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Improving Critical Digital Pedagogy in the Virtual Classroom

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Abstract

This comprehensive review delves into the essence and pivotal role of critical digital pedagogy within the sphere of eLearning, highlighting its indispensable contribution to modern educational frameworks. Central to our discussion is the examination of the nuanced relationship between digital literacy and the dynamic interaction of individual capabilities and societal forces in leveraging technology for educational enhancement. We scrutinize the challenges and strategies pertinent to educators in integrating digital tools and pedagogies to foster a rich, engaging learning environment that transcends traditional boundaries and caters to diverse learner needs. The exploration extends to the theoretical underpinnings of critical pedagogy, transactional distance theory, and communities of practice and their instrumental roles in shaping effective online instruction and fostering an inclusive, critical learning atmosphere. The transition towards more permanent remote education models post-pandemic has underscored the necessity for educators to refine their digital pedagogy skills, emphasizing critical engagement, adaptability, and the co-creation of knowledge. Further, the review underscores the importance of teacher education in equipping educators with the competencies required for navigating the digital landscape, thereby enhancing the overall quality of eLearning. Through the lens of critical digital pedagogy, this analysis offers valuable insights into the development of pedagogical strategies that not only accommodate but thrive on the opportunities and challenges presented by the digital age, aiming to prepare learners for a technologically advanced and interconnected world.

Keywords: critical digital pedagogy, virtual classroom, digital literacy, educational technology, online learning, faculty development, pedagogical strategies, adult learning

Improving Critical Digital Pedagogy in the Virtual Classroom

Digital literacy is crucial in the modern educational landscape as it encompasses the nuanced interplay of individual capabilities and societal dynamics in leveraging digital technologies for information retrieval, comprehension, evaluation, and communication. Educators are tasked with integrating suitable technologies into every facet of pedagogy to uphold and advance the quality of teaching within eLearning settings (Bambang et al., 2021; Karnoe et al., 2018). However, the proficiency of instructors in digital literacy and instructional strategies often remains elementary. Despite gaining relevant expertise and practical experiences in adult education, teachers frequently encounter a lack of holistic preparation for the distinctive challenges posed by virtual learning environments.

The shift towards remote or distance education models by numerous institutions has profoundly influenced their teaching and learning paradigms. Therefore, it is essential to allow faculty members to identify and actualize proven pedagogical methods that amplify digital pedagogy in the classroom, address educational mandates, enhance student learning, and refine outcomes assessments (Lewis, 2017). To achieve superior online instruction, defining benchmarks for best practices and formulating a competency-driven faculty development initiative spanning various departments is vital. These strategies will facilitate the integration of the principles within university curriculums. Frameworks such as adult learning (H.-M. Huang, 2002; Stephens et al., 2022), critical digital pedagogy (Clark, 2018; Giroux, 2010; Masood & Haque, 2021; Morris & Stommel, 2017), and transactional distance theory (Falloon, 2011; X. Huang et al., 2016; Moore, 2018; Roach et al., 2022) are instrumental in establishing these benchmarks.

The pandemic restrictions ease, organizations are shifting from emergency distance learning to a more permanent approach. This transition underscores the necessity of enhancing critical digital pedagogy skills of all educators within these institutions. Notably, such improvement transcends acquiring new knowledge; it entails refining teaching methodologies and pedagogical acumen. The ability to amalgamate, integrate, and apply complex, multi-faceted processes across varied contexts, conditions, and student demographics characterizes effective teaching (Hollins, 2011; Tardy et al., 2020).

During the pandemic, educational dynamics pivoted from an interactive, face-to-face critical pedagogy to a predominantly lecture-centric format. This transition often resulted in the diminishment of the critical pedagogy that fosters robust participatory engagement - a pedagogy that supports and encourages scrutinizing mainstream societal narratives (Clark, 2018; Marouli, 2021). Critical pedagogy's essence lies in stimulating students to contemplate their learning processes and how they, as learners, correlate with the wider sociocultural fabric (Young, 2019). Critical digital pedagogy extends this imperative into eLearning (Roberts, 2019). This review dissects the core issues pertaining to instructional readiness and classroom dynamics within eLearning from diverse angles while preserving objectivity. The insights presented equip the reader with a functional understanding required to grasp the complexities of this issue.

