

A Hermeneutic Phenomenological Inquiry into Higher Education Educators' Engagement with Technology for Facilitating Higher Order Thinking Skills

Felicity Healey-Benson, International Institute of Creative Entrepreneurial Development, UWTSd, Wales, felicity.healey-benson@uwtsd.ac.uk

Abstract

Adopting a hermeneutic phenomenological approach, this study delves into the lived experiences of higher education (HE) educators who utilise digital technology to enhance Higher Order Thinking Skills (HOTS). Grounded in the philosophical frameworks of Heidegger (1927/1962) and Gadamer (1960/1975) and employing an adaptation of van Manen's (2014) Methodology of Phenomenology, this research provides an in-depth emic perspective on how educators experience the use of digital tools to foster students' HOTS. The study engages a diverse, international cohort of twelve HE educators from Australia, Canada, India, the UK, and the USA, covering key disciplines relevant to contemporary business schools.

The study aims to enhance understanding of the intricate relationship between digital technology and educators' experiences in fostering HOTS. By exploring these experiences through an existential lens, it addresses ethical, cognitive, and affective dimensions. The findings resonate with insights from Beard (2018) and Hare (2022), affirming technology's dual role in education, as encapsulated in the 'pharmakon' concept, originally articulated by Derrida (1972) from his reading of Plato's Socrates. This principle illustrates technology's capacity to serve both as a remedy and a poison, a duality further explored in digital contexts by Kern (2014) and Adams (2017). For example, while digital technologies promote connectivity and collaborative learning—serving as a remedy to traditional educational limitations—they can also lead to cognitive overload and superficial engagement, exemplifying its 'pharmakon' effect in supporting HOTS development.

By focusing on educators' lived experiences through a phenomenological lens, the research illuminates how educators adeptly navigate the complexities and opportunities presented by digital tools. The findings underscore the necessity for a critical and nuanced understanding of technology's role in shaping educational practices and outcomes and advocates for a balanced, reflective approach to technology integration when supporting HOTS development. The study offers grounded insights to inform pedagogical strategies for HOTS development in the digital era.

Key words

Hermeneutic Phenomenology, Higher Order Thinking Skills (HOTS), Digital Technology Integration, Educators' Lived Experience, Existentials, Networked Learning Environments, pharmakon

Introduction

In an era marked by the continuous evolution of educational paradigms, the cultivation of Higher Order Thinking Skills (HOTS)—such as critical thinking, problem-solving, and metacognition—is paramount, being key to innovation and development (Mitani, 2021). These competencies are crucial for students to navigate today's knowledge economies and tackle multifaceted challenges, including the proliferation of digital disinformation, exemplified by deep fake content (Blankenship, 2021). Within this context, the higher education (HE) sector is tasked with a critical role: integrating technology to foster these advanced cognitive abilities in students, as accentuated in recent studies (e.g., Heron and Palfreyman, 2021; Pishchukhina & Watson, 2021).

This paper presents a hermeneutic phenomenological investigation into HE educators' use of digital tools, drawing upon Heidegger's existential reflections and Gadamer's hermeneutic principles, in order to deepen understanding of the experiential and existential impacts of technology in pedagogy. It aims to grasp the 'things themselves'—Heidegger's (1927/1962) as a call for an authentic understanding of educators' lived experiences with technology and its pedagogical integration. This research not only explores the influence of digital technology on the pedagogical process but also reveals the nuanced roles these tools play in nurturing HOTS, scrutinising the 'hidden curriculum' of digital tools (Adams, 2017) and their dual impact on human experience. This nuanced exploration allows us to appreciate the complex interplay between educators' pedagogical strategies and the digital tools at

their disposal, offering rich insights into the ways technology is perceived by educators as both enabling and constraining the development of critical and creative thinking skills.

Addressing a gap in existing literature, this study bridges the noncognitive and cognitive domains of teaching HOTS, uncovering nuanced and often overlooked aspects of pedagogical practice. By offering insights that are academically rigorous and practically relevant, this research contributes to the discourse on networked learning and the digital evolution within HE. It highlights technology's dual role in enhancing and potentially limiting pedagogical effectiveness, thus informing strategies for technology-enhanced learning. The findings underscore the necessity of a balanced, reflective approach to technology integration, advocating for practices that not only enhance HOTS but also consider the ethical challenges digital tools present.

Methodology

Rooted in a hermeneutic phenomenological framework, this study employs the philosophical insights of Heidegger (1927/1962) and Gadamer (1960/1975), operationalised through van Manen's (2014) Practice of Phenomenology method, to explore HE educators' experiences with digital technology when facilitating student HOTS. It delves into the noncognitive, ineffable, and emotional dimensions of educators' encounters with digital tools, which often defy simple quantification.

