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Axiological theory of open and distance education: A transdisciplinary didactic approach*

Teoría axiológica de la educación abierta y a distancia: una didáctica transdisciplinaria



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Abstract

This article presents an axiological theory of Open and Distance Education as a transdisciplinary didactic approach in university education, focusing on the Santa Bárbara Academic Program in Barinas, at the National Experimental University of the Llanos "Ezequiel Zamora" (Unellez). With a qualitative approach and a post-positivist interpretive paradigm, the phenomenological method was used to explore the subjective experiences of four participating faculty members. Conducted in a b-learning modality, the research integrated Information and Communication Technologies. In-depth interviews served as the data collection technique, and the analysis was performed using Atlas.ti 23 software through coding and theorizing. The findings indicate that faculty members play diverse roles and have significant, valuable experiences within the context of Open and Distance Education.

Keywords: Axiological theory, open and distance education, transdisciplinary didactics.

Resumen

Este artículo da a conocer una teoría axiológica de la Educación Abierta y a Distancia como didáctica transdisciplinaria en la formación universitaria, enfocándose en el Programa Académico Santa Bárbara de Barinas, Universidad Nacional Experimental de los Llanos "Ezequiel Zamora" (Unellez). Con un enfoque cualitativo y un paradigma interpretativo post-positivista, se utilizó el método fenomenológico para explorar la experiencia subjetiva de cuatro docentes participantes. La investigación, en modalidad b-learning integró Tecnologías de Información y Comunicación. Las entrevistas en profundidad fueron la técnica de recolección de datos, y el análisis se llevó a cabo con el software atlas.ti 23 mediante codificación y teorización. Las conclusiones obtenidas indican que los docentes desempeñan roles diversos y poseen experiencias significativas de gran valor en el contexto de la Educación Abierta y a Distancia.

Palabras clave: Teoría axiológica, educación abierta y a distancia, didáctica transdisciplinaria.

Introduction

Open and Distance Education has experienced significant growth in recent years, driven by advancements in Information and Communication Technologies. However, despite these technological developments, this educational modality still faces considerable challenges, such as a lack of social interaction and student motivation. Additionally, it has traditionally focused on knowledge transmission without sufficient emphasis on cultivating values and social skills.

In this context, the present article aims to address the issue of insufficient attention to values in Open and Distance Education and its impact on individual development. The purpose is to propose an axiological theory that integrates values into the educational process, promoting comprehensive individual development. To achieve this, a literature review is conducted along with an empirical study analyzing the perceptions of students and teachers regarding the importance



of values in Open and Distance Education. The objective is to advance university education by providing a solid theoretical foundation and an enriched understanding from a transdisciplinary perspective. This approach involves tackling the complexity of modern education and promoting a holistic approach to professional development.

Methodology

In this context, the purpose of this article is to address the problem of insufficient focus on values in Open and Distance Education and its impact on individual development. The aim is to present an axiological theory that integrates values into the educational process and promotes comprehensive individual development. To this end, a literature review is conducted, and an empirical study is performed to analyze students' and teachers' perceptions of the importance of values in Open and Distance Education. The objective is to advance higher education by providing a solid theoretical foundation and a rich understanding from a transdisciplinary perspective. This approach involves addressing the complexities of modern education and promoting a holistic approach to professional training.

This study examines reality within its natural context, capturing and interpreting phenomena as they unfold from the perspectives of those involved (Blasco & Pérez, 2007, p. 25). Adopting a holistic view of the environment and social actors, individuals, environments, and groups are seen as an interconnected whole. Participants were analyzed in the context of their past experiences and current situations. A post-positivist paradigm was chosen for its emphasis on subjective interpretation, acknowledging the influence of personal perceptions, attitudes, and well-established scientific theories. This paradigm is inductive and dynamic, presenting a human-centered, holistic approach that adapts to the needs of the research process.

The phenomenological method was selected to explore "the essential meaning of phenomena, including their significance and relevance" (Van Manen, 2003, p. 48). This method allowed the researcher to deeply examine the underlying motivations of events while acknowledging the dynamic and interactive nature of reality. Each participant was viewed as a communicator who shared meanings, and the researcher engaged in bidirectional communication. Individuals shaped their understanding of the situation by analyzing and valuing reality in a comprehensive, descriptive-analytical manner.