Critical Pedagogy

In the online environment, critical pedagogy concepts are more connected to the digital information landscape, providing opportunities to turn data into knowledge within the eLearning environment (Coker, 2020). Giroux (2010) defined critical pedagogy as acts of intervention that lead to social change. Jeyaraj and Gandolfi (2019) reinforced this idea but added that social change is achieved through education and guided by the spirit of social justice. Makarova and

Makarova (2018) posited that the use of digital technologies ensures equitable access for all who wish to obtain the necessary knowledge to develop the required digital literacy decision-making skills. Chun's (2018) assessment of critical pedagogy underscored the contentious nature of this educational approach, which has been a fertile ground for debates and discord concerning its underlying meaning. A pivotal facet of critical pedagogy revolves around the understanding and application of knowledge. A fundamental tenet of critical digital pedagogy entails educators should present their perspectives clearly to students without imposing personal biases (Chatzipanagiotou & Katsarou, 2023).

Critical pedagogy offers students a lens through which to scrutinize their own positionality in the world and to perceive the world not as static but as a dynamic, transformative process (Giroux, 2010). This pedagogical approach demands that engagement with reality transpires through the lens of realism, analysis, and rationality (Bell, 2015). Rational thought requires individuals to evaluate their current circumstances objectively and subjectively, reflecting their consciousness and unique worldview (Bissola et al., 2017). In critical pedagogy, fostering critical and creative thinking relies on the interplay between objective and subjective perspectives.

Challenges and Practical Implementation of Critical Pedagogy

In critical pedagogy, neither the instructor nor the student holds dominion over the classroom; instead, they cultivate a collaborative partnership dedication to creating and sharing knowledge through a problem-posing model. This method challenges students to reassess their worldviews. Moreover, critical pedagogy can be expanded upon by incorporating human capital theory, linking it to the knowledge economy, preparing students to be flexible, adaptable, and critical thinkers in the workforce.

The theory of human capital regards education as an investment in individuals, focusing on skills, knowledge, and adaptability development. Professors are responsible for improving student capital by promoting critical thinking, problem-solving, and a dedication to lifelong learning. Educators can help students make informed decisions regarding their educational and professional futures by comprehending this theory. It emphasizes the financial advantages of education, influences policy choices, and highlights the skills gap between education and the workforce (Abdulaziz, 2022).

Through critical dialogic exchanges, the profound interconnectedness and shared responsibility among individuals become evident, culminating in the co-creation of knowledge through socialization and the cultivation of critical and creative thinking (Yilmaz, 2017). A cornerstone of critical pedagogy lies in nurturing critical consciousness in students, forging symbiotic relationships from student to instructor, student to student, and student to the curriculum (Rodriguez & Huemmer, 2019). Given its interdisciplinary nature, critical pedagogy transforms the classroom into a vibrant, contested area that remains open to diverse ideas and critiques (Panayiotopoulos & Lichrou, 2023). Instructors play crucial roles as facilitators and moderators, helping students think critically and develop and connect ideas through engaging discussions (Freire et al., 2018).

However, critical pedagogy faces significant challenges in recognizing and accommodating diverse abilities among students and instructors (Haynes, 2018). While aiming for autonomy, both groups often depend on each other for cognitive support (Gabel, 2002). This dependence creates a paradox in striving for impartiality. Although critical pedagogy theoretically considers those requiring cognitive assistance; its practical implementation, particularly when fostering critical consciousness around issues of identity and cultural diversity,

poses a formidable challenge for instructors. Effecting a transition toward a truly critical environment necessitates unwavering support from the instructors themselves. Neumann (2013) observed that critical pedagogy resonates most with instructors who already embrace critical dispositions, which poses a hurdle to its effective implementation across the educational landscape.

