Teaching, Technology, and Time: Revisiting Ellen Rose's Call for Reflection in an AI Era

Ashley Stasiewich
Department of International Business, Marketing, Strategy and Law, MacEwan University

Abstract

Ellen Rose's *On Reflection* explores the importance of reflective thought in education, particularly in response to the technological shifts that have reshaped post-secondary teaching. She outlines three forms of reflection—reflection-in-action, reflection-on-action, and reflection-then-action—drawing from established concepts previously discussed in literature. While Rose grounds her arguments in interdisciplinary theory, including the work of Dewey and Schön, the latter half of the book adopts a nostalgic tone, advocating for a return to pre-digital modes of reflection—an era that no longer exists. This paper critiques that stance by addressing the current realities of post-secondary educators who must navigate bureaucratic barriers, limited time, and rapid technological advancement. These challenges demand ongoing pedagogical adaptation, often leaving little room for the deep, sustained reflection Rose calls for. Reflection remains essential but must be reimagined to align with contemporary constraints. As institutions respond to demands for accountability and innovation, reflective practice is increasingly sidelined, creating new tensions around academic integrity, assessment design, and student learning. This paper examines how educators can respond to the ethical and instructional challenges posed by AI while maintaining pedagogical integrity and calls for renewed institutional support for reflection as a foundational element of effective teaching and learning.

Keywords: reflective practice, higher education, artificial intelligence in education, faculty workload and pedagogy, critical reflection, assessment design

Introduction

According to Ellen Rose (2013, 2016), reflection is a form of slow, careful contemplation in which the mind engages with ideas or information and synthesizes them into new possibilities and questions. Drawing on established theories, Rose discusses three concepts of reflective thought: reflection-in-action, reflection-on-action, and reflection-then-action. While the first two are most often associated with Donald Schön, the third, reflection-then-action, serves as Rose's own elaboration to emphasize the value of deep reflection before pedagogical decision-making. The first concept requires a simultaneous engagement of reflection and action, the second requires an action preceding reflection, and the third needs an action that has been informed by deep reflection (Brown, 2013, p. 100; Rose, 2013, p. 29). Rose's insights, particularly in the first half of the book, are interdisciplinary in nature, weaving together educational theory and philosophical perspectives to support her advocacy for reflective practice. Her discussion draws

 | https://doi.org/10.31542/27qd3a63 | ISSN 2819-3024

on the works of John Dewey, Donald Schön, Maurice Merleau-Ponty, and Lewis Mumford, among others. However, the latter half of the text adopts a noticeably nostalgic tone, expressing a desire to return to a pre-digital era for fostering critical reflection—an era that is no longer a present reality. Although Rose's reflective framework is compelling, it predates the current wave of artificial intelligence (AI) tools and does not engage with the pedagogical and ethical challenges that AI now presents. Today's higher education landscape is increasingly defined by rapid technological change, waning public confidence in its value, and institutional demands that severely limit time and flexibility (Pelletier et al., 2024). Therefore, reflection must be reconceptualized rather than abandoned in order to support faculty and student learning in an era of rapid technological transformation. This tension between deep reflection and action has been amplified by the rapid emergence of generative artificial intelligence technologies. Since the widespread release of generative AI tools, most notably ChatGPT, a large language model (LLM) introduced in late 2022 capable of producing human-like text from simple prompts, teaching and assessment practices that once posed minimal academic integrity concerns have grown increasingly complex, with rising issues around plagiarism and ethical misuse (see, Open AI, 2023; Klyshbekova & Abbott, 2024; Evangelista, 2025; Cordero et al., 2024). Today, AI is embedded into nearly every device, browser, and search platform—often freely accessible without the need for accounts or subscriptions. This essay critically examines Rose's reflective framework through the lens of current technological and institutional realities, not to dismiss its value but to expose the structural conditions that render it increasingly difficult to enact.

