequity**—the unequal access to, use of, and benefits from information technologies. Information inequity extends beyond physical access, encompassing disparities in digital literacy, socio-economic status, and the structural hierarchies embedded in technology deployment. For example, Educause reports that licensing agreements often privilege faculty and staff over students, with over half of institutions providing no AI literacy programs for students compared to 34% for faculty (Burns & Muscanell, 2024). This gap in institutional support reinforces inequities in who is prepared to use GenAI effectively.

Information inequity is further exacerbated by the AI literacy divide. Students with limited broadband access, those attending schools with AI bans, and those unable to afford premium AI tools face significant disadvantages compared to peers who can access and utilize these technologies. This divide creates a hierarchy of information access and use, limiting the ability of underprivileged groups to fully engage with the transformative potential of GenAI. These inequities reflect broader systemic issues, where educational access remains stratified by socio-economic and institutional barriers.

AI's reliance on biased datasets further compounds information inequity. By reproducing societal biases, GenAI systems risk marginalizing underrepresented voices and reinforcing existing power dynamics. For instance, algorithms in areas like language processing or decision-making can produce inequitable outcomes, disadvantaging groups already on the periphery of educational systems. These biases underscore the need to critically examine how information is curated, accessed, and applied through AI tools in educational contexts.

Methods

Important to this study is the definition of 'GenAI usage'. We define this term to mean interacting with tools to refine questions, seek answers or solutions, assist in brainstorming or idea generation, or any other action within a designated tool.

The site location for this study was a large, research-intensive, historically white institution (HWI), located in the mid-Atlantic region of the United States. Selected items are reported in this study as part of a larger research project. After approval from the institutional review board, we sent emails to unit leaders across the institution to share with faculty, students, and staff in their areas. The emails included a short introduction, a link to the Qualtrics survey tool, and implied consent and minimal risk with participation information.

Participants answered the open-ended question, 'How does generative AI impact educational equity?' Responses were analyzed with a combination of deductive and inductive thematic coding, in which the latent level was used to underscore and connect deeper meaning to the responses (Braun & Clarke, 2006). The codebook was developed a priori based on the five dimensions of information equity by Lievrouw and Farb (2003) (Table 1). We considered *Access* to mean the ability to pay for, use, or reach the GenAI technology and concepts related to socio-economic status and ability to obtain digital technology and devices. *Content* meant pertaining to the output, data, or deliverable from a GenAI tool, whereas *Context* was where GenAI tools were located within a learning environment and higher education, implying change to society, higher education, teaching and learning, and social systems. *Skills* related to the teachable abilities or knowledge about the use of GenAI tools and knowing how to perform actions and tasks. We also used *Skills* when people described using GenAI in different ways, either beneficial or harmful. Lastly, *Values* implied the principles or standards that govern personal and societal belief and behavior; determining if something is good or bad, beneficial, or harmful, right, or wrong, and highlights the ethics and morality of using the GenAI tool. By using these dimensions, we were able to maintain an equity lens on the responses.

Our data suggested additional dimensions not represented in Lievrouw and Farb (2003). For those responses unrelated to equity, we used N/A. Additionally, our data showed people were unsure of how equity matters or plays a role with GenAI tools and applied the code *Uncertainty* in those instances.

We utilized a thematic analysis approach to the data. Thematic analysis is a flexible analysis for any type of qualitative data that is not bound by a certain theory (Braun & Clarke, 2006). Data was loaded into an Excel spreadsheet and shared with the team. The research team discussed the five dimensions, and two researchers coded independently during round one, resulting in an unacceptable level of inter-rater reliability ($\kappa = .57$). The two researchers discussed the codes, agreeing on the meaning and extension of the dimensions, and re-coded the open-ended responses with an acceptable level of inter-rater reliability of ($\kappa = .89$).