Critical Digital Pedagogy

Critical digital pedagogy, which draws from the works of Paulo Freire, Bell Hooks, and Henry Giroux, serves as a bridge between traditional critical pedagogy and the ever-changing landscape of digital education. It tackles the intricacies of the digital age while prioritizing empowerment, critical awareness, and active resistance to dominant ideologies (Giroux, 2010). At the core of modern pedagogy lies the crucial concept of digital literacy. In today's digital age, being literate is not only limited to reading and writing but also includes the ability to comprehend, evaluate, and criticize digital platforms and content. Educators must both teach the technical aspects of digital tools and guide students to analyze and question the underlying biases and structures within these tools. Therefore, digital literacy is both a skill and a form of resistance that equips students with the ability to navigate and challenge the digital world critically. Moore's (1973) transactional distance theory emphasizes the importance of psychological and communicative "distance" in online education. This distance extends its literal meaning and refers to power imbalances and misunderstandings. By recognizing this gap, educators can create an inclusive and engaging teaching approach within the context of critical digital pedagogy.

Another pivotal concept is the 'community of practice' (CoP), characterized by groups united by mutual interests and dedicated to collective learning. Within the domain of critical

digital pedagogy, CoPs are catalysts for change, fostering knowledge-sharing and promoting critical discourse. Such communities offer a nurturing environment for students to engage actively, exchange varied perspectives, and challenge established digital norms. Morris (2017) astutely summarized that critical digital pedagogy extends beyond merely using digital tools; it equips students to traverse spaces, ethically acknowledging their multifaceted identities. This dynamic perspective prompts educators to re-evaluate traditional pedagogies, steering them towards an inclusive and transformative digital learning horizon by merging key concepts like digital literacy, transactional distance theory, and CoPs.

The onset of the COVID-19 pandemic forced many institutions to pivot from in-person to online teaching. This sudden transition underscored significant challenges for educators, from technological gaps to unpreparedness in online teaching strategies. Although critical digital pedagogy emphasizes the importance of inquiry over tech-savviness (Waddell & Clariza, 2018), it acknowledges the predicament of adapting lessons tailored for physical classrooms to online platforms. Notably, Beetham and Sharpe (2020) observed that despite technically advanced classrooms, longstanding institutional norms and misconceptions can hinder educators from tapping into this digital potential.

During the pandemic, Universidad de la República in Uruguay responded by crafting and implementing an exemplar emergency remote teaching strategy to sustain higher education with minimal academic disruption. Central to their approach was the creation of a contingency plan by the Virtual Learning Environments Program, grounded in the pedagogy of care and critical digital pedagogy (Rodés et al., 2021). A key initiative of this plan was the “Teaching Online in Emergency Conditions” course, modeled on the massive online open course (MOOC) framework and tailored for the university’s context. The study examined the engagement and contributions

of the participating educators to evaluate how well they internalized the educational theories, methodologies, and tools necessary for adapting to online teaching, all through the lens of critical digital pedagogy and the pedagogy of care. Ultimately, the initiative was deemed a valuable model for teacher professional development, demonstrating its importance for an effective transition to emergency remote teaching. This case adds valuable empirical evidence to an evolving body of knowledge, which could eventually lead to broader and more definitive conclusions.

When employed judiciously, digital tools can enhance teaching in line with the principles of critical pedagogy (Conole, 2018; Engeness, 2021), fostering a more immersive and impactful eLearning experience. Such tools not only clarify power relations and information dynamics (Waddell & Clariza, 2018) but also encourage students to transition from consumers to proactive creators (Clark, 2018). Central pillars of critical digital pedagogy include understanding authority as context-driven, viewing information creation as a distinct process, and valuing the role of analytical and inventive thinking in the digital space. Emphasizing this integrated perspective, Mishra and Koehler (2006) encouraged educators to merge technology, pedagogy, and content knowledge thoughtfully, cautioning against adopting technology without meaningful pedagogical intent. Similarly, Colpitts et al. (2021), Gibson and Smith (2018), and Papendieck (2018) pushed for a rigorous examination of the inherent values and predispositions within digital tools, which might inadvertently champion dominant narratives.

Rooted in values of community and inclusivity, critical digital pedagogy champions collaboration that breaks cultural and political boundaries (Abuhassna et al., 2020; Lund et al., 2019). It challenges educators to extend these tenets beyond the classroom and to weave them into broader societal contexts, amplifying the real-world relevance of analytical and creative

skills (Morris & Stommel, 2018). Critical digital pedagogy is not only a digital endeavor or academic theory, it is also an educational revolution (Lund et al., 2019) preparing students for a digitally interconnected era, granting them the insights and avenues for genuine global interactions (Morris & Stommel, 2018).

