

"I'm Not Worried about Robots Taking Over the World. I Guess I'm Worried about People": Emoting, Teaching, and Learning with Generative Al

ABSTRACT

Qualitative studies that examine the impact of generative AI technologies on higher education remain scant. Whether it is the ethical dimensions of modeling human emotions within these technologies or the authentic emotional reactions to these technologies and their outputs emotionality is at the centre of generative AI discourse. This paper reports findings from a study exploring educators' emotional responses to the integration of generative AI and higher education. We conducted semi-structured interviews with 37 multidisciplinary faculty at the University of Toronto Mississauga (26% response rate). We first describe the data collection process, including an overview of the institutional context. We then outline a historical context to frame our examination of educators' self-reported emotional responses to teaching, learning, and living with generative AI. Most respondents expressed ambivalence of some variety, and we noted disciplinary patterns regarding the type of fears and excitements respondents reported. The paper concludes with two pedagogical provocations.

KEYWORDS

generative AI, emotionality, higher education, qualitative methods

INTRODUCTION

Generative AI technologies (hereafter genAI) have caused sweeping uncertainties and anxieties across higher education. These technologies are evolving rapidly and being adopted widely, while educational institutions increasingly discuss and debate their effective and illicit uses. Debates about the perils and affordances of genAI emerged immediately following the release of ChatGPT-3.5 on November 30, 2022. Such Large Language Models (LLMs) have incited a flurry of conversations, panels, and workshops in higher education. Many educators feel frustrated and conflicted that students are using these technologies indiscriminately (e.g., Appiah 2024; D'Agostino 2023). Some have used them surreptitiously to demonstrate the need for other educators to account more seriously for genAl in their pedagogies (e.g., Cotton, Cotton, and Shipway 2023). Others have expressed curiosity, enthusiasm, and a willingness to adapt to new technological challenges (e.g., Aguilar 2024; Bedington et al. 2024; Bowen and Watson 2024; Cooper 2023; Denny et al. 2023; Dobrin 2023; Govender 2023; Macbeth 2022; Wardat et al. 2023; see Jensen et al. 2024 for a recent review). Though empirical studies that examine the impact of genAI on higher education remain scant, many express bold claims about dystopian and utopian pedagogical futures, with a tendency to use "inflated discursive language" (McGrath, Farazouli, and Cerratto-Pargman 2024, 13). Whether it is the ethical dimensions of modeling human emotions within these technologies or the authentic emotional reactions to these technologies—emotionality is at the centre of these conversations.

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Universities have met these concerns with various guidelines and recommendations regarding pedagogy, academic integrity, and privacy (e.g., Marcel and Kang [2024] discuss AI in the Canadian landscape; Moya et al. [2023] have conducted a scoping review). In turn, educators and administrators have responded in various ways. In some cases, administrative messaging has encouraged instructors to make autonomous pedagogical decisions; in others, this messaging appears to have amplified resentment, fear, and general uncertainty. This uncertainty is particularly troubling when educators' expectations of profound pedagogical change are met with a "form of organisational paralysis" and glacial responses from higher educational institutions (Korseberg and Elken 2024, 13). Higher education's responses to genAI are influenced not only by "what AI is" (i.e., its capabilities and consequences) but also "what it is understood to be" (Bearman, Ryan, and Ajjawi 2023, 370, original emphasis); these understandings include misconceptions, uncertainties, and (centrally) emotions. As faculty and administrators work to understand and respond to these uncertainties, qualitative interviews can help develop a holistic picture of how educators are (and could be) navigating this significant techno-pedagogical shift. In a time where hallway conversations seem to be punctuated by phrases like "the technology is changing so quickly" and "I'm afraid I can't keep up," qualitative data has the potential to inform our pedagogical decision-making and contribute to the scholarship of teaching and learning that is responding to the exigencies of genAl.

This project originated when we were both teaching a required first-year writing course during the summer of 2023. GenAl technologies were not new at that time, but with the launch of ChatGPT-4 in March 2023, educators seemed to be feeling particularly uneasy. Given the pace of technological change, enacting serious pedagogical revision felt daunting, if not premature or ill-advised. For us, the decision to maintain stasis while learning more did not eliminate or mitigate the negative emotions we were experiencing. We felt sad to be suspicious of our students; we felt frustrated by the lack of institutional support; we felt overwhelmed by the pace of change. While we knew that we were not alone in our emotional responses, it was unclear how others were feeling. This led us to wonder whether educators across the disciplines were having emotional experiences similar to those of colleagues in our immediate circles.

The study of emotionality has long been regarded as a key inroad for understanding the social structures of work (e.g., Hochschild 1979; 1983) as well as the various circumstances that shape teaching and learning (e.g., Akyea and Sandoval 2004; Hagenauer and Volet 2014). For example, researchers have focused on the gendered dimensions of emotion labour (e.g., Acker and Armenti 2004); its administrative dimensions (e.g., Jackson, McKinney, and Caswell 2016; Wooten et al. 2020); its relationship to assessment (e.g., Caswell 2014; 2016); its relationship to students' perceptions of their own learning (e.g., Driscoll and Powell 2016); and its relationship to online teaching and learning (e.g., Nyanjom and Naylor 2021). Laura Micciche (2016) has noted a steadily increasing prevalence of emotion-related research in writing studies and has encouraged continued research in this area. Uses of Hochschild's term "emotion labour" (1983) within education research have also been critiqued for straying from the concept's critical, feminist origins (Benesch and Prior 2023), and some have criticized these uses for "concept creep" more broadly (e.g., Beck 2018). Regardless, Hochschild's work, which includes the interrelated concepts of "emotion labour," "emotional management," and "feeling rules," has permeated emotion-related research, especially across sites of higher education. Hochschild has defined emotion labour as the management of personal feelings to create or maintain a commoditized public performance. Feeling rules, then, may be understood as the interconnected norms that govern what counts as an appropriate (saleable) emotional valence.

