

DIGITAL PEDAGOGY PHILOSOPHY: BUILDING CRITICAL AWARENESS OF THE ROLE OF TECHNOLOGY IN EDUCATION

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Abstrak

Integrasi teknologi dalam pendidikan memunculkan kebutuhan akan landasan filosofis yang memandu penggunaan teknologi dalam konteks pembelajaran. Filsafat pedagogi digital menjadi pendekatan yang memberikan dasar etis dan nilai-nilai yang membimbing penerapan teknologi dalam proses pendidikan. Paper ini bertujuan untuk mengeksplorasi hubungan antara filsafat pedagogi digital, kesadaran kritis, dan peran teknologi dalam membentuk pengalaman pembelajaran yang kontekstual dan adaptif. Penelitian ini menggunakan pendekatan hermeneutika untuk menggambarkan realitas mengenai Filsafat Pedagogi Digital dalam membangun kesadaran kritis terhadap peran teknologi dalam pendidikan. Metode ini melibatkan unsur-unsur interpretasi dan deskripsi dalam mengurai dan memahami implikasi serta signifikansi dari integrasi teknologi dalam konteks pembelajaran. Filsafat pedagogi digital memberikan landasan untuk mengintegrasikan teknologi dalam pembelajaran dengan cara yang mendukung pembentukan individu yang kritis, kreatif, dan bertanggung jawab. Kesadaran kritis terhadap peran teknologi dalam pendidikan menciptakan pemahaman yang lebih mendalam tentang tantangan dan peluang yang dihadapi dalam lingkungan digital. Pendekatan ini dapat meningkatkan interaksi siswa dengan materi pelajaran, meningkatkan pemahaman konsep, dan mempromosikan pemikiran kritis.

Kata kunci: Pedagogi digital, kesadaran kritis, teknologi, pendidikan.

Abstract

Technology integration in education raises the need for a philosophical foundation that guides the use of technology in learning contexts. The philosophy of digital pedagogy is an

approach that provides an ethical basis and values that guide the application of technology in the educational process. This paper aims to explore the relationship between digital pedagogical philosophy, critical consciousness, and the role of technology in shaping contextual and adaptive learning experiences. This research uses a hermeneutic approach to describe the reality of Digital Pedagogical Philosophy in building critical awareness of the role of technology in education. This method involves elements of interpretation and description in analyzing and understanding the implications and significance of technology integration in the learning context. The philosophy of digital pedagogy provides a foundation for integrating technology into learning to support the formation of critical, creative, and responsible individuals. Critical awareness of the role of technology in education creates a deeper understanding of the challenges and opportunities faced in the digital environment. This approach can increase student interaction with course material, increase understanding of concepts, and promote critical thinking.

Keywords: Digital pedagogy, critical awareness, technology, education

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INTRODUCTION

Technological developments in the digital era have become an inseparable part of everyday life, including in the world of education. The philosophy of digital pedagogy emerged as a reflection of the profound transformation brought about by the presence of technology in the classroom (Farquhar & White, 2014). The philosophy of digital pedagogy challenges us to view technology not only as a tool but as an essential partner in forming students' critical awareness of their role in the educational process (Doddington, 2014; Redman & Rodrigues, 2014). This concept is a call to treat technology as a medium that is more than just a means of transferring information but as a means that shapes character, ethics, and critical understanding (Santoianni, 2017). The philosophy of digital pedagogy invites educators to develop a

holistic approach, where the use of technology not only changes the way we teach and learn but also empowers students to become active and creative learners and able to face complex challenges in the digital era.

Seymour Papert (1928-2016), a computer scientist and educator from South Africa, was a philosophical figure who made a significant contribution to developing thinking about digital education and the philosophy of digital pedagogy (Levin & Tsybulsky, 2017; Seidman, 2017). Papert is best known for his work in building the theory of "constructionism" which embraces the concept of learning through construction and exploration, especially using technology (Zhu, 2018).

Jane McGonigal also provides views on digital pedagogy that her concept of "gamification" has been adopted in various digital education contexts to increase student motivation and engagement (Smoleń, 2015; Toda et al., 2018). McGonigal's philosophy of digital pedagogy through gamification, digital learning can become more engaging, provide students with intrinsic motivation to overcome obstacles, and build critical awareness of subject matter in innovative and participatory ways (Hanson-Smith, 2016).

Significant contributions from digital pedagogy philosophy figures such as Papert presented the concept of constructionism, which embraces learning through construction and technology exploration (Hansson, 2020; Kahn & Winters, 2021; Ridge, 2021). However, the extent to which this theory is implemented thoroughly in the classroom and changes the learning paradigm is still part of this gap. McGonigal's view of gamification as an important element in digital pedagogy provides an innovative twist (Lang, 2015). However, the extent to which gamification is adopted and produces the desired positive impact in increasing student motivation and engagement remains to be seen.

The problem that arises in the world of education in the digital era is that the concept of learning carried out by teachers leads to the use of technology (Buchanan et al., 2022). The use of technology such as tablets, cell phones, and applications in learning can cause

problems for students, such as studying the material in less depth, doing assignments by copying answers, and reducing the intensity of communication with teachers. Lynch (2023) added that as time went by, teachers realised that even though students appeared to be actively using technology, their understanding of the material and critical thinking skills did not increase significantly. Many students copy answers from the internet without understanding the basic concepts, and they tend to accept information as is without questioning or analyzing it critically.

This research highlights the critical role of digital pedagogical philosophy in bridging the gap between ideal and reality in teaching and learning. This philosophy challenges conventional methods and encourages student empowerment to become active, creative learners and ready to face the complexity of educational challenges in the digital era. This research focuses on developing a deep understanding of critical consciousness. Understanding the relationship between digital pedagogical philosophy, critical awareness, and the role of technology in education is vital to creating an effective critical mindset in responding to the challenges of the digital age.

Digital Pedagogy Philosophy does not simply summarize views or methods but is a philosophical approach that explores the essence and goals of using technology in the educational process (Peters, 2020; Tesar et al., 2022). This philosophical concept asks fundamental questions about the meaning of digital education, teacher responsibilities, and the impact of technology on the formation of student character. One crucial aspect of the Digital Pedagogy Philosophy is the focus on building critical awareness of technology's role in the education world (Lewin & Lundie, 2016; Papastephanou et al., 2022). Critical awareness here involves a deep understanding of technology's positive and negative impacts, evaluative skills towards digital resources, and the ability to think critically in dealing with a variety of information presented through technology (Lunevich, 2022b). This creates a literate awareness of

the role of technology in managing and enriching the educational process holistically (Vääätäjä & Ruokamo, 2021).