The primary data source comprised four key informants who participated voluntarily, contributing specific characteristics to the study. The research setting was the National Experimental University of the Western Plains "Ezequiel Zamora" (Unellez), specifically within the Santa Bárbara Academic Program, located in Santa Bárbara, Barinas state, on the main Zamora I campus, where Open and Distance Education is implemented using b-learning technology environments, known as Learning-Teaching Environments (EVEA).

A question guide was developed as a thematic reference, meticulously prepared, and reviewed to ensure that no questions could lead to responses or cause discomfort during interviews. In-



formants were selected based on specific criteria, and interviews were recorded and transcribed. Theoretical sampling was employed to define the necessary concepts to explore in further interviews. Data analysis techniques included coding, categorization, structuring, comparison, and theorization (Martínez, 1999, 2006). Theorization was the final stage, where theory was integrated and refined (Strauss & Corbin, 2002, p. 157).

Results and Discussion

Axiological foundations of open and distance education from a transdisciplinary and complex didactic perspective

Valuing holistic development: Education is recognized not merely as knowledge transmission but as a means to foster the comprehensive development of students, encompassing cognitive, emotional, social, and ethical dimensions (Dewey, 1998; Freire, 2022).

Emphasis on autonomy and responsibility: This approach promotes student autonomy in the learning process, encouraging self-regulation, decision-making, and a sense of responsibility toward personal development and the environment (Piaget, 1987; Kohlberg, 1984).

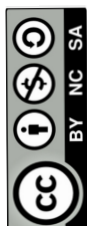
Orientation toward meaning-making: Learning is seen as an active, constructive process, wherein students build their knowledge and meaning through interaction with content, peers, and the virtual environment. In this process, the teacher serves as a mediator in the Zone of Proximal Development (Vygotsky, 2014; Bruner, 1966; Ausubel *et al.*, 2012).

Inclusion and equity: This perspective values diversity and aims to ensure equal educational opportunities for all students, considering their sociocultural contexts, needs, and individual characteristics. ICT is a key support for self-directed learning (Ladson-Billings, 2022; Nieto, 2019).

Adaptation to the environment and global challenges: It considers the current societal challenges and seeks to develop students who can understand and tackle complex issues, fostering global awareness, collaboration, and adaptability (Zhao, 2018; Reimers, 2017).

Promoting holistic development and Human growth: Open and Distance Education should go beyond the mere acquisition of technical knowledge and encourage students' holistic development. It is also essential to cultivate emotional, social, and ethical capacities, along with the ability to think critically and reflect on values and life's meaning.

Encouraging equity and inclusion: Education should transcend social inequalities, empowering students to understand and transform their realities. This approach also emphasizes the importance of active student participation and collective knowledge-building (Freire, 2022).



Decalogue of principles for open and distance education from a transdisciplinary and complex didactic perspective

Integration of knowledge: This principle promotes the integration of knowledge from various disciplines, recognizing that contemporary problems and challenges require multidimensional approaches (Morin, 2002; Varela et al., 1997).

Systemic approach: It begins with the understanding that reality is an interconnected system where elements and relationships influence each other (Capra, 2008).

Critical and reflective tinkering: This principle encourages the development of critical and reflective thinking, involving the ability to question assumptions, analyze different perspectives, and evaluate evidence (Freire, 2004; Swartz et al., 2014).

Problem-based learning: This principle emphasizes learning through solving authentic and contextualized problems. Additionally, the tutor focuses on designing learning processes that allow students to develop analytical, critical, reflective, and creative strategies, and problem-solving skills (Barrell, 1999; Barrows, 1986, 1994, 1996).

Dialogue and collaboration: This principle seeks to create spaces for the exchange of ideas, debates, and reflections, promoting diverse opinions and the collective construction of knowledge. Collaboration between teachers and students, as well as among students, enhances the construction of meanings and co-creation of knowledge (Senge, 2010).