We mention Hochschild's work because institutional and administrative status quos will be established as genAI becomes increasingly capable and our understanding of these technologies

deepens. These expectations are likely to precipitate departmental, disciplinary, and institutional feeling rules that delineate appropriate dispositions towards genAl. Such rules will likely be both explicit and implicit: codified in institutional policies; unspoken in departmental subcultures; implied in emerging scholarship. Those with reservations may feel compelled to express surface level enthusiasm or even internalize such optimism. In cases where individual perspectives do not mesh with departmental, disciplinary, or institutional stances, dissonance may lead to anxiety, magnify stress, or contribute to burnout. While academic work is not the precise type of commoditized performance examined in Hochschild's sociological studies, it is undeniable that higher education is shaped by performative expectations. What it is to be a good teacher, a good researcher, or a good colleague is constantly performed and negotiated vis-à-vis a range of stakes and stakeholders. Nuanced understandings of the experiences of exceeding, meeting, or failing these expectations will necessarily account for their larger emotional encasements. Thus, the study of emotionality is central to the techno-pedagogical transformation that we are witnessing and will likely be important within future research designs.

Moving forward, we draw on broader sociological research to define emotionality. Following Bericat (2016), we conceptualize emotion as "the bodily manifestation of the importance that an event in the natural or social world has for a subject" (493). Here, the salient "event" is the introduction of genAl technologies into higher education. Though many have characterized this as the public release of ChatGPT, we characterize it more broadly as the subsequent series of interrelated technological occurrences and attendant social demands. Bericat's definition is consistent with Thoits' (1989) suggestion that emotions have several components that need not be present simultaneously. Drawing on earlier sociological research, Thoits lists the following components: "appraisals of a situational stimulus or context;" "changes in physiological or bodily sensations;" "the free or inhibited display of expressive gestures;" and "a cultural label applied to specific constellations of one or more of the first three components" (318). Thoits assumes that emotions are flexible, socially constructed phenomena. While the idea of emotions as socially constructed is likely uncontroversial, we include these points to acknowledge that emotion-based research need not focus on bodily or physiological responses. Finally, we rely on Lawler's (2001) distinction between emotions and sentiments. Lawler suggests that emotions are "transitory feelings—positive or negative—that constitute an internal response to an event or object" (325). In contrast, he conceptualizes sentiments as "enduring affective states or feelings about one or more social objects. Relations and groups are social objects, as are self and other. Sentiments link emotions (feelings) to social units" (325-6).

The increasing presence of genAl across higher education is marked by technological, social, and pedagogical uncertainty. Each type of uncertainty is observable in social terms. For example, genAl tools are, at their core, opaque and poorly understood at an operational level; this plays out dialogically, often dramatically so (e.g., the November 2023 and September 2024 upheavals at OpenAl). Societies and citizens are only just beginning to grapple with the social and environmental effects of genAl. These dialogues and outcomes will be uncomfortably observed through the power differentials that underwrite social relations. And this is to say nothing of the uncertainties and eminent disruptions across industries, including the pedagogical challenges educators currently face. None of these uncertainties are easily resolved, so heightened emotional responses are unsurprising.

Despite the complexities of characterizing and categorizing emotions, we designed a study to explore educators' emotional responses via semi-structured interviews. Qualitative methodologies are essential for understanding lived experiences during an unprecedented time of uncertainty. Much of the work to gauge faculty and student emotional responses to genAI has used survey mechanisms, rather than interviews or focus groups (e.g., Amani et al. 2023; Kiryakova and Angelova 2023; Petricini,

Wu, and Zipf 2023; Prather et al. 2023). However, surveys can flatten the nuance and emotional complexity of these unprecedented changes. Qualitative interview data provides complementary interpretations (e.g., Korseberg and Elken 2024) and addresses an urgent methodological gap to better understand "the intricacies of [genAI] in university practice from critical standpoints" (McGrath, Farazouli, and Cerratto-Pargman 2024, 14). With this in mind, our analyses have identified several pedagogical implications whose roots may be found in educators' affective states.

In the following sections, we first describe the data collection process, including an overview of the institutional context. We then offer our findings and discuss educators' self-reported emotional responses to teaching, learning, and living with genAl. The paper concludes with two pedagogical provocations framed within the context of technological change in higher education.

DATA COLLECTION AND INSTITUTIONAL CONTEXT

We conducted interviews at the University of Toronto Mississauga (UTM), one of the University of Toronto's two suburban campuses within a tri-campus system. UTM has approximately 15,000 undergraduate students and 900 graduate students. After our ethics protocol was initially approved in September 2023, we proceeded with the first of two rounds of semi-structured interviews in October 2023 with continuing-status faculty (hereafter "faculty"). We then received internal funding via Canada's Social Sciences and Humanities Research Council, which prompted us to file an ethics protocol amendment so we could also recruit and compensate contingent lecturers (hereafter "lecturers"). Once the University of Toronto Research Ethics Board approved the amended research design, we completed a second round of interviews in January 2024.