Code	Description
Access	Ability to pay, use, or reach; related to socio-economic status, obtaining digital technology and devices
Content	Pertaining to the output, data, or deliverable from a GenAI tool
Context	Related to the location and idea of GenAI within a learning environment and higher education
Skills	Teachable abilities or knowledge about the use of GenAI tools; actions needed to perform tasks, such as prompt engineering
Values	Principles or standards that govern personal and societal belief and behavior; determine if something is good or bad, beneficial, or harmful, right, or wrong
Uncertainty*	Unsure of how equity matters/plays a role
N/A*	Equity is not mentioned in the response

Table 1. Codes adapted from Lievrouw and Farb (2003b) in alphabetical order (*Designates additional codes by researchers)

Limitations

Limitations of this study exist. Data that was coded by our method may not yield the same results if a different lens is applied. For example, some data were not returned as codable because the response had nothing to do with educational equity but rather served as a commentary on teaching and learning in general terms. While still very valuable to the larger discussion around GenAI, these points were not included in our analysis. Comparison to institutions with different faculty, student, and staff populations should be made with care. Our site location provides paid versions of GenAI tools to the entire community, which not all institutions can afford. Likewise, institutions with

different policies, either prohibiting or integrating GenAI tools in the classroom, institutional strategy, or operations, might find other concerns related to equity left unknown by our sample.

Results

Sample demographics

A total of 374 participants participated in the study, among which 206 provided valid responses to the open-ended question regarding equity. This paper focuses on 206 open-ended responses only. No duplicate responses were found in the data. The distributions of respondent demographic information are summarized in Figure 1. The majority of the respondents are university staff (48.5%), White (78.2%), and women (58.7%).

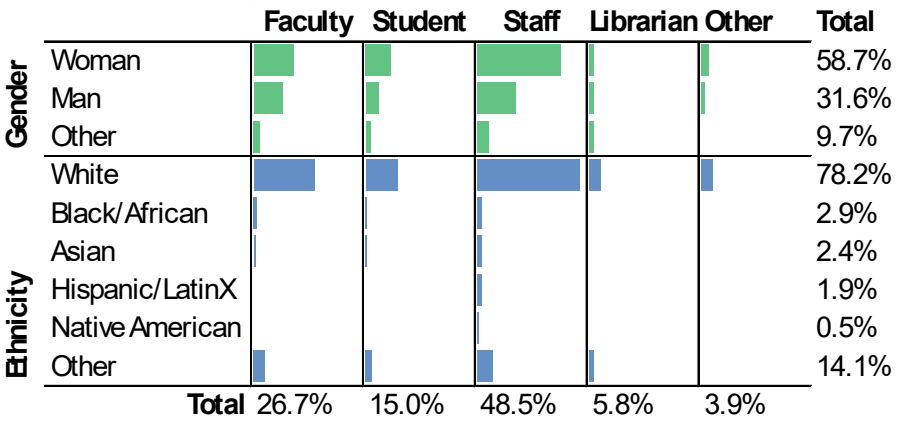

Figure 1. Participants demographic distributions

Codes

We received 206 open-ended responses. Staff had the highest representation (n=100), followed by faculty (n=55), students (n=31), librarians (n=12), and others (n=8) (i.e., postdocs).

Our data show differing opinions from students and staff about educational equity and the fact that multiple layers of GenAI and educational equity exist in higher education. *Access* was coded most frequently (n=42), followed by *Skills* (n=38), *Uncertainty* (n=36) and *Values* (n=33). *N/A* (n=16), *Content* (n=19), and *Context* (n=12) had fewer coding frequencies (Table 2). The codes show different foci by sub-sample; although *Access* was mostly coded for faculty, librarian, others, and staff, only one student mentioned this in their response to educational equity. On the other hand, 42% of the students who responded indicated *Values* in their responses, compared to zero in librarians. Faculty responses and staff mentioned *Skills*, and faculty, librarians, and others were *Uncertain* about how GenAI tools matter to educational equity.