Digital Literacies

During the digital revolution, instructors not well-versed in digital literacy grappled with harnessing new technological tools and creating an effective online pedagogical strategy (Spante et al., 2018). Caverly et al. (2019) underscored the need for a robust instructor training framework that continually upgrades their competencies in the evolving digital domain. Such a proactive approach is pivotal for fostering a resilient cadre of eLearning educators. As Baroud and Dharamshi (2020) explained, the very definition of digital literacy has evolved from mere autonomous reading and writing to a multifaceted construct influenced by historical, cultural, and technological paradigms. However, the same scholars highlighted the gap between teachers' present capabilities and the rising expectations of seamlessly integrating technology into instruction.

Given the pervasive nature of technology, reshaping communication, learning, and knowledge acquisition (Kelentríc et al., 2017), educators must cultivate students adept at thriving in digital terrains. Such instructional proficiency demands that educators remain ahead of the digital curve or risk obsolescence (Conole, 2018). Educators versed in digital literacy can harness emerging pedagogical innovations, like flipped classrooms and digital curation (Foster & Yaoyuneyong, 2016), bolstering the institutional ethos of digital progress and serving as a catalyst for change (Gibson & Smith, 2018). Conole (2018) noted the dynamic challenges for instructors to update their knowledge continuously, given the swift pace of pedagogical and

technological advancements. Lund et al. (2019) asserted that with the progression of digital technologies, educators can explore novel pedagogical vistas, reshaping traditional learning paradigms. In an era characterized by information ubiquity, mastering and imparting digital literacy becomes a non-negotiable skill for post-graduation success (Gibson & Smith, 2018).

Within institutional learning infrastructure, learning management systems (LMSs) have become ubiquitous (Conole, 2018; Langreo, 2022). However, many of these platforms function predominantly as content vaults rather than dynamic eLearning hubs fostering genuine knowledge creation. There is an emergent need to recalibrate the educational focus, transitioning from mere knowledge regurgitation to cultivating essential digital skills that nurture lifelong learners (Haruehansawasin & Kiattikomol, 2018). Given the profound imprint of digital technologies on education, exacerbated in the COVID-19 era, the primacy of digital literacy for instructors cannot be overstated. Echoing the European Commission's observation in 2017, many higher education educators lack requisite pedagogical training. To ensure educators can thrive in digital classrooms, sustained investment in training and professional development is crucial (Ming & Zhonggen, 2022). Critical digital pedagogy plays a cardinal role, guiding the meaningful, inclusive, and continual interrogation of technology's integration in education.

Transactional Distance

Huang et al. (2016) emphasized the intricate link between course structure, dialogue, and student independence. The theory of transactional distance by Michael G. Moore (1973) offers a valuable perspective for evaluating online learning. This theory does more than recognize physical separation in distance learning; it delves into the pedagogy behind it. It proposes a balance between course design, teacher-student dialogue, and learner autonomy, which is critical

for adult online education. In eLearning, transactional distance denotes geographical separation, but stresses the importance of teacher-student interaction, which revolves around course design and meaningful communication.

Weidlich and Bastiaens (2018) noted that eLearning's technological aspect is vital for a holistic view because of its inherent reliance on tech-mediated communication. Bolliger and Halupa (2018) and Grozev et al. (2023) saw transactional distance as key to engaging online students and employing effective teaching tactics. For Titarenko and Little (2017), these tactics hinge on structure (course design flexibility) and dialogue (teacher-student interaction). Bostock (2018) suggested a learning model emphasizing the interconnectedness of students, instructors, and the learning environment, highlighting student autonomy. Moore (2018) believed in a balanced blend of structure, dialogue, and autonomy for eLearning courses, while Bostock (2018) opined that self-driven students handle structured settings better, whereas those less independent prefer robust dialogue.

In eLearning, ensuring quality means maximizing beneficial interactions across all teaching elements, with communication playing a pivotal role (National Academies of Sciences, Engineering, and Medicine, 2018). MacLeod et al. (2019) introduced the relative proximity theory, an extension of Moore's concept, to assess eLearning quality. The authors argued that understanding barriers to student engagement is crucial for designing of effective educational strategies. Identifying which course interactions hinder student satisfaction can help reduce the perceived distance in online learning.