Aiming to gather a range of perspectives, we recruited participants from four multidisciplinary departments. Individuals were eligible to participate if they (1) taught any subject for the Institute of Communication, Culture, Information, and Technology; (2) taught any subject for the Department of Chemical and Physical Sciences; (3) taught writing at the Institute for the Study of University Pedagogy; or (4) taught computer science at the Department of Mathematical and Computational Sciences. No other inclusion or exclusion criteria were used.

We recruited participants via email invitation. Across the two rounds of interviews, we invited 145 faculty and lecturers to participate. There was a 26% response rate with 37 individuals participating in a 45- to 60-minute interview. We conducted all interviews on Zoom to improve accessibility and expedite transcription. Participants were invited to outline their: (1) teaching responsibilities; (2) current perspectives on genAI; (3) pedagogical approaches to genAI; and (4) emotional responses to genAI. The participants are relatively evenly distributed across disciplinary categories: 16 participants from the humanities; 11 from the sciences; and 10 from the social sciences. See Table 1 for a breakdown across ranks. Participants were not completely balanced across disciplinary categories because we interviewed any eligible individual who was interested in participating. Among these 37 participants, 24 were faculty and 13 were lecturers, the latter of whose participation was incentivized by \$50.

Table 1. Overview of participants (discipline and status)

	Status	
Discipline	Faculty	Lecturer
Humanities	9	7
Sciences	9	2
Social sciences	6	4

We coded all interview data in a manner that is consistent with thematic analysis protocols to identify patterns across respondents' experiences (e.g., Braun and Clarke 2006; Joffe 2012). We cocreated a codebook and used NVivo14 to code all interview transcripts. Transcripts were cleaned with a simple Python script, and gender-neutral pseudonyms were generated (by Copilot [Microsoft 2024]) and assigned to each participant before coding began. Following Joffe, we define a theme as "a specific pattern of meaning found in the data," which may be observed as manifest or latent content (2012, 209). Joffe similarly makes a distinction between themes that are "drawn from a *theoretical* idea that the researcher brings to the research (termed deductive) or from the *raw data* itself (termed inductive)" (210, original emphasis). Much of our reasoning was inductive, but we also brought with us knowledge of previous studies of techno-pedagogical change and upheaval.

Having already noted the relative uniqueness of our methodological approach, we should also mention two key limitations of our study design. We felt highly motivated to begin data collection immediately following ethics approval, but our timing was early in the semester cycle. Many respondents only had preliminary thoughts on, for example, their emotional reactions to assessment because students had not yet submitted much work. Secondly, it would have been useful to report respondent's self-stated level of familiarity with genAI to contextualize responses. It was, however, difficult to authentically gauge this knowledge without potentially damaging rapport by asking questions that could have been perceived as judgemental.

FINDINGS AND DISCUSSION

Recall our previous discussion of Lawler's (2001) differentiation of emotions and sentiments. He suggested that emotions are transitory, and that they respond to specific social catalysts, whereas sentiments may be understood as more enduring states of being which are rooted in the social world more broadly. As we detail below, participants' self-reported emotions tend to be specific responses to genAI, whereas their sentiments tend to relate to their thoughts on the nature of education, how their individual labour fits into that larger framework, and their perspectives on various social issues. We will, most notably, see this distinction play out in terms of perceived disciplinary security.

During both phases of data collection, the University of Toronto had not yet provided substantive institutional guidance regarding the acceptable and/or ethical pedagogical uses of genAl. Similarly, most university-wide professional development and workshop activities were largely discussion-based and exploratory, in no small part because of the rapid pace of technological change. Within this context, participants' positions varied widely: some called on their peers to embrace the technology in the classroom, while others noted widespread disciplinary and social worries. With this diversity of perspectives in mind, we now move on to discuss interview findings in more granular detail. Across the 37 interviews, we counted a total of 61 expressions of emotion, with only three respondents describing their experiences in terms of a single emotion. Among these 61 emotional expressions, 22 were positive, and 39 were negative.

Positive emotionality

Table 2 represents the range of positive emotions, organized by disciplinary category. Because most respondents expressed excitement or curiosity, we outline a detailed discussion of each disposition.

Table 2. Expressions of positive emotionality

Emotion	Humanist	Scientist	Social Scientist
Excited	4	1	2
Curious	4	1	1
Optimistic	1	0	2
Lucky	0	1	0
Impressed	0	1	0
Unworried	0	3	0
Okay	0	0	1

Feelings of excitement

All (7) expressions of excitement were hedged by ambivalence, as participants reported being:

- (1) Excited about the social uses of genAI but depressed about job security across industries, including higher education. [Val, humanities faculty]
- (2) Excited about the pedagogical opportunities of genAI but afraid of existential threats to the humanities and social sciences. [Quinn, humanities faculty]
- (3) Excited about finding inspiration from genAI but anxious about ethics more broadly. [Emery, humanities faculty]
- (4) Excited about adding genAI to the writer's toolkit but concerned about academic integrity. [Kendall, humanities lecturer]
- (5) Excited about pedagogical opportunities but concerned about ethics (e.g., environmental or political issues). [Ivory, science faculty]
- (6) Excited about genAl as an object of study but annoyed that some classes are so poorly designed that genAl can excel. [Finley, social science faculty]
- (7) Excited about the future of education but concerned about assessment in the present. [Reese, social science lecturer]