The philosophy of digital pedagogy emphasizes the importance of developing critical awareness, which is essential for helping students evaluate and respond to information reflectively and analytically (Örtegren, 2024). Therefore, a deeper understanding is necessary regarding the application of critical awareness in the context of digital education (Bohlmann et al., 2023). The relationship between digital pedagogical philosophy, critical awareness, and the role of technology in education requires more profound research to develop an effective critical mindset. Understanding the interaction between these three aspects will enable the creation of pedagogical strategies that not only suit today's educational needs but can also address the challenges of the digital age holistically and sustainably. Developing a bridge between the philosophy of digital pedagogy and critical awareness will strengthen the use of technology in education, ensuring that technologies secondhand to support learning that is reflective, innovative, and relevant to the dynamics of ever-changing times.

This research uses a qualitative method with a hermeneutic approach to compare the results of previous research to describe the reality regarding the philosophy of digital pedagogy in building critical awareness. The technique used will involve elements of interpretation and description in analyzing and understanding the implications and significance of technology integration in the learning context. This hermeneutic approach allows researchers to analyze texts and data deeply, as well as identify patterns relevant to digital pedagogy, critical awareness, and educational technology.

DISCUSSION

1. Philosophy of Digital Pedagogy

Digital Pedagogy Philosophy is a conceptual framework that combines aspects of philosophy with digital technology in an educational context (Clements, 2019). The main focus is to explore the essence and purpose of using technology so that it can have a

positive impact on the learning process (David & Cain, 2023). More than just viewing technology as a tool, this philosophy places the use of technology as a philosophical approach that permeates all aspects of education.

Digital pedagogy is an art in the learning process that involves the knowledge and skills of an educator. The main goal is so that students are not only able to remember and understand information but are also able to implement, analyze, evaluate, and even create something according to the principles of Bloom's Taxonomy (Kellsey & Taylor, 2017).

Knowledge and skills in pedagogy must continue to develop, including adapting to technological developments. With the presence of technology in the learning process, education becomes more dynamic and adaptive to change (Lunevich, 2022a). Therefore, pedagogy needs to continue to integrate technology in its teaching methods to suit the demands of the times. In this way, learning can be more effective, relevant, and in line with students' needs in the face of rapid technological developments.

Digital technology is not just a tool for learning but must be approached from a critical pedagogical perspective. According to Coker (2020), the philosopher John Dewey is a relevant figure in this context, with his contribution to pragmatic thinking, which emphasizes the importance of experience and reflection in education. Digital Pedagogy does not only mean using technology but rather wisdom in its use (Tarrant & Thiele, 2016). Dewey points out that digital pedagogy involves wise decisions, including when not to use digital tools and how they impact the learning process (Costa-Lopes & Cunha, 2020).

Dewey provides an understanding that critical pedagogy can be a foundation for building students' critical awareness. Dewey further explained that education must form individuals who are able to think critically about the information they receive (Maboloc, 2021). Therefore, digital pedagogy has become highly relevant for educators and students, especially considering the potential negative influence of technology on education. An example of a

negative impact that needs to be overwhelmed is the copy-paste culture (Fallace, 2020; Riga, 2020). This phenomenon can be detrimental to education, considering that students tend to be less critical in understanding and analysis. Digital pedagogy is present as an essential approach in critical teaching (Ye & Shih, 2021). Learners can be enlightened to use technology wisely and understand when to rely on digital tools and when to avoid them in order to maximize their learning potential (Rich & Miah, 2014).

Another example is when students only rely on websites to complete homework. In digital pedagogy, in this case, teachers can involve students in using the Learning Management System (LMS) as a learning resource. Teachers can also ensure that students actively access the LMS to obtain the material and information provided (Kearney et al., 2022; Voronin et al., 2020). Thus, digital pedagogy becomes an important tool for developing students who are not only proficient in technology but also critical and reflective in their learning approaches.

2. Critical Awareness in Education

Critical awareness in education reflects an individual's ability to reflectively and analytically evaluate information, ideas, and situations encountered in the learning context. It is not just about understanding but also stimulating critical questioning of the knowledge gained (Fawns, 2022; Sargent & Casey, 2020).

Critical awareness in education reflects a concept that is closely related to the philosophy of critical pedagogy, an approach that appreciates the essence of critical and reflective thinking in the dynamics of learning. As stated by Horn (2003), one of the key figures in the evolution of this concept is Paulo Freire, an educational philosopher who played a central role in developing the theory and practice of critical pedagogy. In the philosophy of critical pedagogy introduced by Freire, the important point is the formation of individuals who not only have a critical understanding of the

world but also have the potential to contribute to the process of social transformation (Giroux, 2010; Sadovnik et al., 2017).

Critical awareness in education is closely related to critical pedagogy, a learning approach that emphasizes critical thinking, empowering students, and being critical of power structures in society (Phelan & Lumb, 2021). Critical awareness in critical pedagogy encourages students to not only accept raw information but also to explore its meaning, assess its validity, and detail its impact on society (Marlowe et al., 2015; Tagg & Seargeant, 2021). This process is akin to ripping open the veil of knowledge to reveal a deeper reality. Students who have critical awareness will be able to question existing norms, understand social conflicts, and understand the political interests that underlie power structures (Darics, 2019; Urdang, 2010).

Education cannot be separated from the realm of political interests and power (Balbay, 2019). Paulo Freire views education from two opposing perspectives (McLaren, 2001). First, as a tool of oppression, and second, as a means of liberation. Oppression in education occurs when students are guided only to achieve naive awareness, which in turn facilitates hegemony. On the other hand, liberating education directs students towards critical awareness, which can trigger counter-hegemony. Naive awareness arises through a banking-style approach in the education system with anti-dialogue principles. Meanwhile, critical awareness grows through a problem-facing approach in the education system with the principle of dialogue. The principle of dialogue emphasizes an equal relationship between educators and students, while the principle of anti-dialogue emphasizes a subject-object relationship (Acquah & Commins, 2015; Shih, 2018).