Table 1 depicts the concept of transactional distance, the cognitive space between instructions and learners in an educational setting, particularly in distance education. The learning characteristics involve aspects controlled or influenced by the learner, while

environmental factors are external conditions set by the educational delivery and its infrastructure. Transactional distance is affected by the interplay between these characteristics and factors, including the effectiveness of the learning experience.

Table 1

Learning Characteristics and Environmental Factors

Learning Characteristics	Environmental Factors
<p>Dialogue</p> <ul style="list-style-type: none"> - The exchange of ideas and information between learners and educators. - The support given by the instructor that aids in understanding and overcoming educational challenges. - The quality of interaction that influences the learner's sense of understanding. <p>Autonomy</p> <ul style="list-style-type: none"> - The learner's capacity to study independently. - The level of self-direction and self-regulation in learning. - The ability to make choices regarding the learning process. - The requirement for learners to take responsibility for their educational outcomes. <p>Learner-Learner Interaction</p> <ul style="list-style-type: none"> - Communication and collaboration among peers. - The influence of group dynamics on individual learning. - The support, challenge, and assistance received from fellow learners. - The contributions of shared experiences and knowledge to individual understanding. 	<p>Structure</p> <ul style="list-style-type: none"> - The organization of the educational program. - The flexibility of the educational program to accommodate learner needs. - The design of instructional materials and learning activities. - The clarity of objectives and assessment criteria. <p>Feedback</p> <ul style="list-style-type: none"> - The mechanisms through which learners receive information about their progress and comprehension. - The timeliness and quality of responses from the educator or the educational system. - The degree to which feedback is personalized and actionable. <p>Access to Resources</p> <ul style="list-style-type: none"> - The availability and quality of educational materials and resources. - The ease of access to technical support and learning aids. - The provision of adequate tools and platforms for learning. - The infrastructure that supports the delivery of educational content.

Learner Characteristics

Moore (2018) described transactional distance as the perceptual and understanding gap that emerges from the physical separation between instructors and learners in online environments. This metaphorical distance is more than geography; it reflects the challenges in communication and comprehension inherent to remote instruction. In Moore's theory, structure and dialogue emerge as pivotal components. While "structure" refers to the organization and sequence of course content, "dialogue" embodies the continuous exchange between learners and instructors. These elements are dynamic; they can be adjusted and refined throughout the course to meet learner needs best. Learner autonomy, on the other hand, remains a more static component, rooted in a student's inherent personality and learning style. Abuhassna et al. (2020) underlined this by highlighting how some students naturally gravitate towards self-directed learning. Moore's (2018) visualization of the optimal online student is one who, equipped with the right tools and resources, can navigate their educational journey without constant oversight. However, Bostock (2018) suggested that not all learners fit this mold. Some, especially those less familiar or comfortable with online platforms, might flourish better with clear guidelines and a robust support system.

The evolution of online learning reflects a broader educational shift. Traditional models, which often treat students as a homogeneous group, are making way for more personalized approaches. Modern online educators recognize each student brings a unique blend of experiences, cultural backgrounds, motivations, and previous knowledge to the virtual classroom (Abyaa et al., 2019). These individual characteristics are not trivial differences; they significantly impact the learning experience. For example, a student's cultural background might influence their comfort level in participating in group decisions, while their prior knowledge could shape the pace at which they progress through modules.

Research into online learning covers aspects ranging from platform design to the subtle influences of student emotions and psychology. Heckel and Ringeisen (2019) spotlighted the interplay between a student's cognitive processes and emotional states, and how they influence learning outcomes. They suggested a feedback loop where positive learning experiences reinforce motivation and engagement, amplifying learning outcomes. Self-efficacy, defined as a student's belief in their ability to achieve specific outcomes, is crucial in this context. González et al. (2017) found that students with high self-efficacy not only perform better but also experience reduced anxiety and enhanced satisfaction in online settings.