Artificial Intelligence's Strain on Reflective Practice

Rose makes a compelling case for learners and educators alike to slow down and engage in reflective practices to counteract the prevailing influences for a technical mindset of efficiency and utilitarianism in today's education system. By doing so, Rose further contends that this achieves balance and fulfillment in our lives, which is ultimately why reflection matters (Rose, 2013, p. 35). Other scholars, like Nicholas Carr, suggest that the rise of the internet and digital devices has cultivated a new way of processing information into easily digestible chunks, rather than through contemplation and concentration that a longer print text may provide (Markelj & Sundvall, 2023, p. 4). The immersion of electronic media over printed text has had the same effect on us as the oral culture that preceded it, requiring a shift in cultural communication (Doughty, 2015). Without engaging in reflection as a "habit of mind," Rose argues that modern digital devices (as of 2013) derail any substantial reflection due to a user's "continuous partial attention," causing users to compulsively shift focus from their primary tasks, resulting in a reluctance to give full attention to any one thing (see, Rose, 2011, p. 17; Rose, 2013, p. 87; Rose, 2010, p. 42; Cull, 2015, p. 33). For this reason, Rose contends that rather than "simply accepting, either with reluctance or enthusiasm," the latest technological tools for creating engaging or convenient instructional materials, educators must approach their adoption with "care" and "forethought," prioritizing their impact on student learning. By doing so, these technologies become subjects of instruction themselves, fostering reflective conversations on how technology can alter the "substance of tenor of human life" (Rose, 2013, p. 95). However,

this careful consideration must also contend with the reality of faculty time constraints, which often limit the capacity for deep, reflective integration of such technologies.

The rapid integration of artificial intelligence into higher education has fundamentally altered the landscape in which faculty must make pedagogical decisions. According to the 2024 EDUCAUSE Horizon Report, higher education is on "the cusp of a paradigm shift," as AI integration is poised to transform nearly every standard academic practice. Klyshbekova and Abbott (2024) similarly stress the urgency of understanding how this rapidly evolving technology is reshaping higher education. Yet in this transformation, the absence of clear, standardized institutional guidance leaves students navigating vague expectations and faculty tasked with individually policing AI use—an unsustainable approach in an already demanding and fast-changing educational landscape (Cordero et al., 2024). Tools like ChatGPT, Grok (X), Gemini (Google), and DeepSeek are seamlessly integrated into everyday digital environments, often without login or cost, making AI use not only ubiquitous but nearly invisible.

Many faculty can likely relate to conversations with students about unethical AI use, where it becomes clear that, due to its seamless integration, some students are simply unaware they have used AI in ways that constitute plagiarism of another author's work. This widespread accessibility makes regulation difficult and further complicates efforts to guide ethical and effective use in educational contexts (Cordero et al., 2024, p. 13). As a result, students are now expected to develop advanced self-regulation skills to engage with AI responsibly, a challenge for many, given AI's constant availability, intuitive interfaces, and instant feedback, while faculty are simultaneously tasked with fundamentally rethinking how learning is assessed (Zhou et al., 2024). These tensions point to a critical moment in post-secondary education where the push for innovation and efficiency is making it harder to maintain the reflective teaching practices that support meaningful student learning. For educators, this poses a significant challenge to reflective practice. Without institutional clarity or policy support, faculty are often left to individually determine how to respond to AI-generated work, whether to permit AI use, and how to preserve the integrity of assessment. These decisions, once guided by long-standing pedagogical values, now require on-the-spot ethical judgment, often under time constraints that leave little space for the deep, deliberative reflection Rose advocates. Reflection, in this context, becomes reactive rather than intentional—an effort to keep pace with emerging technology rather than a space to critically assess its implications. Although Rose wrote her call to approach technology in 2013, it is even more relevant today, as both students and faculty contend with the rapid and far-reaching changes brought on by AI and emerging technologies. While AI has the potential to support meaningful learning, its unchecked integration risks turning educators into regulators rather than reflective practitioners. The institutional burden of surveillance, ambiguity, and academic misconduct enforcement further shifts faculty focus away from pedagogical growth. In this environment, the habits of reflective teaching are not discarded out of disinterest but displaced by necessity. This displacement is compounded by the bureaucratic realities of higher education, where institutional policies, administrative expectations, and increased employment precarity limit the capacity for sustained pedagogical reflection.