In-depth interviews with educators from business schools in Australia, Canada, India, the UK, and the USA, uncover a broad spectrum of insights on integrating digital technology and pedagogical strategies for HOTS. Despite these countries' linguistic similarities and advanced digital infrastructures, they each offer distinct educational and cultural contexts that enrich understanding of digital technology's role in developing HOTS. This diversity allows the study to capture deeper, subjective, and experiential aspects of educators' interactions with digital technology in various educational settings.

Adapting van Manen's methodology (2014), the study interprets 'lived experience descriptions' (LEDs) extracted from transcribed audio interviews to highlight the essence of educators' digital engagements. This approach prioritises understanding the existential significance of digital tools within educators' pedagogical practices over seeking objective truths. Digital tools are examined as relational entities, focusing on their existential role beyond mere functionality, and how they mediate educational interactions, shape pedagogical environments, and influence the cultivation of HOTS in diverse settings. Central to the analytic process were van Manen's (2014) existential themes—lived space (spatiality), lived body (corporeality), lived time (temporality), and lived human relation (relationality). Spatiality examined the impact of virtual and physical learning environments, revealing how digital and physical spaces coalesce to shape the educational experience. Corporeality looked at the physical engagement with technology, exploring the sensory dimensions of interacting with digital tools. Temporality focused on the altered perceptions of time during digital interactions, highlighting how technology can compress or expand educational moments. Relationality delved into the dynamics of social connections facilitated by digital technology, uncovering how these tools foster or hinder relationships within the educational context.

Findings

The study's exploration of digital technology's existential impact is articulated through four key dimensions: relational, temporal, spatial, and corporeal. Each dimension offers unique insights into how technology reshapes the educational experiences integral to the development of HOTS. One educator's experience with digital communication vividly captures the relational dimension.

"While technology connects us across distances, it sometimes strains the authenticity of our interactions," she explains. Her insights illuminate the challenges of fostering genuine human connections in digital spaces, underscoring the need for mindful engagement with technology to preserve the essence of 'being-with-others.' This narrative exemplifies the relational tension technology can introduce, necessitating strategies to sustain authentic human connection amidst digital interactions. "I don't tell them what to read... I'm not telling you what to believe," further emphasises the educator's role in facilitating self-directed learning and authentic engagement.

The temporal aspect is encapsulated in an educator's reflection on the accelerated pace of learning: "Technology has altered our perception of time, pushing us towards an always-on mode of operation," he notes. This observation spotlights the shift in educational rhythms, emphasising the necessity of balancing the immediacy of digital access with the depth of thoughtful reflection. "So, I constantly have a sort of internal talk where I'm like I need to be patient," reflects the educator's self-awareness about the need to allow for "think time," challenging the always-on mode induced by digital technologies.

In terms of spatial influence, another educator discusses the transformation of physical learning spaces: "Virtual environments have expanded our classrooms beyond walls," creating new possibilities and challenges in maintaining a cohesive learning community. This comment delves into the expanded reach and the potential fragmentation introduced by digital learning spaces. "We would sit in there occasionally and just listen in to their conversations," suggests an approach to maintaining a cohesive learning community by being a part of digital spaces without overtly directing them, reflecting on how digital platforms can transcend physical boundaries, yet also warn of the risks they pose in diluting the cohesiveness of educational communities.

Addressing the corporeal dimension, another educator underscores the sensory changes technology incites: "Multimedia tools have revolutionised the tactile experience of learning, engaging students in a more immersive way." Her perspective accentuates how technology can augment the physical engagement of students, adding a new layer to their learning experience. However, this heightened sensory engagement can exert pressure on students, potentially promoting surface-level problem-solving and hindering critical thinking. This corporeal insight highlights the delicate balance between leveraging technology for immersive learning and avoiding overstimulation that detracts from deeper educational objectives. The mention of educators stepping back to allow students room to fail also touches on the corporeal dimension, acknowledging the physical and emotional space learners need to navigate the pressures of digital learning environments.

Educators employed a variety of digital tools—ranging from chat applications to MOOCs and video games—to cultivate HOTS. Consistent with the insights of Beard (2018) and Hare (2022), all educators recognise that digital technology is not a neutral tool. These educators adeptly utilised digital tools to bolster HOTS, enabling social, communal, and collaborative learning across diverse student groups globally. Such tools dismantle geographical barriers, broadening access to new knowledge and expanding learning spaces. Despite these advantages, a nuanced, critical engagement with technology is imperative, as it has the potential to both enhance and inhibit thinking, thus necessitating a balanced approach. The salient impact of digital tools, particularly in fostering interactive environments where 'students write for each other, thereby enhancing their effort and engagement' as one educator highlighted, generally tends to outweigh concerns. Yet, the risk of cognitive overload and surface-level engagement, especially highlighted by challenges such as "'trolling during anonymous chats'", embodies the intricate dual nature of digital technology in educational settings. This duality—where technology serves as both a catalyst for advancement and a potential impediment to deeper cognitive engagement—echoes the concept of 'pharmakon', a term revisited by Derrida (1972) in the context of writing's ambivalent capacity to serve as both remedy and poison as elucidated by Socrates. Through extending the analogy of 'pharmakon' to digital technology (Adams, 2017; Kern, 2014), we gain a deeper understanding of the nuanced experiences of educators as they navigate these dualities in HOTS facilitation. Digital tools, though indispensable for modern education and skilled at dismantling geographical barriers and fostering collaborative learning, also present significant challenges that can undermine the very skills they aim to enhance. Within the educators' narratives emerges a continual balancing act, where the benefits of increased connectivity and access to knowledge are balanced against the risks of diminished depth in student engagement and critical thinking. These findings, deeply rooted in van Manen's (2014) existential themes, offer a comprehensive view of the multifaceted role digital technology plays in the development of HOTS.