Henry Giroux, a famous educational theorist, developed the concept of critical consciousness in education, which is in line with Paulo Freire's thinking (Kellner, 2001). According to Giroux, critical consciousness in education involves the individual's ability to see and critically analyze the social and political reality around him (Giroux & Giroux, 2006; McLaren, 2020). This concept draws

inspiration from Freire's thinking, especially in the context of critical pedagogy.

Giroux states that critical consciousness not only includes a deep understanding of social and political issues but also involves the ability to read the world with a sharp and critical mind (Samacá Bohórquez, 2020). According to him, education that creates critical awareness not only provides factual knowledge but also involves students' active involvement in the learning process.

In Giroux's view, critical consciousness is also closely related to the concept of "problem-based learning", in which students are exposed to real-world situations that require analysis, problem-solving, and active engagement (Wattimena, 2018). Thus, critical awareness is not only about intellectual understanding but also about forming a critical attitude and social responsibility.

Giroux and Freire agree that effective education must stimulate critical thinking and empower students to become agents of social change. They both challenge traditional approaches that simply transfer knowledge without stimulating critical reflection and action (Farag et al., 2022; Lewin et al., 2018). Giroux underscores the importance of bringing contemporary social issues into the curriculum so that students not only learn about the world but also learn to act in it.

The concept of critical consciousness, according to Henry Giroux, is closely related to the thinking of Paulo Freire, who emphasized the importance of education as a tool of liberation and social change (Baroud & Dharamshi, 2020; Knight et al., 2023). They both support education that encourages students to think critically, explore power structures, and become agents of change in society. The following is a comparative framework for critical pedagogy and critical awareness.

Table 1. Critical Pedagogy and Critical Awareness

Aspects	Critical Pedagogy	Critical Awareness
Basic Approach	Education as a tool of liberation and transformation.	Focuses on an individual's ability to analyze social and political realities critically.
Focus	Oppose conventional education.	Analyze critically and reflectively the social and political situation.
Learning objectives	Develop critical thinking and social analysis.	Encourage students to have a critical and responsible attitude toward social issues.
Attitude Formation	Directing students to challenge existing norms and participate in social action.	Develop self-awareness and social responsibility.
Teacher's Role	Facilitate open dialogue and discussion.	Actively involving students in the learning process.
Learning process	Using dialogue-based methods and criticism of norms.	Using a problem-based approach and reflective discussion.
Curriculum	Including social and political issues in the curriculum.	Integrate learning that encourages analysis of power structures and inequality.
Criticism of Power	Challenge the dominant views and biases that exist in society.	Analyze power structures and inequality in society.
Student Empowerment	Empowering students as agents of social change.	Increase awareness of one's potential and positive contribution to society.
Transformational Education	Develop critical skills and advocacy for social change.	Realize your potential and contribute to positive change in society.

Table 1 illustrates the primary differences between Critical Pedagogy and Critical Awareness, as well as how they focus on different aspects of the education and development of students' critical thinking. Critical pedagogy emphasizes learning approaches and strategies that involve social action; critical consciousness highlights a focus on a critical understanding of social and political realities. Both have similar goals in forming students who not only

know but also have skills and a critical attitude toward the world around them.

Critical awareness provides an understanding that goes beyond the limitations of accepting knowledge as absolute. It stimulates the mind to explore further and engage in constructive dialogue (Aguilera & Salazar, 2023; Szűts, 2019). In a world that continues to change rapidly, critical consciousness becomes a key driver for adaptation and innovation, enabling individuals to exploit opportunities and overcome challenges in a forward-thinking manner (Trifonas, 2012). The importance of critical awareness in education is not only relevant in traditional contexts but is also increasingly crucial in the digital and technological era. The ability to deal with an abundance of information, understand the implications of technology, and manage resources wisely are vital aspects that critical awareness instills.

3. The Role of Technology in Education

The role of technology in education has become a key element in changing the learning landscape globally. Technology integration significantly impacts teaching methods, provides wider accessibility to educational resources, and stimulates innovation in the learning process (Ng, 2015). Teachers can create dynamic and engaging learning environments with educational software, online learning platforms, and interactive applications (Szymkowiak et al., 2021). Technology enables the personalization of learning, where students can learn according to their own rhythm and learning style (Chen, 2022). Additionally, technology integration facilitates global collaboration, connecting students with peers around the world and broadening their horizons about cultural diversity. However, challenges such as access gaps and cybersecurity need to be addressed to ensure that the role of technology in education truly benefits all levels of society (Neumeyer et al., 2021). By continuing to optimize the role of technology, education can become more

inclusive, adaptive, and relevant to prepare future generations to face the demands of an increasingly digital world.

The role of technology in education is increasingly important in the digital era, especially in the context of digital pedagogy and the development of critical consciousness (Daniela, 2019). Digital pedagogy refers to the use of technology to improve teaching and learning methods. The integration of technology in education can expand access to information, enable distance learning, and create a more dynamic learning environment (Dreamson, 2020; Williams, 2020).

In the context of digital pedagogy, technology acts as a means to present learning material more interactively and responsive to students' individual needs. Apps, online learning platforms, and educational software can increase student engagement, provide more accessible content, and provide instant feedback (Knox, 2019; Olusola O. Adesope & Rud, 2019).

However, to maximize the benefits of technology in education, critical awareness is key. Critical awareness of the use of technology involves the ability to critically evaluate information, understand the ethical impact of technology, and develop reflective thinking towards the use of digital tools (Bernacki et al., 2020). Critical awareness helps students to become not only passive consumers of technology but also active and wise producers (Knox, 2017).

The importance of critical awareness in technology education also includes students' ability to recognize and address issues such as data privacy, disinformation, and the social impact of technology (Byram, 2012). Teachers who use digital pedagogy with critical awareness can guide students to become intelligent, ethical users of technology and able to think critically about the information they encounter in the digital world (Giroux, 2020).

Paulo Freire emphasized the importance of critical consciousness in education. Freire saw education as a means of liberation, and with technology, that liberation could be extended to a global dimension (Stanczyk, 2021). However, without critical awareness, technology can also become an instrument of oppression

if used without reflection (Gadotti & Torres, 2009; Jardilino & Soto-Arango, 2020). Therefore, the integration of technology in education must be balanced with the development of critical awareness to ensure that the use of technology not only improves the quality of learning but also forms individuals who can think critically about digital information and understand its impact on society (Prahani et al., 2020). The following is an overview of the role of technology in education, which is very important for society.