Balancing Reflection and Bureaucratic Barriers

Slowing down for deep, reflective thought in today's academic landscape is a privilege afforded to very few educators. A 2020 survey by the Canadian Association of University Teachers (CAUT) revealed that over 30% of faculty worked an additional 10+ hours per week, with precariously employed faculty taking on a disproportionate share of unpaid administrative and student support work during the COVID-19 pandemic (CAUT, 2020). The pandemic exacerbated systemic issues caused by chronic underfunding, leading to increased dependence on precarious academic labour—now representing 54% of faculty appointments across Canada (CUPE, 2022). This shift toward casualized academic contracts has reshaped the global teaching workforce. As McCulloch and Leonard (2024) explain, "across the higher education sector worldwide, casualization of employment means that in many contexts the majority of teaching is done by staff employed on fixed-term, often teaching-only, contracts" (p. 773). These roles frequently lack job security, autonomy, and institutional support; precarity in higher education is reflected when contracts are temporary or paid hourly, and when faculty have little control over working conditions (McCulloch & Leonard, 2024; Danyluk & Burns, 2021, p. 66). Despite these constraints, precariously employed faculty are expected to deliver on the ambiguous standard of "teaching excellence," a concept that is often detached from the material and institutional conditions that shape instructional practice (Skelton, 2009). As Brew et al. (2018), Englund et al. (2018), and Ashwin (2022) argue, teaching excellence cannot be separated from workload allocation, physical workspace, and institutional culture—all of which are frequently lacking in precarious roles. This is compounded by the expanding and increasingly diverse student population, which has introduced greater complexity to classroom instruction and assessment design (McCulloch & Leonard, 2024, p. 772). Within this environment, time is commodified. Faculty, especially those on short-term contracts, are expected to meet rising demands without input into how their hours are allocated (Walker, 2009; Lopes & Dewan, 2014). As McCulloch and Leonard (2024) note, this often leaves instructors "short-changed" in terms of time (p. 775). These inequities are magnified by the emergence of generative AI. While faculty must now support students in the ethical and effective use of AI tools such as ChatGPT, doing so requires time and technological fluency that many contingent instructors cannot afford to build within their contracted hours (McCulloch & Leonard, 2024, p. 781). At the same time, institutions continue to celebrate "teaching excellence" without addressing the structural conditions necessary to achieve it—namely time, resources, and stability (McCulloch & Leonard, 2024, p. 777; Skelton, 2009). It is no wonder, then, that the group of PhD students Rose references "chuckled appreciatively" when told that educators simply do not have time for reflection (Rose, 2013, p. VII). This reaction underscores a truth widely felt in academia: pedagogical reflection has become a luxury. Rose's call for reflective practice remains important, but many instructors are left asking: *When, exactly, are we supposed to find time to reflect?*

This tension between the ideal and reality has only intensified after the pandemic. Precariously employed faculty, often described as "invisible academics" or "road scholars," must cobble together work across multiple institutions while managing limited research opportunities

required for career progression (D. Rose, 2020). Meanwhile, tenured faculty are not exempt from growing pressures with workloads expected to increase in response to technological change and evolving political and social contexts influencing bureaucratic decisions (Pelletier et al., 2024, p. 19; Gonçalves & Majhanovich, 2022, p. IX). These conditions have made it nearly impossible for educators to "slow down" and meaningfully reflect on their pedagogy.

Faced with increasing demands and the rapid emergence of generative AI, educators are often forced to engage in what Donald Schön (2017) termed *reflection-on-action*—that is, reflection that occurs after decisions are made and actions taken, rather than as part of a proactive, intentional pedagogical process. This reactive approach is particularly concerning in light of what Cruz et al. (2024) describe as "the increasing recognition of student learning as an inherently messy or super-complex problem that does not lend itself to either simple or generalizable solutions" (p. 2). Yet institutional responses to AI have been uneven at best. The absence of clear guidance leaves faculty in the untenable position of policing student use of AI tools without consistent policy support or training (Cordero et al., 2024, p. 14). As a result, even well-intentioned educators may revert to traditional forms of assessment—often out of necessity, not pedagogy. These conditions do not cultivate resistance to reflective teaching but rather create an environment in which reflection is often displaced by institutional demands and uncertainty. Faculty cannot meaningfully engage in pedagogical growth when institutional structures prioritize efficiency, compliance, and output over the reflective work needed to support students in navigating complex, evolving learning environments