Most respondents expressed ambivalence of some variety, and the interviews often became spaces to work out ideas in real time—with participants flipping back and forth between emotions and qualifying positions. Expressions of emotion are rarely encapsulated in single assertions. Instead, they stretch across transcribed paragraphs. Above, we have paraphrased these expressions of excitement to neatly pair them with their negative counterpoints. Respondents expressed excitement couched in negative emotions directed toward (1) the introduction of genAI in higher education, which appears to be the catalyst of the emotional response, and (2) the perceived impacts of this event on broader society, which seems, in contrast, to be catalyzed by participants' more enduring affective states and social values—their sentiments. This bidirectional ambivalence was exemplified by Val, a faculty member in the humanities referenced first in the list above, who was excited about genAI capabilities while worrying about broader social disruptions:

Some days, I think: Oh, my gosh! The world is falling apart, and it's super depressing that lots of people's jobs would be at stake if AI continues to develop. It's not just the writing people. Everyone could be negatively affected. So sometimes I feel like the world is just full of lazy, incompetent people who wanna rely on a machine. Then, other times, I'm like: "Wow, this is actually a pretty useful situation. I used it the other day and it helped me brainstorm." So sometimes it's exciting. And people can be really creative with AI in art or design, people are using AI to create floor plans and room design ideas.

So there are a lot of potential possibilities, too. So I don't know. Day to day, my emotions vary.

Much of this ambivalence echoes the dualist discourses of "dystopia-is-now versus utopiajust-around-the-corner" reported by Bearman, Ryan, and Ajjawi (2023, 376) in their review of higher education literature published just before the public release of ChatGPT-3.5. In the intervening years, this dystopian-utopian spectrum has become more magnified, concrete, and laden with emotionality.

Feelings of curiosity

Most of the curious humanists connected this emotional state to the act of teaching, broadly construed. For example, Kendall expressed their curiosity in terms of a willingness to discuss genAI in the classroom. Yet they also warned students to embrace this curiosity with caution:

Even if you're using AI, it should be you who's in the driver's seat, not the other way around. You control AI. You get assistance from AI, but then it shouldn't be compromising your own creativity and ideas and your writing style.

While Kendall was curious and excited about talking with students about genAl, Noel's feelings were rooted in the prospect of learning more, ostensibly to shape their writing pedagogies. Hesitantly and carefully, they told us:

I feel curious . . . ? There's a lot more I have to learn about ChatGPT, but this is a positive curiosity. I'm not afraid of it. I'm not upset or angry about it. I think it's clear at this point that ChatGPT isn't going to replace human generated writing. So yeah, [I feel] curiosity and excitement about figuring out exactly what this tool will continue to offer us, because it will change so fast.

Sidestepping the educational impacts of genAI to focus on questions of disciplinarity, Lee, a faculty member in the humanities, mapped out an emotional trajectory, noting how their initial curiosity eventually gave way to existential worry:

I try not to be negative about technology, however, I've gone through a few [emotional] phases with respect to generative AI. It was first introduced to me by a student, and I logged in and fed in one of my prompts. I was impressed with the scholars it cited, but I could absolutely—I felt—tell the difference between [the output] and genuine student writing. And so, I started out thinking: "This is a cool toy." And then maybe six or eight months later, I noticed that it was getting better and better and better until the point that, with shorter things like discussion board posts or article responses, I thought it was doing every bit as well as my students. And that got me worried.

Peyton, a lecturer in the sciences, couched their curiosities in terms of others' experiences and actions, broadly speculating about early career educators' pedagogical flexibility. They told us:

Younger faculty, who are more precarious, choose to be more innovative because of these new technologies. They're young, and they're excited, and they're probably a little bit better trained on the pedagogical side. I know that's a broad statement, but this is especially the case with teaching stream faculty, who's job requires them to understand the changing nature of pedagogy.

Peyton's speculation seemed to convey a general sense that curiosity is a positive attribute—to be demonstrated oneself and to be mapped onto colleagues. But this mapping is not uniform; it is contingent on one's job security and perceived horizon of a pedagogical future. This is to say, we may be observing a situation where early career faculty—across ranks—are more comfortable expressing displaced curiosity and are more willing to think in terms of a lengthy pedagogical future that will require continuous adaptation.

Finally, Baily, a social scientist, expressed their curiosity by praising the educational merits of genAI, but they also drew a distinction between educational utility and social caution: "They can be amazing, useful tools the students can use. I tend to have sort of a positive take on the educational role of these tools, while I may be more concerned about other aspects of that field." As we will explore below, the inclination to disentangle educational and social concerns is common amongst non-humanists; it mirrors the expressions of fear we discuss in the next section.

Negative emotionality

Across the 61 expressions of emotion, 39 were negative. Table 3 represents the range of negative emotions, organized by disciplinary category.

Feelings of fear

A relatively large cluster of participants reported some kind of fear (i.e., feeling afraid, concerned, or anxious). Unlike the ambivalence that characterized expressions of excitement, here we see a marked difference between the type of fear expressed by humanists (n=4) and that expressed by scientists (n=3)—the former expressed disciplinary fears, the latter expressed broader social, ethical, and environmental fears.