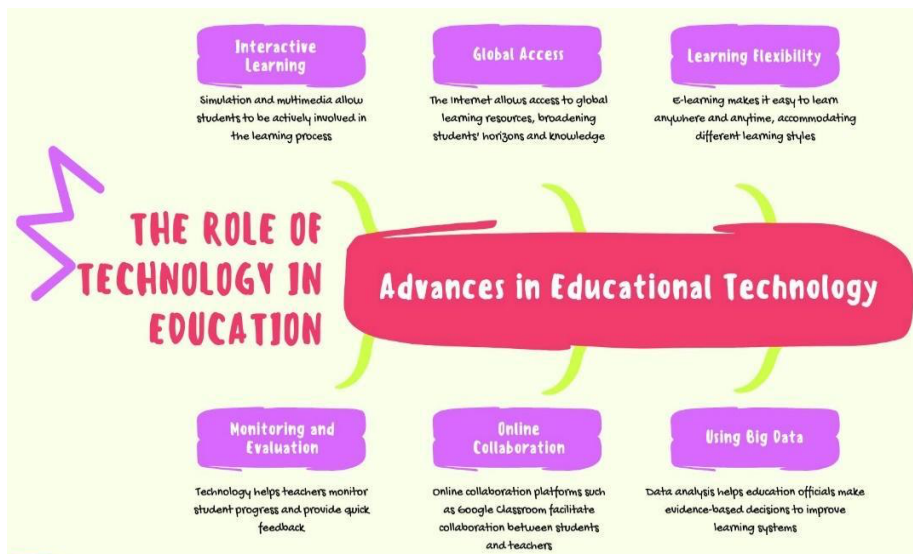


Fig. 1. The Role of Technology in Education

The role of technology in education encompasses several key aspects that have significantly changed the learning landscape (Chen, 2022; Daniela, 2019; Dreamson, 2020; Neumeyer et al., 2021). First, technology has provided a new dimension to the learning process through interactive learning. Simulations and multimedia allow students to be actively involved in learning, creating a more immersive learning experience. Furthermore, technology opens the door to global access to educational resources. The Internet facilitates the use of educational resources from around the world, expanding students' horizons and knowledge beyond traditional geographic boundaries.

Learning flexibility becomes possible with e-learning, where students can learn anywhere and anytime. It accommodates various learning styles and provides convenience for students who have limited physical access to educational institutions. Student monitoring and evaluation have also become more efficient thanks to technology. Teachers can use digital tools to monitor student progress in real time and provide rapid feedback, allowing for more precise learning directions (Marlowe et al., 2015; Tagg & Seargeant, 2021).

Online collaboration is becoming increasingly important in the modern learning context. Platforms such as Google Classroom facilitate collaboration between students and teachers, enabling efficient sharing of resources, discussions, and joint projects. Apart from that, technology makes it possible to use big data in education. Data analysis helps education officials make evidence-based decisions to improve learning systems, identify student needs, and adjust curricula (Balbay, 2019; Darics, 2019).

The continuous development of educational technology creates space for innovation in teaching and learning methods. With the latest technology, education can continue to develop, offering more interesting and effective learning experiences for students (Horn, 2003). Thus, the role of technology in education not only includes the integration of digital tools and platforms but also provides the foundation for a deep transformation in learning and teaching approaches.

The role of technology in education, especially in the context of digital pedagogy, can provide great benefits if integrated with critical awareness. This is not just about adopting technology but also about forming a generation that can use technology wisely, critically, and with action in facing the complexity of the modern world (Lazarus, 2019; Voronin et al., 2020).

The role of technology in education is becoming increasingly crucial in facing the challenges and opportunities of the 21st century. Technology is not only a means of learning but also penetrates the learning structure, creating an environment that

requires critical awareness. Technology provides access to vast information, enriches teaching methods, and facilitates global collaboration (Coker, 2018; Fawns, 2022; Sargent & Casey, 2020). However, critical awareness is important in understanding that not all online information can be considered accurate, as well as in addressing the risks of unequal access to technology.

4. The Relationship between the Philosophy of Digital Pedagogy, Critical Consciousness, and the Role of Technology in Education

The philosophy of digital pedagogy, critical awareness, and the role of technology have a close relationship in the context of modern education. The philosophy of digital pedagogy refers to the framework of thought or philosophical foundation that guides teaching and learning approaches in the digital era. This involves considering the ethics, values, and goals underlying the integration of technology in education.

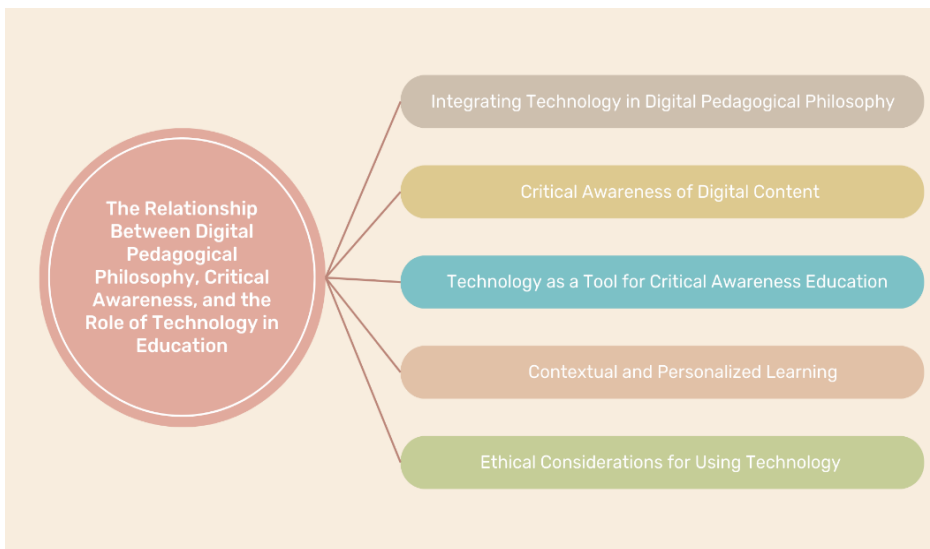


Fig. 2. Digital Pedagogy Integration

Critical awareness, on the other hand, is the ability to understand, evaluate, and respond critically to information. In the

context of digital education, critical awareness is key because technology brings new challenges, such as abundant, diverse, and sometimes unverified information (From, 2017). Critical awareness helps students and educators to develop strong evaluation skills of digital content, identify truth, and understand the ethical implications of technology use (Fadli, 2021). The role of technology in this context is crucial in supporting the philosophy of digital pedagogy and the development of critical consciousness (Aguilera & Salazar, 2023; Peters & Besley, 2019; Szűts, 2019; Zhang & Yu, 2023). The following is a chart explaining the relationship between the three.