Pedagogical Pressures and Possibilities in the Age of AI

As higher education faces declining public confidence and shifting enrollment trends, institutions are under increasing pressure to demonstrate their value and relevance (Pelletier et al., 2024, pp. 6, 22). These pressures, alongside the accelerating presence of AI, are reshaping pedagogy in ways that demand not only technical adaptation but also deeper reflective engagement—an increasingly difficult task for time-constrained educators. Even the most hesitant or technology-avoidant instructors are now required to make decisions about AI use in their classrooms, often without sufficient time, training, or institutional clarity. Gone are the days when instructors could lecture for an entire semester, assign a handful of essays, and disregard the technological tools available to support deeper student learning and skill development. Educators must now navigate rapidly evolving technologies together with the complex ethical, socio-emotional, and instructional challenges they bring. Unlike tools, such as the calculator, that enhance learning without raising ethical or privacy concerns, AI introduces profound questions about surveillance, authorship, and academic integrity (Bozkurt et al., 2023, p. 59). Beyond the development of cognitive skills, this includes addressing the ethical dimensions of AI integration by ensuring its use, when permitted by the instructor, aligns with principles of fairness, transparency, and accountability to uphold the integrity of the educational process (Evangelista, 2025, p. 2).

While AI's ability to streamline tasks and personalize learning has garnered enthusiasm, its rapid integration into higher education presents both opportunities and challenges by enhancing certain learning outcomes while threatening others, particularly those rooted in

critical thinking. Rose's reflections on "modern digital devices" emerged a decade before the global release of ChatGPT, yet her warnings about fragmented attention and the erosion of deep thought are increasingly relevant in today's classrooms (Rose, 2013, pp. 95, 100; Watanabe, 2024, p. 46). The use of AI in the classroom has far-reaching implications for curriculum design, assessment strategies, and the development of students' socio-emotional and communication skills (Pelletier et al., 2024, p. 19). Notably, it complicates the cultivation of critical thinking by fostering reliance on instant synthesis and automated responses. As Zhou et al. (2024) emphasize, developing problem-solving and critical thinking skills requires more than the application of knowledge, it demands the integration of creative and analytical thinking to address novel or unfamiliar challenges. Effective skill development in these areas is best supported through direct, hands-on engagement with problem-solving tasks, guided reflection, and iterative practice with feedback. These realities point to the need for a pedagogical shift that moves beyond content delivery and embraces instructional strategies that actively support deep learning, self-regulation, and reflective engagement in an AI-integrated learning environment.

Crucially, this shift also demands that instructors engage in their own reflective practice to critically assess the role of AI tools and determine how to integrate them meaningfully into course design, assessment, and student learning outcomes. Ideally, this work should be done in collaboration with instructional designers or educational developers to ensure pedagogical alignment and impact, yet such collaboration requires time and institutional support, bringing us once again to the issue of bureaucratic constraints that limit the capacity for sustained, reflective engagement (Pelletier et al., 2024, p. 9). Fostering higher-order thinking in students, such as critical analysis, creativity, and ethical reasoning, cannot occur without educators first engaging in sustained reflective practice to critically evaluate their own pedagogical approach.