Table 3. Expressions of negative emotionality

Emotion	Humanist	Scientist	Social Scientist
Afraid	4	3	0
Concerned	3	0	1
Anxious	2	1	1
Annoyed	2	1	0
Frustrated	1	1	1
Angry	2	0	0
Disappointed	2	0	0
Depressed	2	0	0
Cautious	1	2	0
Skeptical	0	0	1
Suspicious	0	1	0
Fatigued	0	0	1
Bored	0	0	1
Reactionary	1	0	0
Helpless	1	0	0

Overwhelmed	0	0	1
Intimidated	1	0	0
Hesitant	0	0	1

Of the four humanists who expressed fear, all of them linked this emotional response to perceived disciplinary threats. For example, Yael (a faculty member) described feeling, "quite confident that many colleagues will not see the value of writing when AI becomes as central to higher education as it must become at some point. This development, I fear, will make many [of my] efforts not pointless, but compromised." Another faculty humanist, Lee, noted:

I'm no longer in the throes of fear. I would say that I am in unease. There's some worry from a professional standpoint. This is not connected to my students. I have a worry and anxiety that the larger university will decide that my discipline is unimportant. That they will decide that since students can plug in an essay prompt and have ChatGPT write them an essay—that if they have a reductive view of what I teach—that they will think: "Well, your department? We don't need it. We don't need you."

In contrast, the scientists focused on social, ethical, and environmental fears. For example, Peyton (a faculty member) talked through their ambivalence to express broadly ethical and specifically social fears that stemmed from their disciplinary expertise:

I flip back and forth. Sometimes I'm absolutely terrified of the state of society and the capability [of] these sorts of things. But then, on the other side, I think that there's a lot of value in having the entirety of the digital footprint of humanity at your disposal. Why shy away from something that's going to help make things easier? But then in the next breath, I'm terrified of it, so it really flips back and forth. But I'm sort of the mind where it's like, if it's here, and you're using it intelligently, then that's cool. And then also the environmental ramifications of the amount of water and energy that's required to keep these things running is also a terrifying thing that's always in the back of my head. I don't know how I feel about it. I feel many ways about it.

Peyton expressed fear of that which they cannot control (e.g., natural resource implications) while taking a pragmatic view of the technology and its expedient educational uses. Notably, the scientists did not report the pedagogical fears that were quite dominant for their colleagues in the humanities. Rather, we often observed this line of thought: when you teach science, genAl is not a threat because the tools are not yet able to "do science." For example, Peyton cautiously advanced a comparison between evaluating scientific writing compared to humanistic writing:

The main thing you're doing outside the hard sciences is formal writing. I feel like it's a lot easier for [those] students to be like, "write me an essay on blank" than it would be for my student to be like, "write me a lab report based on these results." Because the software is just not set up to take that kind of prompt yet, and I'm sure in a couple of years we [scientists] will be like: 'Oh, no! We have to rethink all this completely, because it now understands equations.' But for right now, I do think it might be a little bit easier for students studying outside of the hard sciences to feed reasonable prompts to get reasonable responses. And so there is probably a little bit more wariness in other fields.

Other scientists similarly suggested that they were unworried and/or lucky that their discipline was impervious to genAI. For example, Frankie, a faculty member in the sciences, commented that they had spoken with their TA and the two agreed about genAI capabilities:

We both played with generative AI. Right now, it's not there yet, I think we could probably tell if a student tried to fluff their way through it. Because we're asking them to do a deep dive on a specific technique, so they're going to need scientific knowledge. And from what we've seen so far, [genAI] is not there.

And Nico, another faculty member in the sciences, confidently noted:

My general feeling is that I'm lucky. Mine is a hands-on discipline, so I can teach in a hands-on manner. But I know that genAI can write very well. I know that they can also generate artwork quite well. Overall, there will be an impact on human society. It will probably replace a few entry level jobs. And students need to be better than these AIs to be desirable in their job market. They will face stronger competition than what I faced. They are competing with AI, whereas I only competed with other humans.

As we have seen, the experience of living with genAI is creating negative feelings for all respondents, but, for those teaching language-related content, these emotions are being experienced within the context of perceived disciplinary precarity.

Feelings of concern

Most expressions of concern related to academic dishonesty, increasing workloads, and broader concerns about pedagogy in higher education and social issues. As noted above, respondents often hedged these expressions with positive emotions (e.g., excitement), though some were overwhelmingly pessimistic.

Some participants were concerned about academic dishonesty because genAI undermined the reliability and equity of traditional assessments. Jesse, a faculty member in the social sciences, lamented that "it doesn't make sense" to rely on homework assignments as "a reliable source of assessment" because "there's just no point in systematically setting up pedagogical situations where you know students are tempted to [use genAI]." Jesse's concern was more explicitly outlined by Lane, a lecturer in the social sciences, who expressed concern about the obsolescence of traditional writing and coding assignments while also drawing on the history of technological disruptions to argue that genAI should be embraced:

I have really mixed feelings about [genAI] because it's really good. I was grading some assignments, and it generated a really good version of an answer. I was like: "Okay, it definitely makes my work as a grader obsolete. And then why am I grading? What's the purpose of learning here?" That was my first feeling, a bit of anxiety. We have to change completely the way we grade things. But then the second feeling, after a while, was that we should totally embrace it because the genie is out of the bottle. When I was very young it was the same debate about [Google and Wikipedia], and people were saying that we should stick to going to the library. Even back then, I was like: "This is completely rubbish, we should embrace it."