Integrating the philosophy of digital pedagogy with critical awareness and the role of technology is an important step in building an educational environment that is adaptive, inclusive, and responsive to the demands of the digital era (Baroud & Dharamshi, 2020; Coker, 2020; Lewin et al., 2018). First, integrating technology into the philosophy of digital pedagogy. The philosophy of digital pedagogy encourages learning approaches that are responsive to the needs and characteristics of students in the digital era. Second, critical awareness of digital content. Critical awareness is important in facing the information tsunami in the digital era. Students and educators need to be able to assess the sustainability, reliability, and relevance of digital information. Technology can act as a tool to develop these critical analysis skills, for example, through digital media literacy training.

Thirdly, technology can be used as a tool to develop critical awareness. Digital learning platforms, educational games, or other digital resources can trigger critical questions, stimulate reflection, and deepen understanding of critical issues related to technology. Fourth, contextual and personalized learning, the integration of technology in digital pedagogical philosophy can support contextual and personalized learning approaches. Fifth, ethical considerations in the use of technology that the philosophy of digital pedagogy and critical awareness also includes ethical considerations in the use of technology. Educators need to consider

social impact, privacy, and justice in designing and implementing technology in learning contexts.

The philosophy of digital pedagogy creates the foundation for understanding and developing learning approaches that are appropriate to the digital era (Kellsey & Taylor, 2017; Lunevich, 2022a). This is not just the application of technology in teaching but rather a view that includes the values, ethics, and goals of education amidst digital transformation. In this context, building critical awareness of the role of technology in education is crucial.

The philosophy of digital pedagogy encourages educators to see technology as a means, not an end. Critical thinking needs to be applied in selecting and designing the use of technology so that it is in line with the desired educational values. It's not just about how technology is used but why and for what purpose it is integrated (Lewin et al., 2018; Adesope & Rud, 2019; Rahayuningsih & Muhtar, 2022).

Critical awareness in this context involves the ability to assess the impact of technology on learning, student engagement, and character formation. Educators and students need to be able to filter digital information, recognize the perspectives contained in technology, and understand the ethical implications of using digital tools (Dreamson, 2020; Knox, 2019; Williams, 2020).

The importance of critical awareness is also reflected in students' ability to think critically about the information they encounter in cyberspace (Baharizqi et al., 2023; Kester & Aryoubi, 2020; Rahayuningsih & Muhtar, 2022). They need to be trained to question, analyze, and respond wisely to digital content. Thus, the digital pedagogy philosophy provides a foundation for education that not only produces a technology-savvy generation but also a generation that can think critically about the information they consume.

The role of technology in education becomes increasingly relevant when technology is used as a tool to increase student understanding, facilitate global collaboration, and create inclusive learning environments. However, without critical awareness, the

risks of disinformation, unequal access, and misuse of technology may increase. Therefore, building critical awareness through digital pedagogical philosophy is an important step toward more holistic, adaptive, and ethical education in this digital era.

CONCLUSION

In navigating the sea of educational innovation, the philosophy of digital pedagogy emerges as the ultimate guide, guiding our journey toward wise and meaningful use of technology in education. This philosophy not only guides in designing learning experiences that are responsive to technological developments but also becomes a catalyst that encourages building critical awareness of the role of technology in the educational process. As technological advances continue to develop, critical awareness becomes a filter that allows us to explore the positive potential of technology while protecting us from potential risks and misuse. Therefore, the philosophy of digital pedagogy is not just a conceptual guide but also an invitation to enrich teaching and learning by understanding, assessing, and ethically integrating technology. This will not only produce a generation that is technologically adept but also intelligent and critical, ready to meet the challenges and opportunities offered by the ever-changing digital world.

REFERENCES

- Acquah, E. O., & Commins, N. L. (2015). Critical reflection as a key component in promoting pre-service teachers' awareness of cultural diversity. *Reflective Practice*, 16(6), 790–805. <https://doi.org/10.1080/14623943.2015.1095729>
- Aguilera, E., & Salazar, C. (2023). Critical Digital Pedagogy in the Platform Society. In *Oxford Research Encyclopedia of Education*. Oxford University Press. <https://doi.org/10.1093/acrefore/9780190264093.013.1888>
- Baharizqi, S. L., Muhtar, T., Herlambang, Y. T., & Nur Fahrozy, F. P. (2023). Kompetensi Pedagogik Di Era Society 5.0: Sebuah Tinjauan Dalam Perspektif Pedagogik Kritis. *ELEMENTARY*

- SCHOOL JOURNAL PGSD FIP UNIMED*, 13(2), 259.
<https://doi.org/10.24114/esjpsgd.v13i2.46286>
- Balbay, S. (2019). Enhancing Critical Awareness through Socratic Pedagogy. *Eurasian Journal of Applied Linguistics*, 5(3), 515–536.
<https://doi.org/10.32601/ejal.651348>
- Baroud, J., & Dharamshi, P. (2020). A Collaborative Self Study of Critical Digital Pedagogies in Teacher Education. *Studying Teacher Education*, 16(2), 164–182.
<https://doi.org/10.1080/17425964.2020.1739639>
- Bernacki, M. L., Greene, J. A., & Crompton, H. (2020). Mobile technology, learning, and achievement: Advances in understanding and measuring the role of mobile technology in education. *Contemporary Educational Psychology*, 60, 101827.
<https://doi.org/10.1016/j.cedpsych.2019.101827>
- Bohlmann, M., Lanius, D., Maisenhölder, P., Moser, T., Noller, J., & Schwartz, M. (2023). On the Use of YouTube, Digital Games, Argument Maps, and Digital Feedback in Teaching Philosophy. *Journal of Didactics of Philosophy*, 7, 1–20.
<https://doi.org/10.46586/JDPh.2023.9863>
- Buchanan, R. A., Forster, D. J., Douglas, S., Nakar, S., Boon, H. J., Heath, T., Heyward, P., D'Olimpio, L., Ailwood, J., Eacott, S., Smith, S., Peters, M., & Tesar, M. (2022). Philosophy of education in a new key: Exploring new ways of teaching and doing ethics in education in the 21st century. *Educational Philosophy and Theory*, 54(8), 1178–1197.
<https://doi.org/10.1080/00131857.2021.1880387>
- Byram, M. (2012). Language awareness and (critical) cultural awareness – relationships, comparisons and contrasts. *Language Awareness*, 21(1–2), 5–13.
<https://doi.org/10.1080/09658416.2011.639887>
- Chen, Z. (2022). Exploring the application scenarios and issues facing Metaverse technology in education. *Interactive Learning Environments*, 1–13.
<https://doi.org/10.1080/10494820.2022.2133148>
- Clements, E. (2019). A conceptual framework for digital civics