As AI tools continue to evolve, the ability to integrate them thoughtfully and in research-informed ways is increasingly constrained by institutional demands, ambiguous policies, and persistent time pressures; conditions that, without institutional prioritization of reflective time and pedagogical support, often leave faculty efforts fragmented and reactive rather than purposeful and transformative. It is overly simplistic to assume that adopting these tools will not add to the workload of already overburdened faculty (Bozkurt et al., 2023, p. 59). Moreover, as the pace of change accelerates, sustaining a values-driven approach to teaching that prioritizes student-centred instruction becomes increasingly difficult. Educators may find themselves compromising long-held pedagogical principles simply to maintain efficiency, fairness, or compliance. Despite the pressing need for reflection on how AI alters the "substance and tenor of human life" (Rose, 2013, pp. 95, 100), the institutional realities of higher education often render such reflection inaccessible or undervalued. These realities demand more than compliance with emerging tools; they require institutions to create space for sustained pedagogical reflection and opportunities for educators to engage meaningfully with their practice in ways that support student learning, even within the constraints of a rapidly evolving educational environment.

The Cost of Lost Reflection

As political ideologies increasingly prioritize post-secondary education's role in preparing learners for career readiness over the cultivation of "creative, critical thinkers engaged in work for the betterment of society" (Majhanovich, 2020, p. 11), Rose's assertion that our capitalist society produces "efficient corporate automatons" (Rose, 2013, p. 95) rather than thoughtful and discerning citizens holds significant merit. The bureaucratic and institutional barriers, compounded by external social and political pressures, compel educators to make rapid transitions from one task to another, thereby undermining their capacity to sustain attention and engage in meaningful reflection (Rose, 2013). This relentless pace not only diminishes the educator's ability to be fully present with their students but also threatens the future of higher education by eroding the foundational practice of reflective thought, which is essential for fostering a generation of critically engaged and socially responsible citizens (Robert, 2024, p. 55). Even the most progressive, equity-minded instructors, who are well versed in effective pedagogical methods, may find themselves forced to assign assessments that run counter to their core values in order to address academic integrity, manage time constraints, or navigate unclear institutional policy. In some cases, this may result in a temporary return to pencil-and-paper assessments as a safeguard against academic dishonesty while institutions and educators work toward understanding AI's impact on integrity and learning. This reversion, while understandable, signals a deeper institutional failure to provide the support educators need to engage with emerging technologies confidently. While this regression may provide short-term stability, it risks widening the gap between academic practices and real-world expectations and may unintentionally undermine the very principles of innovation and student readiness that higher education seeks to uphold.

Conclusion

Ellen Rose's concepts of reflection-in-action, reflection-on-action, and reflection-then-action underscore the essential role of critical self-assessment in teaching. While these frameworks remain pedagogically valuable, they are increasingly difficult to enact in a higher education system characterized by institutional constraints, limited time, and technological disruption—conditions that leave little room for sustained, meaningful reflection. This disconnect between theory and practice places educators at a crossroads, where the pursuit of efficiency, accountability, and technological fluency often overshadows the deeper pedagogical work of intentional, reflective teaching.

As AI technologies rapidly redefine the educational landscape, the need for reflection becomes not only relevant but imperative. Faculty must navigate increasingly complex decisions around assessment design, academic integrity, and learning outcomes without clear institutional guidance or sufficient time for collaborative pedagogical development. Even the most progressive educators may find themselves compromising or temporarily reverting to traditional forms of assessment, which may conflict with their core teaching values, simply to preserve fairness and manageability. While such adjustments may serve immediate needs, they risk

further distancing educational practice from authentic learning and workplace relevance—an issue that only deepens the growing skepticism about the value of post-secondary education.

The absence of reflection undermines instructor well-being and compromises student learning, particularly in areas like critical thinking, creativity, and ethical reasoning. Despite these challenges, Rose's observations from over a decade ago remain powerfully relevant. As Doughty (2015) reflects, educators are often "too full of activity," (para. 5) foregoing the reflective calm that sustains thoughtful scholarship and responsible citizenship. If higher education is to remain, as this paper suggests, as a site of transformation, equity, and civic responsibility—an ideal in line with Rose's philosophical stance—then reflective practice must be reimagined, rather than discarded, to meet the realities of AI-driven change. This is not a resistance to technological advancement, but a call for institutions to cultivate the conditions in which reflective practice can thrive alongside innovation. Rose's work remains deeply relevant in this paradigm shift, offering a framework for navigating the pedagogical, ethical, and structural complexities of teaching in contemporary academia. Crucially, it invites further research into how reflection can be meaningfully supported across institutional contexts and how the ability—or inability—to engage in reflective practice affects pedagogical integrity and student learning in an educational landscape increasingly shaped by generative AI and emerging technologies.