Technological strides, such as Web 2.0, have transformed online learning. While synchronous tools like video conferencing recreate the immediacy of traditional classrooms, asynchronous platforms like forums offer unparalleled flexibility. Yet, this flexibility comes with challenges, from managing time zones to ensuring consistent engagement. Moreover, the absence of face-to-face interactions in asynchronous settings might deprive learners of the rich tapestry of non-verbal clues, potentially affecting the depth of their engagement (Cherney et al., 2018).

In charting the path forward, educators face a delicate balancing act. While technology offers a wide array of tools, its successful integration hinges on pedagogical wisdom. The ultimate goal is to foster deep, meaningful learning experiences, regardless of the medium. The National Academies of Sciences, Engineering, and Medicine (2018) advocated for a balanced blend of social and cognitive presence in online instruction. In the end, the obligation of educators is to create environments where students both learn and thrive.

Table 2 defines "Learner Characteristics" as individual traits that affect how learners engage with the educational material and participate in the learning process. "Environmental

Factors” represent external conditions provided by the educational institution and the learning environment, interacting to include the perceived distance in the learning experience.

Table 2

Learner Characteristics and Environmental Factors of Transactional Distance

Learner Characteristics	Environmental Factors
<p>Motivation - The internal drive that propels learners to engage with the material.</p> <p>Self-Efficacy - The belief in one’s own ability to succeed in specific situations or accomplish a task.</p> <p>Autonomy - The level of independence a learner has or needs in the learning process.</p> <p>Learning Style - The preferred way of processing information and acquiring knowledge.</p> <p>Cognitive and Metacognitive Skills - The mental processes used to comprehend and process information, including planning, monitoring, and evaluating one’s understanding.</p> <p>Personal Circumstances - Factors such as time constraints, work and family responsibilities that affect one’s ability to engage in learning.</p>	<p>Institutional Structure - The policies and framework of the educational institution that facilitates or constrain distance learning.</p> <p>Technological Infrastructure - The hardware, software, and connectivity that supports distance education.</p> <p>Course Design and Delivery - The structure, content, and methods used to present and deliver the course material.</p> <p>Interaction and Communication - The channels and frequency of communication between educators and learners, as well as among learners.</p> <p>Support Services - The availability of academic, technical, and administrative support for learners.</p> <p>Access to Learning Resources - The availability and quality of educational materials and resources for the learners.</p>

Communities of Practice

In the rapidly evolving education landscape, instructor development has emerged as a cornerstone for ensuring academic success (Arthur, 2016; X. Huang et al., 2023). As instructors navigate their personal and professional growth, their continuous learning and adaptation play a pivotal role. Osmond’s (2016) exploration into the origins of communities of practice in adult

learning illuminated this. He highlighted the roots of such communities and the socio-political nuances that have shaped the trajectory of adult education. Communities of practice emphasize shared learning and collective knowledge creation. The concept of communities of practice becomes even more compelling when seen through the lens of critical digital pedagogy. This approach to teaching and learning combines the foundational principles of critical pedagogy with the realities and potentials of digital environments. Communities of practice is about both the creation of shared learning and collective knowledge and how these communities are influenced by and interact with digital tools and platforms.

Sterrett et al.'s (2015) research in nursing provided a window into these communities. Their findings, rich with nuances specific to the medical field, underscored the versatility and adaptability of these learning communities, suggesting their potential applicability across various disciplines. As the digital age surges forward, educational institutions grapple with the challenge of transitioning to eLearning platforms. This metamorphosis is not only technical but also pedagogical. Central to this evolution is the role of instructors, with Patton and Parker (2017) emphasizing the need for collaboration as a linchpin for effective online education.

Communities of practice can be envisioned as academic tapestries intricately woven with diverse threads of knowledge, experience, and passion. While these communities thrive in conventional classroom environments, the digital realm presents a unique puzzle. The dynamics of online platforms offer both potential advantages and inherent challenges. Rooted in the tenets of critical pedagogy, which emphasizes empowerment, liberation, and the disruption of traditional power hierarchies, critical digital pedagogy encourages these communities to engage critically with technology rather than blindly adopting it. The emphasis is on enabling community members to articulate their perspectives, disseminate their expertise, and challenge

prevailing narratives. Through critical digital pedagogy, members are better equipped to navigate digital tools adeptly and to evaluate critically and contest information they encounter online. Shattuck (2013) suggested that these communities can serve as beacons, guiding learners from novice to expert.