Conclusions

The study's comprehensive analysis of HE educators' experiences with digital technology reveals the complex interplay between technology integration and the development of Higher Order Thinking Skills. Moving beyond mere functional analysis, the research uncovers how digital technology shapes educational practices and HOTS, influenced by a rich array of pedagogical philosophies. The findings resonate with existing literature on digital education, yet a hermeneutic phenomenological approach offers a distinct perspective, delving into the subjective, personal narratives of educators. These narratives reveal a tapestry of hopes, challenges, and aspirations, providing invaluable insights into technology's nuanced role in HE.

The approach transcends traditional interpretations of HOTS, suggesting that these skills emerge from both cognitive processes and the holistic educational environment shaped by digital technologies. The study highlights technology's role as a mediator of human connections and its influence on educators' perceptions of space and time. By focusing on the existential dimensions of practice—embodiment, temporal dynamics, and relational engagements—it offers fresh perspectives on technological integration.

The exploration of technology as a 'pharmakon', aligning with reflections from Adams (2017), Derrida (1972) and Kern (2016) and underscores the need for discerning engagement with digital tools. This research broadens understanding of HOTS development, highlighting the often-overlooked noncognitive and emotional aspects of

educators' interactions with technology. It contributes novel insights into the paradoxical nature of technology in education, emphasising the necessity for comprehensive, educator-focused research. This study stands as a testament to the value of phenomenological research in deepening understanding of educational practices. For the Networked Learning community, it underscores the importance of dialogue and research into pedagogical technology integration. The study's Western-centric perspective also calls for expanded research across diverse cultural and disciplinary landscapes, advocating for a more inclusive exploration of digital technology's transformative potential in education.

References

- Adams, C. (2017). Technology's hidden curriculum and the new digital Pharmakon. In J. Jagodzinski (Ed.), *The Precarious Future of Education: Education, Psychoanalysis, and Social Transformation* (pp. 225-240). New York: Palgrave Macmillan. 10.1057/978-1-137-48691-2_10.
- Beard, A. (2018). *Natural Born Learners: Our Incredible Capacity to Learn and How We Can Harness It*. Weidenfield & Nicolson, UK.
- Blankenship, R.J. (2021). *Deep Fakes, Fake News, and Misinformation in Online Teaching and Learning Technologies*. IGI Global.
- Derrida, J. (1972). *La dissemination [Dissemination]*. Paris: E'dition du Seuil.
- Gadamer, H-G. (1975). *Truth and Method* (J. Weinsheimer & D.G. Marshall trans.). New York: Seabury Press. (Originally published in German in 1960 by J.C.B. Mohr (Paul Siebeck), Tübingen, Germany)
- Hare, S. (2022). *Technology is Not Neutral: A Short Guide to Technology Ethics*. Publishing Partnership, London.
- Heidegger, M. (1962). *Being and Time* (J. Macquarrie & E. Robinson, Trans.). Harper & Row, New York: NY. (Original work published 1927).
- Heron, M., & Palfreyman, D.M. (2021). *Exploring Higher-Order Thinking in Higher Education Seminar Talk*, *College Teaching*, 71:4, 252-259. <https://doi.org/10.1080/87567555.2021.2018397>
- Kern, R. G. (2014). Technology as Pharmakon: The Promise and Perils of the Internet for Foreign Language Education. *The Modern Language Journal*, 98(1), 340-357. <https://www.jstor.org/stable/43651763>
- Mitani, M. (2021). Test Score Gaps in Higher Order Thinking Skills: Exploring Instructional Practices to Improve the Skills and Narrow the Gaps. *AERA Open*, 7(12). <https://doi.org/10.1177/23328584211016470>
- Pishchukhina, O., & Watson, M. (2021). *Tools and techniques to stimulate higher order thinking in online learning*. In D. Maga, & J. Hajek (Eds.), *Proceedings of 30th Annual Conference of the European Association for Education in Electrical and Information Engineering*, Prague, 1-3 September, 2021 (1 ed., pp. 188-193).
- van Manen, M. (2014). *Phenomenology of practice: Meaning-giving methods in phenomenological research and writing*. Left Coast Press.