Role	Access	Content	Context	N/A	Skills	Uncertainty	Values	Sub-Sample Total
Faculty	22% (12)	7% (4)	7% (4)	5% (3)	24% (13)	24% (13)	11% (6)	100% (55)
Librarian	33% (4)	17% (2)	0% (0)	8% (1)	8% (1)	33% (4)	0% (0)	100% (12)
Others	25% (2)	0% (0)	25% (2)	0% (0)	0% (0)	38% (3)	13% (1)	100% (8)
Staff	23% (23)	9% (9)	5% (5)	16% (16)	20% (20)	14% (14)	13% (13)	100% (100)
Student	3% (1)	13% (4)	3% (1)	19% (6)	13% (4)	6% (2)	42% (13)	100% (31)
Total Code Frequency	42	19	12	26	38	36	33	206

Table 2. Code Frequency by Respondent Role as Percentage of Sample Total

Based on the results from the coding, we found patterns in the data, and grouped the results into three themes (Braun & Clarke, 2006). First, we discuss the perspectives on values and ethics of GenAI use and the impact these concepts have on educational equity. Second, coded data shows people are unsure of how GenAI might influence educational equity, suggesting a surface level understanding of the technology. Third, we describe the forms of access shared in the open-ended responses. When combined, these findings suggest a more nuanced understanding of educational equity and GenAI is needed.

Perspectives on values and ethics

This section summarizes and compares participants' perspectives on values and ethics related to GenAI's impact on educational equity. Our data show different perceptions of how GenAI impacts educational equity based on the participant's specific role at the university. While students made up a small percentage of survey participants, they rarely responded to the question in any way related to access. Instead, students' responses often focused on *values* or the concepts of good or bad, right, or wrong, when applied to the effort of work. Students suggested using GenAI for studying is acceptable, 'but if it's used for cheating on assignments, then it should turn into a violation'. One student said the use of GenAI was 'unfair' because 'honest students' spend more time doing their work and another said 'students that work hard to create original work are at a disadvantage' compared to students who use GenAI. Some students considered how their instructors might use GenAI and felt the technology should not be used to 'complete an assignment or teach a class,' and others worried 'it may be used to create bland lessons' if instructors are not careful. One student linked the concept of values to societal beliefs, suggesting that while GenAI tools might offer valuable assistance to non-native English speakers, they could ultimately have 'an incredibly negative impact on educational equity' by encouraging complacency and creating an illusion of equity.

Staff did not share the same thoughts about *values*. Staff were concerned about how GenAI 'reflects the prejudices/biases of its human creators' or about the 'anti-Blackness being baked into the design' of predictive analytics. One staff member said educational equity would be impacted because of the 'biases built into AI… [and we're] rushing ahead, not considering what we're creating'. Other statements of values suggest that GenAI should be used 'correctly' or 'thoughtfully and intentionally' implying the opposites of incorrectly, superficially, or unintentionally will impact educational equity, though the outcomes are unclear. One staff member said, 'AI is the antithesis of education,' finding the question about educational equity 'to be contradictory'. Only two faculty responded that it was 'unfair' for students to use GenAI and implied that some students 'have too much personal integrity to use AI.' Lastly, one faculty mentioned that AI is 'unethical' even without

considering the 'environmental impacts in terms of energy consumption and greenhouse gas emissions.'

Related to values, ethics, and biased output appeared in *content* responses. *Content* or the output, data, or deliverable from the GenAI tools, was described as largely based on 'biased' data that 'has the potential to reproduce inequities that already exist'. One librarian called for a critical review of AI tools and stated:

> *Generative AI tools have unethical practices baked into their DNA [...] these tools are largely developed in an industry that is dominated by cisgender, heterosexual, White men -- and consequently the bias that this group can exhibit (overtly or unwittingly) becomes part of the machine learning/media generating process.*

As explained by one faculty member, when AI tools 'are trained on biased data then that is what they will generate (e.g., 'picture of college student' leads to pictures of white people),' which can be rectified with appropriate training to 'open pathways to diversity'. Several responses stated, 'garbage in, garbage out,' referring to the quality of output and the general concern for biased or offensive material.

One student wrote:

> *If I was in a class that was not focused on the usage of AI and learned that the teacher used AI for a chunk of their exams or lessons, I would be worried about the validity of my education.*

The implication of the student's concern is that faculty's use of AI in the classroom carries a different type of academic integrity component that will impact the value of their education. As seen in the ranked items, concerns of blame and trust in telling the truth are concerning. One student wrote that AI 'makes professors think that an essay would be AI generated and not believe the student when asked,' which is a sad indication of how students see AI impacting educational equity.