Awareness of complexity: This principle involves recognizing that reality is complex and consists of multiple interconnected dimensions (Morin, 2009; Acevedo et al., 2005).

Holistic thinking: This principle aims to understand phenomena, rather than reducing them to individual parts. It encourages the integration of knowledge from different disciplines and the ability to establish connections for a more comprehensive, contextualized understanding of reality (Boff, 2011; Maturana & Varela, 2009).

Dialogicity: This principle promotes spaces for dialogue between teachers and students, as well as among students themselves, where ideas, reflections, and perspectives can be shared. This enables knowledge exchange and collective construction of meaning (Freire, 2022; Maturana & Varela, 2009).

Transversality: This principle implies transcending disciplinary boundaries and promoting the integration of knowledge and skills from different fields (Morin, 2001).

Ethics of complexity: This principle highlights the need to consider ethical values in the educational process and decision-making. It emphasizes the importance of promoting an ethics of solidarity, justice, and mutual respect (Morin, 2001, 2006; Boff, 1996; Niculescu, 1996).



Information and communication technologies: the key to success in open and distance education

Among the reasons considered in this axiological theory are the following:

Information storage: ICT enables efficient management of information and its transmission from one place to another, covering a broad range of solutions. This includes technologies for storing and retrieving information, sending and receiving information, or processing data to generate calculations and reports (Ortiz, 2004).

Access to education and information search: ICT breaks down geographical and temporal barriers, providing access to education for individuals who might otherwise be excluded. This is especially relevant in rural areas, remote communities, or for those with mobility limitations. ICT enables the delivery of educational content through online platforms, videoconferences, digital materials, and more (Alderete et al., 2017; Márquez, 2021).

Interactivity, participation, and communication Tools: ICT offers interactive tools that foster active student participation. Through online forums, chats, videoconferences, and collaborative platforms, students can interact with peers and instructors, share ideas, debate, and collaborate on joint projects, enriching their learning experience (Vaquero, 2006).

Flexibility in learning: Distance education is characterized by its flexibility, and ICT plays a vital role in creating flexible learning environments. Students can access materials, follow courses, and complete assignments at their own time and pace, adapting to their personal or professional responsibilities (Siemens, 2006; Correa & Juan, 2009).

Feedback and progress monitoring: ICT facilitates immediate feedback and progress tracking, which supports continuous improvement. Through online platforms, students receive individual feedback on assignments and evaluations, helping them identify areas for improvement and closely track their academic progress (Biggs & Tang, 2011).

Didactic experiences in open and distance education

Educators are encouraged to reflect on their teaching experiences, and Open and Distance Education (ODE) provides a rich landscape for this. In ODE, teachers play a fundamental role in promoting active student participation and strengthening their professional reputation. Consequently, the discussions and arguments presented in this construct reflect the sentiments, actions, and decisions drawn from the experiences of academic program colleagues where data has been explored.

Reflecting on didactic experiences and ODE requires revisiting its concept, as it is commonly framed in different educational levels, primarily in basic and secondary education in Venezuela. Thus, the perspectives on teaching implicitly refer to the role of the teacher, viewed from a



practical-reflective approach, as the teacher makes decisions on how to conceive teaching and its use as a complex, multidimensional activity. Teaching, then, is the teacher's specific activity, demanding an understanding of the semantic field of teaching and the educator (Cifuentes, 2016).

Consequently, didactic experiences hold significant value, meriting analysis within this educational modality. Various studies support the empirical findings of researchers, and this axiological theory introduces key elements while acknowledging that others may closely relate to those presented here. These aspects include:

Valuing experiences: This theory emphasizes the need to acknowledge and value the prior experiences of both students and teachers in ODE as fundamental resources for the teaching-learning process. It involves considering students' prior knowledge, acquired skills, and personal experiences as starting points for constructing new knowledge, allowing students to learn flexibly and apply knowledge in real-world contexts (Monsalve, 2011).

Active participation: In ODE, active participation of students and teachers in knowledge construction within virtual environments is essential. This requires creating spaces for interaction, debate, reflection, and collaboration where all participants can contribute ideas, share experiences, and collectively build knowledge (Patru & Khvilon, 2002). Active student participation positively impacts their didactic experiences (Cifuentes, 2016), enhancing critical thinking and comprehension while providing more interactive learning activities compared to lecture-based courses. This positively influences the student experience, enabling knowledge transfer across any course (Evanick, 2023).