Diving deeper into the essence of these communities, van As (2018) and Johnston (2016) spotlighted the shared interests, commitments, and passions that bind members together. This cohesion is not only about academic pursuit but also about forging bonds, building relationships, and creating a reservoir of shared experiences and resources (Makarova & Makarova, 2018; Wenger-Trayner & Wenger-Trayner, 2015). Additionally, as Attardi et al. (2018) astutely observed, learning can manifest in the most casual of settings, like lunchtime chats, illustrating that knowledge acquisition is often an organic and spontaneous process.

Community of Inquiry

Garrison et al. (2000) introduced the community of inquiry framework for eLearning, emphasizing the convergence of social, cognitive, and teacher presences for enriched learning. This framework highlights the importance of genuine learner interactions and meaningful community discussions. With the rise of eLearning, educators have had to adapt, employing innovative pedagogical techniques that prioritize active learning and leverage diverse skills. This shift demands fresh thinking about integrating technology with traditional educational methods to enhance learning outcomes and student experiences. Building a community of inquiry in eLearning entails fostering an interactive space for critical analysis and knowledge validation. Balancing traditional and digital learning elements can challenge educators, especially given the varied support systems in place. While technology is vital, it shouldn't overshadow the educational process. The focus should remain on employing technology to boost engagement and

learning. Both educators and students must be flexible in their approaches, ensuring a balanced and effective digital learning environment.

Critical digital pedagogy and the community of inquiry frameworks are closely intertwined, particularly in online and blended learning environments. Both prioritize critical thinking, with critical digital pedagogy encouraging learners to engage critically with digital technologies and content and the community of inquiry focusing on cognitive presence to construct and confirm meaning through reflection and discourse. Collaboration is fundamental in both critical digital pedagogy and the community of inquiry frameworks.

The community of inquiry model strongly emphasizes social presence as a cornerstone of building a supportive and cohesive learning community. It nurtures a sense of belonging and encourages open and effective communication among learners. Critical digital pedagogy goes a step further by promoting collaboration and focusing on the co-creation of knowledge. This approach empowers students to work together, leveraging their diverse perspectives and skills to construct knowledge actively rather than passively receiving information. This emphasis on participatory learning underlines the importance of interaction and mutual engagement in the learning process, making collaboration both a means to an end and an integral part of the educational experience in both paradigms.

The role of the instructor is pivotal in both frameworks. In the community of inquiry, instructors are crucial for balancing cognitive, social, and teaching presence, while in critical digital pedagogy, they guide students in critically engaging with digital tools and content, fostering a democratized learning environment. Both models view technology as a tool for learning—in critical digital pedagogy, it is used critically and reflectively, while in the community of inquiry, it facilitates educational experiences and communication.

Both approaches advocate inclusivity and accessibility in learning. Critical digital pedagogy pushes for inclusive use of technology, challenging traditional educational power structures, and the community of inquiry supports creating an inclusive online community where all students can contribute. Lastly, adaptability and responsiveness in teaching are central to both models. Critical digital pedagogy responds to the evolving digital landscape and learner needs, while the community of inquiry adapts teaching strategies to the learning community's dynamics. Integrating these principles, educators can foster environments that effectively use technology, promote critical engagement, collaboration, and inclusive learning practices.

Teacher Education

Educators are adapting to the evolving landscape of eLearning and blended learning. Roberts and Bezuidenhout (2017) outlined ten roles for modern distance educators, from subject specialists to team players. Consequently, focused teacher training and ongoing professional development are crucial for eLearning success. This training should ensure educators master their subject, embed new procedures into their professional identity, and integrate new practices into the broader community of practice (Johnson & Johnson, 2017).

The methods used in teacher training shape the student experience and must encompass cooperative, competitive, and individualistic learning situations (Johnson & Johnson, 2017). However, having a conceptual framework is not enough; educators need to develop the right mindset, values, and behaviors for a deep-seated commitment to their profession. Patton and Parker (2017) noted that education training is intricate. Commitment to both teaching and academic research demands persistent mentorship and development support. Properly designed professional development fosters both growth and collaborative learning communities. Hales et al. (2018) highlighted the need to bridge the gap between academic coursework and real-world

classroom application. The COVID-19 pandemic catalyzed the shift in education, prompting instructors to stay updated and versatile. Teacher training for eLearning must bridge theoretical knowledge with practical application, ensuring relevancy and effectiveness (Hales et al., 2018).