Multiple forms of access

This section explains the multifaceted concept of access and how it influences the equitable use of GenAI tools as reported by our participants. Staff's open-ended responses were the largest portion of our sample (n=100) and, like faculty and librarians, were concerned about *access* as it related to socio-economic status and the ability to pay for subscriptions. For instance: 'financially affluent students may be able to purchase the more advanced AI tools while less financially affluent will rely on the free version that aren't as robust'. The free version might be all that is needed, as one staff member wrote 'It's about access, as long as there are free tools there is no impact in my opinion'. Several staff respondents used the term 'have and have nots' implying a divide between those students who have the financial means to pay for the AI tools and those students who do not. One staff member thought of a larger impact and shared:

> *For AI apps or services that charge a fee to access or use, some students who come from low-income families may not be able to afford access while still in high school and into college, putting them at a disadvantage of how to use it, or to be able to gain any educational benefits from it -- putting them behind their peers who come from better financial circumstances and wealthier school districts.*

Thinking beyond the college campus, this faculty member uncovered a systemic issue of *access* to AI tools. The impact on educational equity was mostly positive, provided 'everyone has access' and 'there are free tools'. Overall, the financial challenges associated with the cost of these tools concerned faculty, librarians, staff, and students.

Access also meant obtaining or using technology, such as hardware and the AI software platform. Many responses about the impact to educational equity implied equality, or the same, access to the tools. One faculty member thought AI would be 'the same way that open access resources impact educational equity,' meaning equal or shared level of access to materials. In this manner, cost was not the only inequity, because 'students who actually understand the aspects of AI and could have [had] better access to technology would get more from the AI' than other students and 'all AI tools require access to the internet, and some people (staff, students, and faculty) have more reliable access to the internet and better personal devices (PCs, laptops, mobile phones, and tablets) than others'. One staff member linked this to the 'digital divide, the best tools cost money and not all students can afford these tools' and 'not all folks have access to a computer'. A student said that AI will not impact educational equity because 'given the availability of computers on campus as well as personal smart devices like phones and tablets,' people have the materials necessary to use the technology. Still related to financial stressors, *access* is differentiated by the materials needed to use the AI technology.

One staff member felt that AI tools would create employment inequity, sharing that 'fully remote employees can use the money they save from daily commutes to purchase an AI tool and further reduce their work time paid by the University' and obtain a second job. While outside the focus of educational equity, the concern shown by the staff person suggests staff may face different forms of inequity with the introduction of AI into their professional work.

Access can also mean usability for those with other abilities or disabilities. One faculty thought, 'if carefully used by faculty, [AI] may improve accessibility' and another said AI could help with writing skills and 'level the playing field' for some students, including those for whom English is not their native tongue.'

Uncertainty of impact on educational equity

This section examines participants' four key takeaways uncertainty surrounding the impact of GenAI on educational equity, highlighting diverse perspectives, knowledge gaps, and concerns about the broader implications for higher education and society. The *context* of using AI in higher education and the concepts within a learning environment matter to how people responded to the impact on educational equity. The open-ended prompt did not clarify a positive or negative outcome, in which one faculty member said it was a 'vague question'. Data show that educational equity has various dimensions to it, and the 'definition of what 'education equity' means' with regard to this survey was not given. The impacts to educational equity 'will largely follow from how we as a university decide to implement and encourage/discourage its use'. Staff said it 'could help reduce gaps' and AI 'evens the playing field,' though what the person meant was unclear. Nonetheless, it was surprising how many responses indicated no knowledge of educational equity.

Uncertainty about how equity plays a role with AI echoed that of *context*, or the implications to society, higher education, teaching and learning, and systems. Nearly one-third of students were uncertain about the impact AI has on educational equity. People wrote 'no clue' and 'I don't know,' with several people mentioning it's too new of technology or that 'the jury is still out' to know the impact. Two staff members admitted to never thinking about the impact AI will have on educational equity and several others felt like they were 'not familiar with AI enough to determine its [sic] impact'. One student questioned the prompt and responded with 'it doesn't?' suggesting that AI might play a neutral or non-impacting role on educational equity.