Active learning, where students engage in activities and reflection, is crucial in ODE (Artino, 2007). It involves students doing tasks and contemplating their actions (Bonwell & Eison, 1991). In ODE, students, following a constructivist learning design, tend to actively participate in various activities like forums, chats, and teamwork, where participation is especially impactful when activities require interactive reasoning and inquiry, such as open-ended questions and research project design (Izadora et al., 2020).

Meaningful Learning: It is essential for didactic experiences to be meaningful to students, which requires designing activities and resources that connect academic content with students' realities, interests, and needs. The goal is for students to see the relevance and applicability of what they are learning. Distance education alone does not guarantee success; "its potential depends on how it is integrated into institutional development processes across academic, administrative, and technological areas" (Moreno, 2012, p. 26).

Flexibility and adaptability: Recognizing the importance of designing flexible and adaptable didactic experiences based on students' diverse circumstances and needs, as well as the demands of virtual environments. Therefore, options and alternatives should be provided so students can adapt the learning process to their own pace and style.



Learning community: Promoting online learning communities encourages interaction and collaboration among students and teachers, creating virtual spaces to share ideas, discuss, work on joint projects, and provide mutual feedback. Learning communities foster a sense of belonging, social knowledge construction, and peer support. These communities incorporate successful educational practices aimed at social and educational transformation. "Their foundation lies in the dialogical conception of learning, where knowledge is built through shared interactions" (Álvarez & Torras, 2016, p. 8).

Ethics and values: Considering the ethical dimension in didactic experiences fosters values such as responsibility, respect, empathy, and solidarity among participants. It is crucial to establish norms for ethical behavior and interaction in virtual environments, promoting responsible and ethical conduct in online collaboration. This element aligns with the first construct of this axiological theory.

Technology integration in open and distance education

Technology integration is a crucial aspect in today's digital era. It offers opportunities to expand access to education, foster active student engagement, and enrich teaching and learning processes. Some key points to consider in this axiological theory include:

Equitable access: Technology can help overcome geographical and socioeconomic barriers by providing educational access to people who might otherwise lack it. Open and Distance Education allows students to access educational materials, resources, and learning opportunities without physical restrictions. The concept of the networked society represents a new social paradigm that has transformed this educational modality, enabling both educators and students to enhance their performance and learning experiences according to their own interests through openly accessible resources (Castells, 2004, 2009a, 2009b, 2010). These authors are essential to understanding the role of the networked society in promoting access and equity in the digital age.

Digital resources and tools: Technology provides a wide range of digital resources and tools that can enrich the educational experience, including online learning platforms, multimedia materials, interactive simulations, mobile applications, and collaboration and communication tools. Effective integration of these tools can improve the quality and variety of meaningful learning experiences. Therefore, leveraging this communication potential in Open and Distance Education is essential for providing students with enhanced learning (Coll & Monereo, 2008).

Additionally, education must advance alongside technological progress, as society has become inherently technological, particularly in the post-digital context (De Laat & Dohn, 2019). However, it is essential to recognize that technology can influence educational values and practices, highlighting the need for responsible use of technology in educational contexts.

Personalization and adaptive learning: Technology facilitates personalized learning by allowing



students to progress at their own pace and access materials and activities tailored to their individual needs. Adaptive learning systems use algorithms to adjust content and teaching methods based on each student's progress and skills.

In this regard, personalization and adaptive learning enable the adjustment of content, activities, and resources to individual student needs and preferences, resulting in a more meaningful and engaging learning experience. This can lead to greater motivation and commitment to the educational process, as well as improved academic performance ([González et al., 2018](#)).

It is crucial to acknowledge the vital role that educators play in addressing students' individual needs to implement Adaptive Learning, where Big Data and Learning Analytics play a key role ([Bosco, 2019b](#)). Currently, artificial intelligence enables personalized learning, improves evaluation efficiency, and fosters innovation in research ([Frackiewicz, 2023](#)).