Digital Transparency Statement

The author affirms that all ideas and arguments presented in this paper are their own. ChatGPT was used as a digital writing support tool to refine sentence structure, improve clarity, and assist with the revision process. At all stages, outputs generated with AI were critically evaluated, edited for accuracy and voice, and grounded in scholarly literature cited throughout the paper.

References

Ashwin, P. (2016). Why would going to university change anyone? The challenges of capturing the transformative power of higher education in comparisons of quality. *Voprosy Obrazovaniya / Educational Studies Moscow*, *1*(2016), 21–34. https://doi.org/10.17323/1814-9545-2016-1-21-34

Bozkurt, A., Xiao, J., Lambert, S., Pazurek, A., Crompton, H., Koseoglu, S., Farrow, R., Bond, M., Nerantzi, C., Honeychurch, S., Bali, M., Dron, J., Mir, K., Stewart, B., Costello, E., Mason, J., Stracke, C. M., Romero-Hall, E., Koutropoulos, A., . . . Jandrić, P. (2023). Speculative futures on ChatGPT and generative artificial intelligence (AI): A collective reflection from the educational landscape. *Asian Journal of Distance Education*, *18*(1), 53–130. https://doi.org/10.5281/zenodo.7636568

Brew, A., Boud, D., Crawford, K., & Lucas, L. (2018). Navigating the demands of academic work to shape an academic job. *Studies in Higher Education*, *43*(12), 2294–2304. https://doi.org/10.1080/03075079.2017.1326023

Brown, D. (2013). A review on reflection: An essay on technology, education, and the status of thought in the twenty-first century by Ellen Rose. *In Education*, *17*(3), 46–58. https://doi.org/10.37119/ojs2013.v19i1.122

CAUT. (2020, August 19). What impact is the pandemic having on post-secondary teachers and staff? https://www.caut.ca/sites/default/files/covid_release-impacts_of_pandemic-en-final-08-19-20.pdf

Cordero, J., Torres-Zambrano, J., & Cordero-Castillo, A. (2024). Integration of generative artificial intelligence in higher education: Best practices. *Education Sciences*, *15*(1), 32. https://doi.org/10.3390/educsci15010032

Cruz, L., Grodziak, E., & Steiner, H. (2024). Practice what we preach?: A review of journal publishing practices related to reflective writing in SoTL. *International Journal for the Scholarship of Teaching and Learning*, *18*(1), 1–7. https://doi.org/10.20429/ijsotl.2024.180105

Cull, B. (2015). Time for reflection?: Digital text and the emerging paper divide. *Against the Grain*, *27*(1), Article 12. https://doi.org/10.7771/2380-176X.6994

CUPE. (2022, September 28). Sector profile: Post-secondary. https://cupe.ca/sector-profile-post-secondary-education

Danyluk, P., & Burns, A. (2021). Experiencing the shift: How postsecondary contract and continuing faculty moved to online course delivery. *Brock Education Journal*, *30*(2), 63–78. https://doi.org/10.26522/brocked.v30i2.866

Doughty, H. A. (2015). The crisis in higher education: A Canadian perspective. *College Quarterly*, *18*(3). https://collegequarterly.ca/2015-vol18-num03-summer/doughty2.html

Englund, C., Olofsson, A. D., & Price, L. (2018). The influence of sociocultural and structural contexts in academic change and development in higher education. *Higher Education*, *76*(6), 1051–1069. https://doi.org/10.1007/s10734-018-0254-1

Evangelista, E. D. L. (2025). Ensuring academic integrity in the age of ChatGPT: Rethinking exam design, assessment strategies, and ethical AI policies in higher education. *Contemporary Educational Technology*, *17*(1), ep559. https://doi.org/10.30935/cedtech/15775

Gonçalves, S., & Majhanovich, S. (2022). *Pandemic, disruption and adjustment in higher education*. Brill. https://doi.org/10.1163/9789004512672