Critical digital pedagogy influences teacher education, particularly in preparing educators for a digitalized educational environment. This pedagogical approach guides teacher education programs in effectively integrating technology into teaching, focusing not only on the use of digital tools but also on how they align with educational goals and address student needs. Educators are trained to develop critical awareness of the digital tools they use, considering the broader implications such as data privacy, digital equity, and the impact of technology on student well-being. This approach strongly emphasizes digital literacy, ensuring that teachers and students can navigate, evaluate, and create digital content responsibly.

Furthermore, critical digital pedagogy advocates for reflective teaching practices, encouraging educators to continually assess the impact of technology on learning and adapt their strategies accordingly. This approach fosters innovation in teaching methods, promoting the use of diverse digital strategies like flipped classrooms and blended learning to enhance student engagement and learning outcomes. It prepares teachers for the future of education, which is increasingly digital, equipping them with the skills and mindset needed to adapt to changing technologies and pedagogies.

An essential aspect of this approach in teacher education is its focus on equity and accessibility, guiding educators to create learning environments that bridge the digital divide and cater to the needs of all students. Additionally, it promotes the development of a community of learners among educators, fostering collaborative learning and knowledge sharing, which is vital for ongoing professional development. Overall, critical digital pedagogy is pivotal in shaping

modern teacher education, ensuring that educators are proficient in technology use and critically aware of its role and impact in the teaching and learning process.

Research and Practical Implications for Workforce Education

Enhancing critical digital pedagogy in virtual classrooms carries significant implications for workforce education, notably in fostering enhanced digital literacy. This enhancement is crucial in today's technology-driven world, ensuring workers are not only proficient with current digital tools but also adaptable to emerging technologies. Such pedagogy also sharpens critical thinking and problem-solving skills, preparing learners for complex, real-world challenges. The virtual learning environment demands adaptability and flexibility, qualities essential in the evolving job market. Moreover, these classrooms are hubs for developing collaboration and communication skills, which are vital in virtually any workplace. Personalized learning experiences, facilitated by critical digital pedagogy, lead to more effective education, thus better preparing learners for their careers.

The research opportunities in this field are immense, ranging from exploring effective virtual teaching strategies to developing innovative educational technologies. These advancements also have policy implications, influencing educational and governmental strategies to support virtual learning and uphold quality standards. Furthermore, a workforce skilled in digital methodologies enhances global competitiveness, with such proficiency being highly sought after worldwide. Critical digital pedagogy also promotes inclusivity, making education accessible to diverse populations, including those with disabilities or in remote locations. Lastly, this approach aligns with the concept of lifelong learning and continuous professional development, essential in a rapidly changing professional landscape. Overall, the focus on

improving digital pedagogy in virtual classrooms equips the workforce with not only technical skills but also a versatile and collaborative approach to professional lives.

Summary

This review provided background and history of critical pedagogy, transactional distance, and communities of practice related to eLearning. These theories and associated strategies provide insight into improving critical digital pedagogy in the online classroom. The analysis delved into the interplay of individual and social factors to understand how to apply the information to maintain and improve the quality of instruction in the eLearning environment. The review also analyzed the critical digital pedagogy frames of how authority is constructed and contextualized, the process of information creation, and the value of information. The review also considered digital literacies as they relate to the struggle of learning new technology while integrating best pedagogical practices. Additionally, the relationship between structure, dialogue, and learner autonomy using the theory of transactional distance was reviewed to inform eLearning. The integration of communities of practice to establish an optimized learning environment for students and instructors was explored through the literature. This exploration led to communities of inquiry and how this theory optimized learning in the digital environment when integrated with the theory of transactional distance. The literature review revealed how learner characteristics and autonomy lead to successful learner outcomes and detailed the importance of research on teacher education. Overall, this review enriched the knowledge base by emphasizing strategies that cultivate a conducive online learning environment for adult learners.

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