Lane thoughtfully articulated what so many participants expressed throughout the interviews: If educators can no longer rely on traditional assessments, do we need to re-evaluate the purpose of higher education? This anxiety stems from broader concerns about the impending transformation of foundational skills, even though Lane explicitly motivates the normalization of genAI in light of earlyinternet panics about education. This motivation is undergirded by curiosities about genAl and, as Lane later admitted, "there's no way we won't be obliged to integrate [genAl] in our own pedagogical strategies, because otherwise we'll be completely obsolete."

Other participants were more concerned about the labour implications of attempting to identify generated texts—grading is both more time-consuming and frustrating when consciously or unconsciously defaulting to suspicion and questioning the true authorship of each assessment. Ashton, a lecturer in the humanities, most clearly articulated this concern as a reaction to their "volume of grading." Ashton was grading "well over a hundred" written assignments per month across several courses and campuses, and they advocated for additional compensation for this work in light of genAI. They also noted that their perspective had shifted because genAI had become "a ubiquitous topic in writing departments" and these persistent conversations had "changed the way [they] feel, more than the technology itself." Ashton ultimately felt that pedagogical change would trickle down from "top-down departmental decisions," such as the integration of genAl detection software or encouragement to have conversations with students about how genAI "might be useful to create things, but not to practice writing." Xan, a faculty member in the humanities, expressed specific concerns about "the layer of labour" and "emotional energy" that genAl would inevitably bring to assessments. They described themselves as taking a "very cautious and conservative approach to judging academic integrity issues with genAl" while attempting to navigate complicated conversations with students when they had suspicions. Xan was centrally worried about student learning but also about the future of assessment, because faculty might tend towards assumptions of academic dishonesty rather than "centering the goal of measuring students' learning and not catching generative AI."

Other participants had concerns about pedagogy and genAl's impacts more broadly. Yael, a faculty member in the humanities, contextualized their concerns about pedagogy as worries about the future of the humanities. Reflecting on what pedagogy might look like in the humanities in the next five years, Yael laughed and took a long pause before responding:

I have no clue. Yeah, I don't know. Things have changed so quickly, and if [innovative initiatives] are undertaken by more of our colleagues, I think that our pedagogy will be really interesting, and we could be leaders in higher education. But that's a big "if" the more pragmatic part of me thinks that our pedagogy is going to be very threatened. Think about how much [genAl] has changed since November 2022. The landscape has just been transformed, and the technology is changing so unbelievably quickly. And every second billions of pieces of data are being dumped into this, and it's refining and refining and refining, and so the quality and the nuance of the output improves every second. Then there's this arms race that's going on between companies, with no oversight, no regulation, no concern for the outcome. And they're breaking a lot of shit, and some of what they're breaking is entire fields and industries. I fear that one of those could be ours.

Even those who expressed little general concern about genAI highlighted specific concerns about hype, authority, and the dehumanizing political economy of techno-capitalism. Alex, a faculty member in the sciences, was generally optimistic about pedagogical applications of genAI, but noted concerns about the idealization of genAI as a "magical" tool rather than an "advanced program that collects and works with lots of data." They were also concerned about the proliferation of misinformation that stems from treating genAI outputs as authoritative and the confabulation cascades whereby genAI amplifies misinformation by other genAI systems.

Bailey, a faculty member in the social sciences, mirrored this lack of a general concern, articulating a "boredom" with panicked "boilerplate responses" toward genAI that echo the historical techno-pessimism toward Wikipedia or Google. However, Bailey voiced the concerns of their TAs about increasing workloads and the proliferation of academic dishonesty, despite not yet having fully formed the opinion about genAI that they were "expected to have."

Casey, another faculty member in the social sciences, mentioned devoting time in class to discuss the political economy of genAl, aiming for a balanced discussion of both production and consumption. Casey went on to passionately describe how they "freak out" their class when conveying the scale of these dehumanizing efforts:

LLMs rely on betraying all ideas we have about liberal property rights and what belongs to whom and the value of that work. The students did not believe me that there are massive teams in the Global South who clean data. To produce an LLM, [companies can't] just take the bile of the Internet and amplify that. They're the products of a vast amount of underpaid and really heinous human labour.

We conclude with a particularly memorable expression of concern by Gray, a faculty member in the sciences. Gray spoke authoritatively about the technological history of AI and how concerns about technology might be misplaced worry about people. In an exchange about hype, science fiction, and the future of AI, Gray vividly outlined their concerns about disinformation and distrust:

LLMs are very good at mimicking. It makes it hard to know what to trust, and that's the thing that bothers me, I guess. I feel like we're already suffering with trust issues. So I don't look forward to people manipulating other people more than they've already been doing. It's pretty obvious that a lot of this stuff is a tool to manipulate. I'm not worried about robots really like taking over the world. I guess I'm worried about people. I hear this whole idea of something becoming sentient, and then like, "Oh my God, my toaster is gonna be in control of my house, and I'll be locked in the closet or something." I'm not so worried about that specific scenario. But I do see that it's destabilizing. You can make videos that look like people, mock research articles, things that look believable pretty easily.