Similarly, some written responses did not include equity and took a more general approach to AI, which we coded as N/A. For example, one faculty member said, 'creativity is now dead or at least moribund' and a staff member said, 'it can be used as a teaching tool for students'. Other comments suggest the institution needs to develop policies, that humans are still needed, and that AI can make education' become more interesting'. One staff member said they 'do not care about this

issue' and another 'I don't have an opinion on this'. Other responses were more directed to equality, than equity, such as GenAI 'evens the playing field' and it will 'provide more opportunity,' though it is unclear for whom the field is leveled, or opportunities given.

Several people mentioned their fears and concerns about GenAI technology as being larger than just education and that the implications will be felt throughout society. As 'it's not authentic or real at all' and:

> *Our sources get smaller and smaller as we use AI for anything. If AI use increases in the next 20 years, our 'updated' resources will come from a limited number of humans completing the research, or will research just stop and we reply on where we are now, and AI handles the updates? Concerned that research will be narrow and not creating more history. So, resources for faculty and students will be limited. [The Institution] needs to continue to put research, tracking, [and the] human aspect at the forefront.*

Not directed at educational equity, this staff person's response is calling out the potential for limiting resources by using AI. Similarly, one student questioned why they should pay for tuition if everything is already online, though how this impacts educational equity was left unstated.

Discussion and conclusion

Our results show that perceptions of equity related to GenAI in higher education are shaped by multiple factors of influence, extending beyond traditional concerns like biased content and physical access. While access remains an important issue, it is clear a more nuanced understanding of equity is needed—one that considers the broader context of skills, support systems, and institutional policies. Our findings highlight that equity concerns are not limited to who can afford or use GenAI tools but also include how these tools are applied and the role of literacy development in navigating them. Importantly, values and ethics are emerging as critical yet understudied dimensions of AI and equity. The diverse perspectives of students, faculty, and staff suggest that a singular focus on access and bias may obscure other essential factors that influence how GenAI tools shape educational equity.

While our student sample size was small (n=31) and not representative of the student population, the student responses were surprisingly focused on values, not access like the faculty and staff members. This finding was surprising, given the presumption of cheating frequency with GenAI tools (McMurtie, 2024; Wiley, 2024). This finding should not go unnoticed, as it appears integrity is important to them when using these tools; however, a discrepancy of what 'cheating' means may exist between students and faculty, adding to the confusion of what should be considered as academic dishonesty (Dahl & Waltzer, 2024). Eaton (2024) calls for moving past the traditional practices associated with academic integrity by decolonising what is considered acceptable academic output. By moving past these traditions, society will need to reevaluate what is 'ethical' and what is 'integrity' as our tools become more embedded in our future (Eaton, 2023). More research should be done with larger samples to see if and how 'values' remain a key aspect of students' GenAI use and students' definitions of cheating and academic dishonesty.

The dimension of access is crucial in revealing disparities in who can afford and effectively use GenAI tools. While faculty and staff tended to focus on physical access and financial barriers, Van Dijk (2017) critiques this view as narrow and argues the digital divide is often misunderstood as a simple gap between two groups. He explains that 'the metaphor suggests a simple distinction between two divided groups with a yawning gap between them,' which ignores the complexities and relative nature of digital inequalities (p. 1). Societal systems of oppression and privilege have been evident with digital access for decades as the importance of technology-literacy gained attention (Gorski, 2003). The early digital divide was rooted in physical access but neglected the

deeper, more nuanced issues related to skills, social support, and usage (Gorski, 2003; Van Dijk, 2017).

In our research, we see that this neglect persists in the rhetoric associated with AI equity. Van Dijk's notion of 'skills access' is particularly relevant here, referring to the 'digital and media literacy' skills necessary to use technology effectively (p. 7). Students who lack these skills are disadvantaged, even if they have physical access to the tools and will not resolve the divide (Gorski, 2003). A more multidimensional view of access, one that encompasses both the operational skills to command digital media and the substantive skills required to engage meaningfully with it, is needed. Additionally, Van Dijk highlights 'usage access,' where differences in how frequently and creatively individuals use technology further exacerbate inequities. Faculty who discourages students from exploring advanced uses of GenAI tools may inadvertently deepen socio-cultural inequities. Those with higher education tend to use digital tools for 'capital-enhancing goals' like career and academic growth (Van Dijk, 2017, p. 8), while others may only engage with simpler applications, such as entertainment (Bonfadelli, 2002; Cho et al., 2003; van Deursen & van Dijk, 2014; Van Dijk, 2017; Van Dyjk, 2005; Zillien & Hargittai, 2009).