- pedagogy informed by the philosophy of information. *Journal of Documentation*, 76(2), 571–585. <https://doi.org/10.1108/JD-07-2019-0139>
- Coker, H. (2018). Purpose, Pedagogy and Philosophy: “Being” an Online Lecturer. *The International Review of Research in Open and Distributed Learning*, 19(5). <https://doi.org/10.19173/irrodl.v19i5.3312>
- Coker, H. (2020). Why Does Digital Learning Matter? Digital Competencies, Social Justice and Critical Pedagogy in Initial Teacher Education. *Journal of Teaching and Learning*, 14(1). <https://doi.org/10.22329/jtl.v14i1.6259>
- Costa-Lopes, V. da, & Cunha, M. V. da. (2020). John Dewey: a busca por uma pedagogia retórica. *Educação e Pesquisa*, 46. <https://doi.org/10.1590/s1678-4634202046218071>
- Daniela, L. (2019). *Didactics of Smart Pedagogy* (L. Daniela, Ed.). Springer International Publishing. <https://doi.org/10.1007/978-3-030-01551-0>
- Darics, E. (2019). Critical Language and Discourse Awareness in Management Education. *Journal of Management Education*, 43(6), 651–672. <https://doi.org/10.1177/1052562919848023>
- David, N. N., & Cain, K. (2023). Peopling Technologies educational model. *ASCILITE Publications*, 75–83. <https://doi.org/10.14742/apubs.2023.589>
- Doddington, C. (2014). Philosophy, Art or Pedagogy? How should children experience education? *Educational Philosophy and Theory*, 46(11), 1258–1269. <https://doi.org/10.1080/00131857.2012.755753>
- Dreamson, N. (2020). *Critical Understandings of Digital Technology in Education: Meta-Connective Pedagogy*. Routledge.
- Fallace, T. (2020). John Dewey and the New Left, 1960-1988. *Journal of Curriculum Studies*, 52(5), 593–607. <https://doi.org/10.1080/00220272.2020.1783702>
- Farag, A., Greeley, L., & Swindell, A. (2022). Freire 2.0: Pedagogy of the digitally oppressed. *Educational Philosophy and Theory*, 54(13), 2214–2227.

- <https://doi.org/10.1080/00131857.2021.2010541>
- Farquhar, S., & White, E. J. (2014). Philosophy and Pedagogy of Early Childhood. *Educational Philosophy and Theory*, 46(8), 821–832. <https://doi.org/10.1080/00131857.2013.783964>
- Fawns, T. (2022). An Entangled Pedagogy: Looking Beyond the Pedagogy—Technology Dichotomy. *Postdigital Science and Education*, 4(3), 711–728. <https://doi.org/10.1007/s42438-022-00302-7>
- From, J. (2017). Pedagogical Digital Competence—Between Values, Knowledge and Skills. *Higher Education Studies*, 7(2), 43. <https://doi.org/10.5539/hes.v7n2p43>
- Gadotti, M., & Torres, C. A. (2009). Paulo Freire: Education for Development. *Development and Change*, 40(6), 1255–1267. <https://doi.org/10.1111/j.1467-7660.2009.01606.x>
- Giroux, H. A. (2010). Rethinking Education as the Practice of Freedom: Paulo Freire and the Promise of Critical Pedagogy. *Policy Futures in Education*, 8(6), 715–721. <https://doi.org/10.2304/pfie.2010.8.6.715>
- Giroux, H. A. (2020). *On Critical Pedagogy*. Bloomsbury Publishing.
- Giroux, H. A., & Giroux, S. S. (2006). Challenging Neoliberalism's New World Order: The Promise of Critical Pedagogy. *Cultural Studies*  *Critical Methodologies*, 6(1), 21–32. <https://doi.org/10.1177/1532708605282810>
- Hanson-Smith, E. (2016). Games, Gaming, and Gamification: Some Aspects of Motivation. *TESOL Journal*, 7(1), 227–232. <https://doi.org/10.1002/tesj.233>
- Hansson, S. O. (2020). Social constructionism and climate science denial. *European Journal for Philosophy of Science*, 10(3), 37. <https://doi.org/10.1007/s13194-020-00305-w>
- Horn, R. A. (2003). Developing a Critical Awareness of the Hidden Curriculum through Media Literacy. *The Clearing House: A Journal of Educational Strategies, Issues and Ideas*, 76(6), 298–300. <https://doi.org/10.1080/00098650309602024>
- Jardilino, J. R. L., & Soto-Arango, D. E. (2020). Paulo Freire e a

- Pedagogia Crítica: seu legado para uma nova pedagogia do Sul. *Revista Ibero-Americana de Estudos Em Educação*, 15(3), 1072–1093. <https://doi.org/10.21723/riaee.v15i3.12472>
- Kahn, K., & Winters, N. (2021). Constructionism and AI: A history and possible futures. *British Journal of Educational Technology*, 52(3), 1130–1142. <https://doi.org/10.1111/bjet.13088>
- Kearney, M., Schuck, S., & Burden, K. (2022). Digital pedagogies for future school education: promoting inclusion. *Irish Educational Studies*, 41(1), 117–133. <https://doi.org/10.1080/03323315.2021.2024446>
- Kellner, D. (2001). Critical Pedagogy, Cultural Studies, and Radical Democracy at the Turn of the Millennium: Reflections on the Work of Henry Giroux. *Cultural Studies & Critical Methodologies*, 1(2), 220–239. <https://doi.org/10.1177/153270860100100205>
- Kellsey, D., & Taylor, A. (2017). *The Learning Wheel: A model of digital pedagogy*. Critical Publishing Ltd.
- Kester, K., & Aryoubi, H. (2020). Paulo Freire: Citizenship and Education. In *The Palgrave Handbook of Citizenship and Education* (pp. 95–111). Springer International Publishing. https://doi.org/10.1007/978-3-319-67828-3_29
- Knight, J., Dooly, M., & Barberà, E. (2023). Getting smart: towards critical digital literacy pedagogies. *Social Semiotics*, 33(2), 326–349. <https://doi.org/10.1080/10350330.2020.1836815>
- Knox, J. (2017). Data Power in Education: Exploring Critical Awareness with the “Learning Analytics Report Card.” *Television & New Media*, 18(8), 734–752. <https://doi.org/10.1177/1527476417690029>
- Knox, J. (2019). What Does the ‘Postdigital’ Mean for Education? Three Critical Perspectives on the Digital, with Implications for Educational Research and Practice. *Postdigital Science and Education*, 1(2), 357–370. <https://doi.org/10.1007/s42438-019-00045-y>
- Lang, G. (2015). *Maintaining Online Engagement in e-Learning Through Games Based Learning and Gamification Techniques* (pp. 193–205).