CONCLUSIONS

Most respondents reported experiencing some type of negative emotion, and many reported experiencing an emotional journey that was in some cases ongoing. GenAI has quickly become everpresent across higher education, and its presence broadly catalyzes emotions and captures attention across disciplines. This response seems consistent with the ambivalence and emotional trajectories that have shaped previous techno-pedagogical shifts. In response to the introduction of computers into university writing classrooms in the 1980s and 1990s, researchers and educators were largely

ambivalent—mixing optimism and caution. Many were enthusiastic about the potential of computers to enhance the writing process. They appreciated the ease of revising and editing, the opportunities for more collaborative and interactive learning, and the ability to integrate multimedia elements into writing tasks. See, for example, early research on word processing (e.g., Harris 1985; Lutz 1987; Sudol 1985). There was also optimism that computers could make writing more engaging for students, providing new ways to interact with texts and ideas (e.g., Selfe and Selfe 1994). Some argued that computers would democratize the classroom by giving students more control over their writing process. For example, Carolyn Boiarsky (1990) described students' collaborative learning, noting "the room is messy, noisy, constantly in motion. And I love it. There is real writing going on" (50). Similarly, many writing studies researchers were interested in the notion of community building—how computers demanded and facilitated it (e.g., Cyganowski 1990; Handa 1990).

As Charles Bazerman (2023) notes in the "Foreword" to a recent history of digital writing technologies, digitization not only changed "the surface on which we write," but it has also "transformed how we compose, how we think, and maybe even how we feel" (v). Nevertheless, both students and teachers experienced anxiety and resistance, especially those who lacked familiarity with the new technology or felt that computers were being imposed upon them without adequate support. There were also concerns about equity and the exacerbation of existing disparities (e.g., Gomez 1991). Yet, as Hawisher and Selfe (1991) implied, adoption was inevitable: "writing instructors who hope to function effectively in these new electronic classrooms must assess ways in which the use of computer technology might shape, for better or worse, their strategies for working with students" (55). Early perspectives seem, then, to have been marked by enthusiasm for the potential of computers to positively transform writing instruction, which was balanced by concerns about access, equity, and the impact on traditional teaching practices. Pragmatic ambivalence may be a common feature of major technological shifts, and, during the late 1980s and early 1990s, the rise of computing technologies seems to have been understood as both a source of progress and disruption (e.g., Selfe 1999).

We see the rise of genAI paralleling the introduction of computers in the classroom in three central ways. Each shift transformed foundational skills, equitable access, and workloads:

- (1) Like advances in computing technologies, genAl is prompting significant transformations in how we understand foundational skills. Computers changed how students research, collaborate, write, and revise. So too will genAI. Educators must re-examine how skills like reading, writing, researching, and critical thinking may be defined, taught, and assessed. We must also reflect on the ways in which foundational skills, and their social value, may be changing across disciplines, industries, and societies. Word processing introduced vital new skills for learners, workers, and citizens—genAI literacy has become another essential skill, and higher education must adapt.
- (2) The introduction of computers raised issues around access and equity. Similarly, genAl is already widening gaps between those who have access to advanced genAI tools and those who do not. Here, we are not only thinking of physical access (i.e., paid subscriptions and appropriate devices) but also cognitive access in the form of genAl literacy (e.g., ethics, academic integrity, skill discernment, and prompting strategies).
- (3) The introduction of computers increased educators' workloads as they redesigned courses, re-thought assessment strategies, and learned to use new technologies. Similarly, genAI increases workloads as educators: (a) struggle to maintain up-to-date technological knowledge in an area that is likely unrelated to their expertise; (b) decide what ethical or pragmatic role genAI should, could, or will play in their classrooms and

disciplines; and (c) think through revisions to their assignments, assessment schemes, and classroom activities.

Despite these parallels, the rise of genAI circumvents historical precedent in three distinct ways:

- (1) GenAI tools are fundamentally different from standard computing tools because they can create content semi-autonomously. This raises unique questions about academic integrity, the role of education, and the importance of learning itself. The impact of genAl on education will be profound, affecting not just how content is delivered, but also how knowledge is created and evaluated within and outside the academy.
- (2) While the introduction of computers raised concerns about digital literacy and access, the introduction of genAI goes beyond these challenges to also introduce more complex ethical issues, such as (a) the potential for indirect plagiarism resulting from the expansiveness of LLM training data; (b) the complex suspicions that arise when assessing the authenticity of student work; and (c) the diminishing role of human judgment involved in reading, research, and education more broadly. These issues will require unprecedented policies and frameworks.
- (3) The adoption of genAI is occurring more rapidly and widely than previous technological shifts. This adoption is driven by the promise of productivity, and, in higher education, this is most notably observed in the potential to create personalized learning experiences. Given the rate of technological change in the last two years, genAI has more potential for educational disruption. Disruptions may be especially glaring if educators continue to deny the capabilities of genAI, if departments do not participate in long-term planning, or if institutional policy is developed at a glacial pace.

We may find reassurance in the historical similarities noted above because they frame contemporary uncertainties in familiar terms. We must, however, pause to reflect on the ways that these techno-pedagogical shifts differ in unprecedented ways. Hallway conversations suggest that many colleagues find it instructive to frame genAI in terms of historical comparisons (e.g., the prevalence of poorly executed calculator comparisons). These comparisons are meant to familiarize, contextualize, and normalize genAl; however, this normalization can create an emotional stasis that neutralizes and flattens this unprecedented pedagogical change. The appearance of genAI continues to be characterized by novelty, complexity, and rapidity. The introduction of computer-assisted writing led to "a replacement or mimicking of traditional educational practices" rather than genAl's "rapid and unfamiliar technological change" (Korseberg and Elken 2024). The integration of genAl into education is creating new challenges and opportunities, which will, for better or worse, require thoughtful consideration of social and ethical issues. Some have argued that genAl literacy, more than mere digital literacy, requires a dedication to critical thinking that is central to the liberal arts (e.g., Bowen and Watson 2024). There is a lot to resolve, and developing a holistic understanding of educators' emotional responses forms a useful baseline for our continued responses to genAl. Given these challenges, we recommend creating more space for conversation and rethinking the foundational skills whose stasis can be too easily taken for granted.