Personalization and adaptive learning also help identify and develop each student's specific skills and competencies individually. This involves adjusting the pace, difficulty level, and types of activities according to each student's needs and capabilities, contributing to a more effective and meaningful learning experience. Adaptive learning is a tool for both the student and the educator ([Morillo, 2016](#)).

Collaboration and social learning: Technology provides tools that encourage collaboration and social learning in virtual environments. Students can interact with peers and instructors through discussion forums, video conferences, online collaboration spaces, and educational social networks. This fosters the exchange of ideas, joint knowledge construction, and the development of social skills ([Wenger, 1998](#)).

Assessment and feedback: Technology offers multiple options for assessment and feedback in distance education. Educators can use digital platforms to administer online tests, evaluate assignments, and provide prompt feedback to students. Tracking and analysis tools can also be used to collect data on student progress and performance, allowing for more effective adjustments to teaching ([William, 2017](#)).

Design of activities and assessment

The design of activities and assessment should reflect the interrelationship and integration of various disciplines and perspectives. It should encourage the exploration of complex problems and the pursuit of solutions from multiple dimensions ([Morin, 2000, 2020](#)). Assessment must be holistic, considering deep understanding, critical analysis skills, and the ability to address interdisciplinary challenges. Additionally, assessment should be formative and include continuous feedback to foster ongoing learning and improvement ([Dylan & Leahy, 2015](#)).

Similarly, activities should encourage the connection and application of knowledge and skills from different disciplines, promoting learning transfer. Assessment should be authentic and pro-



ject-based, allowing students to demonstrate their understanding and skills in real-world contexts. For this reason, effective feedback and self-regulated learning are essential to support growth and continuous improvement (Hattie, 2009). At the same time, activity and assessment design should be comprehensive and student-centered, involving multiple intelligences and fostering connections across disciplines to promote transdisciplinary learning (Gardner, 1995, 2000).

Development of cross-disciplinary competencies in students

From the researcher's perspective, developing cross-disciplinary competencies, such as learning to learn, autonomy, problem-solving, and effective communication, is essential (Perrenoud, 2007a, 2007b). Equally important is the relationship between students and knowledge within teacher training contexts, emphasizing the development of competencies like intellectual curiosity, reflective practice, and openness to diverse knowledge and perspectives.

Cross-disciplinary competencies should also include fostering a well-ordered mind capable of integrating diverse knowledge and perspectives, highlighting the importance of skills like critical thinking, reflection, and the ability to contextualize knowledge (Morin, 2020). Pedagogical competencies, such as creativity, collaboration, effective communication, and critical thinking, are also necessary from an innovative, technology-integrated perspective (Carbonell, 2014).

Additionally, in the learning construction process, content re-elaboration mediated by the student's cognitive structure—essentially reconstructing content—is an important competency (Onrubia, 2005). Another essential competency is joint activity or interactivity (Coll, 2004). Given the dynamic nature of education in a changing and complex context, the author underscores the development of transversal competencies such as adaptability, continuous learning, informed decision-making, and uncertainty management as fundamental aspects in student formation (Fernández, 2009).

Promotion of social values and global citizenship

The researcher suggests considering two key social values, supported by several authors: (a) Development of Digital Competencies and Digital Citizenship: Online education should address ethical, legal, and social issues related to technology use, preparing students for responsible and ethical participation in digital environments (Livingstone & Sefton, 2016). (b) Empowerment and Civic Engagement through Open Education: This educational modality offers equitable access to learning opportunities and promotes collaboration, participation, and knowledge exchange, thereby strengthening active citizenship and social commitment (Peters & Britez, 2015).

Teacher's role as facilitator and guide

The role of the teacher should evolve into that of a facilitator and guide to achieve the following:



Promotion of autonomous learning and knowledge Construction: Teachers should act as facilitators, creating a safe and supportive learning environment that encourages students to explore and discover independently, thus promoting meaningful and enduring learning. In this regard, autonomous learning and the student's knowledge construction are key considerations (Roger & Freiberg, 1996).