https://doi.org/10.1007/978-3-319-19875-0_18

- Lazarus, J. (2019). Hacking the MOOC: Towards a Postdigital Pedagogy of Critical Hope. *Postdigital Science and Education*, 1(2), 391–412. <https://doi.org/10.1007/s42438-019-00063-w>
- Levin, I., & Tsybulsky, D. (2017). The Constructionist Learning Approach in the Digital Age. *Creative Education*, 08(15), 2463–2475. <https://doi.org/10.4236/ce.2017.815169>
- Lewin, C., Cranmer, S., & McNicol, S. (2018). Developing digital pedagogy through learning design: An activity theory perspective. *British Journal of Educational Technology*, 49(6), 1131–1144. <https://doi.org/10.1111/bjet.12705>
- Lewin, D., & Lundie, D. (2016). Philosophies of Digital Pedagogy. *Studies in Philosophy and Education*, 35(3), 235–240. <https://doi.org/10.1007/s11217-016-9514-7>
- Lunevich, L. (2022a). Critical Digital Pedagogy: Alternative Ways of Being and Educating, Connected Knowledge and Connective Learning. *Creative Education*, 13(06), 1884–1896. <https://doi.org/10.4236/ce.2022.136118>
- Lunevich, L. (2022b). Critical Digital Pedagogy–Innovative Model Creativity in Teaching and Teaching for Creativity. In *Creativity in Teaching and Teaching for Creativity*. CRC Press.
- Lynch, J. (2023). Critical Digital Pedagogy for the Anthropocene. In *Critical Digital Pedagogy in Higher Education* (pp. 205–218). Athabasca University Press. <https://doi.org/10.15215/aupress/9781778290015.013>
- Maboloc, C. R. (2021). Deep Thinking or Resistance? On Finding a Middle Ground between Paulo Freire’s Critical Pedagogy and John Dewey’s Pragmatism. *Philosophia*, 49(3), 1097–1108. <https://doi.org/10.1007/s11406-020-00292-5>
- Marlowe, J. M., Appleton, C., Chinnery, S.-A., & Van Stratum, S. (2015). The Integration of Personal and Professional Selves: Developing Students’ Critical Awareness in Social Work Practice. *Social Work Education*, 34(1), 60–73. <https://doi.org/10.1080/02615479.2014.949230>
- McLaren, P. (2001). Che Guevara, Paulo Freire, and the Politics of

- Hope: Reclaiming Critical Pedagogy. *Cultural Studies Critical Methodologies*, 1(1), 108–131. <https://doi.org/10.1177/153270860100100112>
- Mclaren, P. (2020). The future of critical pedagogy. *Educational Philosophy and Theory*, 52(12), 1243–1248. <https://doi.org/10.1080/00131857.2019.1686963>
- Neumeyer, X., Santos, S. C., & Morris, M. H. (2021). Overcoming Barriers to Technology Adoption When Fostering Entrepreneurship Among the Poor: The Role of Technology and Digital Literacy. *IEEE Transactions on Engineering Management*, 68(6), 1605–1618. <https://doi.org/10.1109/TEM.2020.2989740>
- Ng, W. (2015). *New Digital Technology in Education*. Springer International Publishing. <https://doi.org/10.1007/978-3-319-05822-1>
- Olusola O. Adesope, & Rud, A. G. (2019). *Contemporary Technologies in Education* (O. O. Adesope & A. G. Rud, Eds.). Springer International Publishing. <https://doi.org/10.1007/978-3-319-89680-9>
- Örtegren, A. (2024). Philosophical underpinnings of digital citizenship through a postdigital lens: Implications for teacher educators' professional digital competence. *Education and Information Technologies*, 29(4), 4253–4285. <https://doi.org/10.1007/s10639-023-11965-5>
- Papastephanou, M., Zembylas, M., Bostad, I., Oral, S. B., Drousioti, K., Kouppanou, A., Strand, T., Wain, K., Peters, M. A., & Tesar, M. (2022). Philosophy of education in a new key: Education for justice now. *Educational Philosophy and Theory*, 54(8), 1083–1098. <https://doi.org/10.1080/00131857.2020.1793539>
- Peters, M. A. (2020). Philosophy as pedagogy. In *Wittgenstein, Anti-foundationalism, Technoscience and Philosophy of Education*. Routledge.
- Peters, M. A., & Besley, T. (2019). Critical Philosophy of the Postdigital. *Postdigital Science and Education*, 1(1), 29–42.