As Van Dijk notes, barriers to access often go 'beyond' physical access to include 'computer anxiety' and 'technophobia,' which are particularly prevalent among underrepresented groups such as seniors, people with low education levels, and certain female populations (2017, p. 5). In our research, faculty, and staff express fears about biased GenAI content, but these concerns may overlook other critical barriers to equity, like the psychological and social obstacles that inhibit full engagement with these tools. The focus on content bias, though important, may obscure the more pressing need for skill-building and equitable support structures that empower all students to use and learn these tools meaningfully. When these skills go undeveloped, people are unable to gather and use information for informed decision-making, a form of information poverty (Marcella & Chowdhury, 2020), and an outcome of information inequity

In conclusion, while traditional concerns like physical access and biased content remain relevant, our findings reveal a deeper need to consider how factors such as skills, institutional support, and values influence equitable access and the use of AI tools. Equity is not merely about whether students can afford or physically access GenAI but also about the extent to which they possess the necessary skills, motivation, and opportunities to engage meaningfully with these technologies. To address the AI equity gap identified in this study, we propose that future research should prioritize the development of a multidimensional framework that integrates key equity dimensions such as access, skills, values, and institutional support. This framework should extend beyond traditional binary notions of access to encompass nuanced aspects like skills access, usage access, and literacy development as outlined by Van Dijk (2017). Additionally, it must consider the role of institutional policies in fostering an inclusive culture where diverse values and ethics are acknowledged and integrated into AI usage norms. Institutions should take a comprehensive approach that integrates AI literacy with an awareness of equity issues, fostering environments that actively support all members in overcoming barriers, whether they are technical, social, or psychological. A critical component of this framework would involve co-designing interventions with stakeholders—students, faculty, and staff—to ensure diverse perspectives shape strategies to bridge inequities. Such a framework could include mechanisms for fostering AI literacy through equitable support systems, embedding ethical AI usage in institutional curricula, and creating tools that mitigate psychological and social barriers like technophobia. By broadening the focus of equity discussions to include these dimensions, research would provide a robust foundation for developing policies and practices that promote meaningful engagement with GenAI across diverse educational contexts. Future research should expand on our findings, examining diverse institutional contexts and larger populations to deepen our understanding of how GenAI shapes educational equity and how we can address the potential gap.

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Reference

Abrams, Z. (2024, April 1). Addressing equity and ethics in artificial intelligence. Monitor on Psychology. https://www.apa.org/monitor/2024/04/addressing-equity-ethics-artificial-intelligence

Amaral, A. (2022). Equity in Higher Education: Evidences, Policies and Practices. Setting the Scene. In O. Tavares, C. Sá, C. Sin, & A. Amaral (Eds.), Equity Policies in Global Higher Education (pp. 23–46). Springer International Publishing. https://doi.org/10.1007/978-3-030-69691-7_2

Bond, M., Khosravi, H., De Laat, M., Bergdahl, N., Negrea, V., Oxley, E., Pham, P., Chong, S. W., & Siemens, G. (2024). A meta systematic review of artificial intelligence in higher education: A call for increased ethics, collaboration, and rigour. International Journal of Educational Technology in Higher Education, 21(1), 4. https://doi.org/10.1186/s41239-023-00436-z

Bonfadelli, H. (2002). The Internet and Knowledge Gaps: A Theoretical and Empirical Investigation. European Journal of Communication, 17(1), 65–84. https://doi.org/10.1177/0267323102017001607

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. Qualitative Research in Psychology, 3(May 2015), 77–101. https://doi.org/10.1191/1478088706qp063oa

Brewer, J., Gerard, C., & Hakkinen, M. (2020, November 4). [EDUCAUSE Exchange]. https://er.educause.edu/podcasts/educause-exchange/the-impact-of-ai-on-accessibility