Guidance in the learning process and development of metacognitive skills: Teachers should act as guides, providing support and mediation to help students develop metacognitive skills like planning, self-reflection, and self-regulation, enabling them to manage their learning effectively (Vygotsky, 2014). Additionally, teachers may take on roles as researchers, designers of learning spaces, and, in some cases, as tutors

Conclusions

Regarding the purpose of understanding the theoretical and praxeological foundations of Open and Distance Education in the university context of the Unellez Santa Bárbara Academic Program, it can be concluded that there is a solid scientific basis supporting these foundations. This basis is continually evolving due to emerging technological advancements in education. Such technological progress requires teachers to incorporate new tools into the teaching process and students to adopt them to enhance their learning. During the pandemic, for instance, the usefulness of open-access resources became evident, as well as the widespread use of platforms and applications such as Zoom, Google Meet, Skype, Microsoft Teams, WhatsApp, Telegram, and virtual Classroom. These tools have facilitated interaction and the learning process in a distance education environment, allowing students to participate in online classes and access educational resources remotely.

From a praxeological perspective, it is concluded, based on interview data, that informants recognize multiple roles performed by teachers, including: (a) Designer role: Teachers must have design skills to create instructional materials and organize the virtual environment. They should also develop activities that encourage self-directed learning, following the constructivist approach of Open and Distance Education. (b) Facilitator role: Teachers act as facilitators of learning, promoting interaction between students and teachers, encouraging collaborative work, and fostering active student participation in the learning process. (c) Guide role: Teachers guide students through the learning process, providing constant feedback on their performance. Also notable is: (d) the role of researcher: Teachers continuously seek new ways to improve the teaching and learning process, adapting to students' needs. (e) Mediator role: Teachers act as mediators, facilitating communication between students and teachers and resolving conflicts that may arise in the learning process. (f) Tutor role: Teachers provide individualized support to students, guiding them in their learning journey.

Concerning didactic practices from the experiences of students and teachers associated with Open and Distance Education within the Academic Program, Unellez Santa Bárbara, the following significant elements are noted: (a) A multimodal education is offered because it presents



various teaching models, including distance, open, and blended approaches. These flexible models adapt to the individual needs of students. (b) It is an inclusive education because it provides access to education for a broad group of individuals who cannot attend educational centers in person. Through electronic means, such as computers and the internet, participation and interaction between teachers and students are facilitated.

It is also concluded that: (c) It is an interactive education that fosters interaction between students and teachers, promoting dynamic and participatory learning. Through technological tools, voice, image, and visual contact exchange is encouraged in class sessions. (d) It is a flexible system that promotes ubiquity by offering flexibility in learning format, with options for blended learning and fully online education. Students can connect and participate in the learning process from anywhere and at any time, allowing for ubiquity in their educational experience.

In relation to the educational values in the Open and Distance Education teaching-learning process viable for professional training in the context of higher education in the Unellez Santa Bárbara Academic Program, it is concluded, based on interview testimonies, that this educational modality significantly fosters each participant's individual autonomy. Students have the opportunity to take an active role in their learning process, making decisions, setting goals, and managing their time responsibly. Moreover, this autonomy transcends the academic realm and is reflected in all areas and dimensions of students' lives. This approach contributes to the development of autonomous, independent, and responsible individuals who not only excel in their professional training but also grow as committed citizens and holistic human beings.

Similarly, it is concluded that Open and Distance Education has gained popularity in recent years due to its flexibility and accessibility. However, for this modality to be effective, a theory that supports its practice is necessary, one that establishes pedagogical principles and strategies to guide its implementation. In this sense, the emerging axiological theory focuses on the comprehensive development of students, the promotion of ethical and social values, equity, and adaptation to current challenges. This holistic and integrative vision is based on reflection on the values and ethical principles that should guide the teaching-learning process. Finally, it is emphasized that the transdisciplinary and complex perspective of this theory goes beyond mere knowledge transfer. The importance of values and ethical principles as fundamental guides in this process is acknowledged, promoting comprehensive education centered on the human being and their relationship with the environment. Values such as responsibility, honesty, solidarity, and respect for diversity contribute to forming critical citizens committed to their surroundings.

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