- <https://doi.org/10.1007/s42438-018-0004-9>
- Phelan, L., & Lumb, M. (2021). Higher education for times of climate crisis – critical awareness, purpose and community. *International Studies in Sociology of Education*, 30(1–2), 173–190. <https://doi.org/10.1080/09620214.2020.1854828>
- Prahani, B. K., Utama Alan Deta, Mochammad Yasir, Sri Astutik, Paken Pandiangan, Sayidah Mahtari, & Husni Mubarak. (2020). The Concept of “Kampus Merdeka” in Accordance with Freire’s Critical Pedagogy. *Studies in Philosophy of Science and Education*, 1(1), 21–37. <https://doi.org/10.46627/sipose.v1i1.8>
- Rahayuningsih, Y. S., & Muhtar, T. (2022). Pedagogik Digital Sebagai Upaya untuk Meningkatkan Kompetensi Guru Abad 21. *Jurnal Basicedu*, 6(4), 6960–6966. <https://doi.org/10.31004/basicedu.v6i4.3433>
- Redman, C., & Rodrigues, S. (2014). From Philosophy and Research to Pedagogy and Practice. In *Handbook for Teacher Educators*. Brill.
- Rich, E., & Miah, A. (2014). Understanding Digital Health as Public Pedagogy: A Critical Framework. *Societies*, 4(2), 296–315. <https://doi.org/10.3390/soc4020296>
- Ridge, M. (2021). The Value of Value Capture. *Journal of the Philosophy of Games*. <https://doi.org/10.5617/jpg.8760>
- Riga, F. (2020). *Pragmatism—John Dewey* (pp. 227–239). https://doi.org/10.1007/978-3-030-43620-9_16
- Sadovnik, A. R., Semel, S. F., Coughlan, R. W., Kanze, B., & Tyner-Mullings, A. R. (2017). Progressive Education in The 21st Century: The Enduring Influence of John Dewey. *The Journal of the Gilded Age and Progressive Era*, 16(4), 515–530. <https://doi.org/10.1017/S1537781417000378>
- Samacá Bohórquez, Y. (2020). Self-Dialogue with the Thoughts of Paulo Freire: A Critical Pedagogy Encounter. *HOW*, 27(1), 125–139. <https://doi.org/10.19183/how.27.1.520>
- Santoianni, F. (2017). Models in Pedagogy and Education. In *Springer Handbook of Model-Based Science* (pp. 1033–1049). Springer International Publishing. <https://doi.org/10.1007/978->

3-319-30526-4_49

- Sargent, J., & Casey, A. (2020). Flipped learning, pedagogy and digital technology: Establishing consistent practice to optimise lesson time. *European Physical Education Review*, 26(1), 70–84. <https://doi.org/10.1177/1356336X19826603>
- Seidman, R. H. (2017). Tribute to Seymour Papert (1928–2016). *Journal of Educational Computing Research*, 55(4), 447–448. <https://doi.org/10.1177/0735633117710860>
- Shih, Y.-H. (2018). Some critical thinking on Paulo Freire’s critical pedagogy and its educational implications. *International Education Studies*, 11(9), 64. <https://doi.org/10.5539/ies.v11n9p64>
- Smoleń, M. (2015). Gamification as creation of a social system. In *Gamification: Critical Approaches*. University of Warsaw.
- Stanczyk, P. (2021). The critique of the critical critique of critical pedagogy Freire, Suchodolski and the Materialist Pedagogy of Emancipation. *Critical Education*, 12(4).
- Szúts, Z. (2019). A critical approach to digital pedagogy - A holistic methodology in the information society. *Opus et Educatio*, 6(4). <https://doi.org/10.3311/ope.342>
- Szymkowiak, A., Melović, B., Dabić, M., Jeganathan, K., & Kundi, G. S. (2021). Information technology and Gen Z: The role of teachers, the internet, and technology in the education of young people. *Technology in Society*, 65, 101565. <https://doi.org/10.1016/j.techsoc.2021.101565>
- Tagg, C., & Seargeant, P. (2021). Context design and critical language/media awareness: Implications for a social digital literacies education. *Linguistics and Education*, 62, 100776. <https://doi.org/10.1016/j.linged.2019.100776>
- Tarrant, S. P., & Thiele, L. P. (2016). Practice makes pedagogy – John Dewey and skills-based sustainability education. *International Journal of Sustainability in Higher Education*, 17(1), 54–67. <https://doi.org/10.1108/IJSHE-09-2014-0127>
- Tesar, M., Hytten, K., Hoskins, T. K., Rosiek, J., Jackson, A. Y., Hand, M., Roberts, P., Opiniano, G. A., Matapo, J., St. Pierre, E. A., Azada-Palacios, R., Kuby, C. R., Jones, A., Mazzei, L. A.,

- Maruyama, Y., O'Donnell, A., Dixon-Román, E., Chengbing, W., Huang, Z., ... Jackson, L. (2022). Philosophy of education in a new key: Future of philosophy of education. *Educational Philosophy and Theory*, 54(8), 1234–1255. <https://doi.org/10.1080/00131857.2021.1946792>
- Toda, A. M., Valle, P. H. D., & Isotani, S. (2018). *The dark side of gamification: An overview of negative effects of gamification in education* (pp. 143–156). https://doi.org/10.1007/978-3-319-97934-2_9
- Trifonas, P. P. (2012). *Learning the virtual Life: Public pedagogy in a digital World*. Routledge.
- Urdang, E. (2010). Awareness of self—A critical tool. *Social Work Education*, 29(5), 523–538. <https://doi.org/10.1080/02615470903164950>
- Väätäjä, J. O., & Ruokamo, H. (2021). Conceptualizing dimensions and a model for digital pedagogy. *Journal of Pacific Rim Psychology*, 15, 183449092199539. <https://doi.org/10.1177/1834490921995395>
- Voronin, D. M., Saienko, V. G., & Tolchieva, H. V. (2020). Digital transformation of pedagogical education at the university. *Proceedings of the International Scientific Conference “Digitalization of Education: History, Trends and Prospects” (DETP 2020)*. <https://doi.org/10.2991/assehr.k.200509.135>
- Wattimena, R. A. A. (2018). Pedagogi kritis: Pemikiran Henry Giroux tentang pendidikan dan relevansinya untuk Indonesia. *Jurnal Filsafat*, 28(2), 180. <https://doi.org/10.22146/jf.34714>
- Williams, P. J. (2020). An introduction to effective pedagogies of design and technology education. In *Pedagogy for Technology Education in Secondary Schools. Contemporary Issues in Technology Education* (pp. 1–17). https://doi.org/10.1007/978-3-030-41548-8_1
- Ye, Y., & Shih, Y.-H. (2021). Development of John Dewey's educational philosophy and its implications for children's education. *Policy Futures in Education*, 19(8), 877–890. <https://doi.org/10.1177/1478210320987678>

- Zhang, J., & Yu, S. (2023). Reconceptualising digital pedagogy during the COVID-19 pandemic: A qualitative inquiry into distance teaching in China. *Innovations in Education and Teaching International*, 60(2), 174–184. <https://doi.org/10.1080/14703297.2021.2000473>
- Zhu, L. (2018). An embodied cognition perspective on translation education: philosophy and pedagogy. *Perspectives*, 26(1), 135–151. <https://doi.org/10.1080/0907676X.2017.1328449>