Cengage Group. (2023). 2023 Graduate Employability Report: AI Joins the Workforce (pp. 1–13). https://www.cengagegroup.com/news/press-releases/2023/cengage-group-employability-report/

Chang, K., Abdalla, Y. A., & Lasyoud, A. A. (2021). Artificial Intelligence in Personnel Management: Opportunities and Challenges to the Higher Education Sector (HES). In A. M. A. Musleh Al-Sartawi, A. Razzaque, & M. M. Kamal (Eds.), Artificial Intelligence Systems and the Internet of

Things in the Digital Era (Vol. 239, pp. 278–289). Springer International Publishing. https://doi.org/10.1007/978-3-030-77246-8_27

Cho, J., De Zuniga, H. G., Rojas, H., & Shah, D. V. (2003). Beyond access: The digital divide and Internet uses and gratifications. IT & Society, 1(4), 46–72.

D'Agostino, S. (2023, June 5). How AI Tools Both Help and Hinder Equity. Inside Higher Ed. https://www.insidehighered.com/news/tech-innovation/artificial-intelligence/2023/06/05/how-ai-tools-both-help-and-hinder-equity

Dankwa-Mullan, I. (2024). Health Equity and Ethical Considerations in Using Artificial Intelligence in Public Health and Medicine. Preventing Chronic Disease, 21. https://doi.org/10.5888/pcd21.240245

Davidson, C. (2022). The new education: How to revolutionalize the university to prepare students for a world in flux (Updated version). Basic Books.

Gorski, P. C. (2009). Insisting on digital equity: Reframing the dominant discourse on multicultural education and technology. Urban Education, 44(3), 348–364. https://doi.org/10.1177/0042085908318712

Gorski, P. C. (2003). Privilege and repression in the digital era: Rethinking the sociopolitics of the digital divide. Race, Gender, & Class, 10(4), 145-176.

Grimes, S., & Feenberg, A. (2015). The SAGE Handbook of Digital Technology Research (S. Price, C. Jewitt, & B. Brown, Eds.). SAGE Publications Ltd. https://doi.org/10.4135/9781446282229

Heath, A. (2023, November 19). All the news from OpenAI's DevDay conference. The Verge. Alex

Humlum, A., & Vestergaard, E. (2024). The Adoption of ChatGPT. University of Chicago, Becker Friedman Institute for Economics Working Paper, 2024–50. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4807516

Jurado de Los Santos, P., Moreno-Guerrero, A.-J., Marín-Marín, J.-A., & Soler Costa, R. (2020). The term equity in education: A literature review with scientific mapping in web of science. International Journal of Environmental Research and Public Health, 17(10), 3526.

Kurban, C. F., & Şahin, M. (2024). Exploring ChatGPT's Role in Higher Education: A Literature Review. In The Impact of ChatGPT on Higher Education (pp. 41–73). Emerald Publishing Limited. https://doi.org/10.1108/978-1-83797-647-820241004

Levinson, M., Geron, T., & Brighouse, H. (2022). Conceptions of Educational Equity. AERA Open, 8, 233285842211213. https://doi.org/10.1177/23328584221121344

Lievrouw, L. A., & Farb, S. E. (2003a). Information and equity. Annual Review of Information Science, 37(1), Article 1.

Lievrouw, L. A., & Farb, S. E. (2003b). Information and equity. Annual Review of Information Science, 37(1), 499–540.

Luxton, D. D., & Watson, E. (2023). Psychological and Psychosocial Consequences of Super Disruptive A.I.: Public Health Implications and Recommendations. https://doi.org/10.25740/mg941vt9619

Lyerly, E. (2023). Utilizing ChatGPT to help students with disabilities. Disability Compliance for Higher Education, 28(9), Article 9. https://doi.org/10.1002/dhe.31479

Marcella, R., & Chowdhury, R. (2020) Eradicating information poverty: An agenda for research. *Journal of Librarianship and Information Sciences*, 52(2), 366-381. 10.1177/0961000618804589