Creating space for conversation

Recalling the perils of pandemic-era social isolation, it seems sensible to underline the value of maintaining dialogue with colleagues—in our own disciplines and beyond. This dialogue must, of

course, support deep understandings of how these technologies function, the rate at which their capabilities evolve, and the social, ethical, and environmental implications that accompany this evolution. Given the pace of change, it may seem prudent to wait for university administrators or highlevel working groups to propose policy recommendations or evaluate standards of practice. But we cannot wait. Our interdisciplinary interviews make it clear that faculty and lecturers across the university crave substantive, honest, and immediate dialogues with colleagues and students. Participants often expressed their desire for these dialogues at the end of our interviews, when reflecting on the catharsis of just having had an opportunity to express their feelings. This yearning was perhaps best articulated by Morgan, a faculty member in the sciences, at the end of a particularly long interview. They were frustrated with professional development about genAI that brings in "some academic who's gonna tell me all about what's going on with AI and then show me some funny stories." Instead, Morgan desired a working group and the chance "to sit down and talk to experts" about how genAI "changes the fundamentals of writing—it's not just writing in a different way, it's approaching the entire concept of writing from a completely different perspective."

After nearly two years of grappling with this technological change, academics cannot settle for silos. Only through structured and collectively organized conversations will we start to envision the ways in which genAI will mediate knowledge production, shape disciplinary values, and, perhaps most importantly, alter the kinds of skills our graduates will need as successful professionals and ethical citizens. Conversation may also encourage us to work together as pedagogy responds to genAl across the university. Harper, a faculty member in the sciences, explicitly articulated this sentiment when they were asked to comment on any final thoughts:

I don't know whether this surge in collaboration is LLM-generated or not. I think my colleagues and I would still be collaborating, no matter what. But [LLMs have] created a sense, I think, of camaraderie as we sort of work through it together. It has been a way to create shared projects. If anything, I think it has caused us to close ranks a little bit and appreciate each other.

Re-thinking foundational skills

As outlined above, humanists expressed negative emotions (like fear) regarding disciplinary threats, whereas scientists tended to focus on social or environmental threats. With the humanists, we can see educators struggling to realign their assessment practices and learning outcomes amid a major techno-pedagogical shift. Regardless of genAl's actual capabilities, many scientists who participated in this study do not (yet) believe that these technologies are substantively impacting what it means to teach, learn, or thrive within their discipline. The humanists, on the other hand, believe that genAI is already disruptive and may pose existential threats within their discipline. We see the perceived role of language within disciplines guiding these mindsets. Insofar as language is central to a given discipline and learning outcomes relate to activities that may no longer be authentically human, the fears are disciplinary. Insofar as language is perceived as ancillary to a given discipline and learning outcomes relate to activities that are still perceived as authentically human, the fears are displaced to the social realm.

Technological capabilities are increasing rapidly. As professor of management Ethan Mollick has noted: "the expansion of the jagged frontier of AI capability is subtle and requires a lot of experience with various models to understand what they can, and can't, do" (2024a). Mollick has similarly drawn attention to the fact that "teachers believe they can still easily detect AI use, and therefore can prevent it from being used in schoolwork. This Detection Illusion leads educators to rely on outdated assessment methods, believing they can easily spot AI-generated work when, in reality, the technology has far surpassed our ability to consistently identify it" (2024b). The question becomes: What skills are we trying to measure? Humanists, social scientists, and scientists must all engage with this question as they re-think what it means for something to be authentically human.

Drawing once more from our interview with Peyton, we can examine how one early career scientist toyed with the idea that foundational skills are shifting beneath our feet. Hesitantly, they noted:

Things are changing fast, and it's really hard to keep up and know what skill sets are actually going to be valuable for students. But it's also hard to let go of older ideals. I think there's value in being able to read a paper and understand the takeaway and how it relates to what you're trying to do. But is there value in you doing that reading yourself, or being able to read summarized notes? I don't necessarily know if there's a super big difference. So yeah, I don't know. It's hard to say. Yeah, I don't know. It's a hard one.

As writing instructors, we feel obliged to re-think the constellation of writing knowledge and skills that our learners will need as contemporary citizens. This will involve a collective re-thinking of what it now means to write with integrity, to "put in effort," or to enact any number of other taken-forgranted ideals. And this reimagination must extend beyond the writing classroom—it must be large scale, and it must occur over time with genuine institutional support. Writing decades ago, Cynthia Selfe (1999) asserted that "technology is either boring or frightening to most humanists" (412), but that composition studies faculty are obliged "to understand and make sense of, to *pay attention* to, how technology is now inextricably linked to literacy and literacy education" (414). At the risk of drawing too much of a historical parallel, we extend Selfe's call to encompass all educators and the notion of literacies more broadly.

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DISCLOSURE

The authors used Microsoft Copilot to generate a list of gender neutral pseudonyms to facilitate the anonymization of interview data. The authors also used Copilot to generate the accompanying thumbnail image.

ETHICS

This research was approved by the University of Toronto Research Ethics Board.

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