Klyshbekova, M., & Abbott, P. (2024). ChatGPT and assessment in higher education: A magic wand or a disruptor? *Electronic Journal of E-Learning*, *22(2)*, 30–45. https://doi.org/10.34190/ejel.21.5.3114

Lopes, A., & Dewan, I. A. (2014). Precarious pedagogies? The impact of casual and zero-hour contracts in higher education. *Journal of Feminist Scholarship*, *7*(7)*,* 28–42. https://digitalcommons.uri.edu/jfs/vol7/iss7/5

Majhanovich, S. (2020). Neo-liberalism in a globalized world: The case of Canada. In J. Zajda (Ed.), *Globalisation, ideology and neo-liberal higher education reforms* (Vol. 21, pp. 21–36). Springer. https://doi.org/10.1007/978-94-024-1751-7_2

Markelj, J., & Sundvall, S. (2023). Digital pedagogies post-COVID-19: The future of teaching with/in new technologies. *Convergence*, *29*(1), 3–10. https://doi.org/10.1177/13548565231155077

McCulloch, S., & Leonard, J. (2024). Hidden impacts of precarity on teaching: Effects on student support and feedback on academic writing. *Teaching in Higher Education*, *29*(3), 772–788. https://doi.org/10.1080/13562517.2023.2280258

Open AI (2023). *Introducing ChatGPT Plus*. Open AI. https://openai.com/index/chatgpt-plus/

Pelletier, K., McCormack, M., Muscanell, N., Reeves, J., Robert, J., & Arbino, N. (2024). *EDUCAUSE Horizon Report: Teaching and learning edition.* EDUCAUSE. https://library.educause.edu/-/media/files/library/2024/5/2024hrteachinglearning.pdf

Robert, K. (2024). Grounding presence: Beholding the vulnerability of emergency remote teaching and learning. In L. Jeffrey, A. Palalas, K. Robert, & Y. L. R. Wong (Eds.), *Presence in the online world: A contemplative perspective and practice guide for educators* (pp. 45-60). Rowman & Littlefield Publishers.

Rose, D. (2020). A snapshot of precarious academic work in Canada. *New Proposals: Journal of Marxism and Interdisciplinary Inquiry*, *11*(1), 7–17. https://ojs.library.ubc.ca/index.php/newproposals/article/view/192381

Rose, E. (2010). Continuous partial attention: Reconsidering the role of online learning in the age of interruption. *Educational Technology*, *50*(4), 41–46. http://www.jstor.org/stable/44429840

Rose, E. (2011). Continuous partial attention: Teaching and learning in the age of interruption. *Antistasis*, *1*(2). https://journals.lib.unb.ca/index.php/antistasis/article/view/18524

Rose, E. (2013). *On reflection: An essay on technology, education, and the status of thought in the 21st century*. Canadian Scholars' Press.

Rose, E. (2016). Reflection in asynchronous online postsecondary courses: A reflective review of the literature. *Reflective Practice*, *17*(6), 779–791. https://doi.org/10.1080/14623943.2016.1220936

Schön, D. A. (2017). *The reflective practitioner: How professionals think in action*. Routledge. https://doi.org/10.4324/9781315237473

Skelton, A. M. (2009). A 'teaching excellence' for the times we live in? *Teaching in Higher Education*, *14*(1), 107–112. https://doi.org/10.1080/13562510802602723

Walker, J. (2009). Time as the fourth dimension in the globalization of higher education. *The Journal of Higher Education*, *80*(5), 483–509. https://doi.org/10.1080/00221546.2009.11779029

Watanabe, A. (2024). Have courage to use your own mind, with or without AI: The relevance of Kant's enlightenment to higher education in the age of artificial intelligence. *The Electronic Journal of e-Learning*, *22*(2), 46–58. https://doi.org/10.34190/ejel.21.5.3229

Zhou, X., Teng, D., & Al-Samarraie, H. (2024). The mediating role of generative AI self-regulation on students' critical thinking and problem-solving. *Education Sciences*, *14*(12), 1302. https://doi.org/10.3390/educsci14121302