Maslej, N., Fattorini, L., Brynjolfsson, E., Etchemendy, J., Ligett, K., Lyons, T., Manyika, J., Ngo, H., Niebles, J. C., Parli, V., Shoham, Y., Wald, R., Clark, J., & Perrault, R. (2023). Artificial Intelligence Index Report 2023 (arXiv:2310.03715). arXiv. http://arxiv.org/abs/2310.03715

Petricini, T., Wu, C., & Zipf, S. T. (2023). Perceptions About Generative AI and ChatGPT Use by Faculty and College Students. EdArXiv. https://doi.org/10.35542/osf.io/jyma4

Porter, J. (2023, November 6). ChatGPT continues to be one of the fastest-growing services ever. The Verge. https://www.theverge.com/2023/11/6/23948386/chatgpt-active-user-count-openai-developer-conference

Quaye, S. J., Aho, R. E., Jacob, M. B., Domingue, A. D., Guido, F. M., Lange, A. C., Squire, D., & Stewart, D. L. (2018). A bold vision forward: A framework for the strategic imperative for racial justice and decolonization. ACPA—College Student Educators International.

Ratliff, K. A., & Smith, C. T. (2021). Lessons from two decades of Project Implicit. A Handbook of Research on Implicit Bias and Racism. APA Books. http://www.kateratliff.com/uploads/2/2/8/7/22879336/project_implicit_history.pdf

Rigano, C. (2018, October 8). Using Artificial Intelligence to Address Criminal Justice Needs. National Institute of Justice. https://nij.ojp.gov/topics/articles/using-artificial-intelligence-address-criminal-justice-needs

Sahota, N. (2024, January 15). AI For Equity: Bridging Racial Gaps With Artificial Intelligence. Forbes. https://www.forbes.com/sites/neilsahota/2024/01/15/ai-for-equity-bridging-racial-gaps-with-artificial-intelligence/

Schwarzman College of Computing. (2021, June 1). MIT News | Massachusetts Institute of Technology. https://news.mit.edu/2021/potential-artificial-intelligence-bring-equity-health-care-0601

Sean Burns & Nicole Muscanell. (2024, April 15). EDUCAUSE QuickPoll Results: A Growing Need for Generative AI Strategy. EDUCAUSE Review. https://er.educause.edu/articles/2024/4/educause-quickpoll-results-a-growing-need-for-generative-ai-strategy

Suzman, M. (2023, May 21). AI Principles for Development to promote equity, Accelerate progress. Bill & Melinda Gates Foundation. https://www.gatesfoundation.org/ideas/articles/artificial-intelligence-ai-development-principles

U.S. Department of Commerce. (2023, October 31). How Artificial Intelligence Can Improve Diversity, Equity, Inclusion and Accessibility Efforts. U.S. Department of Commerce. https://www.commerce.gov/news/blog/2023/10/how-artificial-intelligence-can-improve-diversity-equity-inclusion-and

van Deursen, A. J., & van Dijk, J. A. (2014). The digital divide shifts to differences in usage. New Media & Society, 16(3), 507–526. https://doi.org/10.1177/1461444813487959

Van Dijk, J. (2017). Digital divide: Impact of access. The International Encyclopedia of Media Effects, 1, 1–11.

Van Dyjk, J. (2005). The deepening divide. Thousand Oaks. Sage.

Wanti, M., Wesselink, R., Biemans, H., & Brok, P. D. (2022). Determining factors of access and equity in higher education: A systematic review. Equity in Education & Society, 1(2), Article 2. https://doi.org/10.1177/27526461221092429

Wu, C., Zhang, H., & Carroll, J. M. (2024). AI Governance in Higher Education: Case Studies of Guidance at Big Ten Universities (arXiv:2409.02017). arXiv. http://arxiv.org/abs/2409.02017

Zillien, N., & Hargittai, E. (2009). Digital Distinction: Status - Specific Types of Internet Usage. Social Science Quarterly, 90(2), 274 – 291. https://doi.org/10.1111/j.1540-6237.2009.00617.x

Zipf, S., Petricini, T., & Wu, C. (2024). AI Monsters: An Application to Student and Faculty Knowledge and Perceptions of Generative AI. In The Role of Generative AI in the Communication Classroom (pp. 284–299). IGI Global. https://www.igi-global.com/chapter/ai-monsters/339072

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