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Systematizing Educational Experience in University Pedagogy: A Competency-Oriented and Transdisciplinary Research Framework

Rafael K. Holmgren
University of Vienna, Austria

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Abstract: The transformation of contemporary university education demands research approaches that are capable of capturing the complexity, contextuality, and lived realities of teaching and learning practices. Traditional empirical models, while valuable, often fail to fully account for the situated knowledge produced through educational action. In this context, the systematization of educational experiences emerges as a rigorous, reflective, and theoretically grounded research strategy that bridges practice and knowledge production. This article develops a comprehensive academic analysis of systematization as a methodological, epistemological, and pedagogical framework within university education. Drawing extensively on established scholarship in research methodology, competency-based education, pedagogy, and transdisciplinarity, the study positions systematization not merely as a descriptive exercise but as a structured process of critical interpretation that generates transferable and theoretically meaningful insights. Central to this discussion is the conceptual contribution that frames systematization as a dialogic process rooted in reflective practice, institutional learning, and ethical responsibility, as articulated in foundational work on educational experience analysis (Barbosa-Chacón et al., 2015). The article articulates the historical evolution of systematization, its philosophical foundations, and its alignment with competency-based and dialogic pedagogies in higher education. Through an in-depth methodological exposition, the study outlines procedural stages, analytical strategies, and validity considerations specific to systematized educational research. The results section offers a descriptive and interpretive synthesis of patterns emerging from systematized university teaching practices, emphasizing professional development, pedagogical innovation, and institutional transformation. The discussion critically engages with scholarly debates, addresses methodological limitations, and explores future research directions, particularly in relation to transdisciplinary knowledge production and ethical research practice. By advancing a robust and expansive theoretical framework, this article contributes to the consolidation of systematization as a legitimate and indispensable research approach in contemporary university pedagogy.

Keywords: Educational systematization; university pedagogy; competency-based education; reflective practice; transdisciplinary research; educational innovation

Introduction: University education has historically been shaped by epistemological traditions that privilege formalized knowledge, disciplinary boundaries, and standardized research methodologies. While these traditions have contributed significantly to the consolidation of academic rigor, they have also generated persistent tensions between theory and practice, particularly in the field of pedagogy (Alexander, 2008). In recent decades, higher education institutions have faced increasing pressure to demonstrate relevance, quality, and social impact, prompting a re-evaluation of how educational knowledge is produced, validated, and applied (UNESCO, 2016). Within this evolving landscape, the systematization of educational experiences has gained prominence as a research approach that responds directly to the complexity and contextual specificity of university teaching and learning processes (Barbosa-Chacón et al., 2015).

Systematization, understood as a structured process of

critical reflection on lived educational practice, challenges conventional distinctions between researcher and practitioner. Rather than positioning educators as mere implementers of externally produced theory, systematization recognizes them as knowledge producers whose experiences constitute valuable sources of pedagogical insight (Guzman & Marin, 2015). This perspective aligns with broader shifts in educational research that emphasize reflexivity, situated knowledge, and the ethical dimensions of inquiry (Estalella & Ardèvol, 2007). By foregrounding experience as both object and source of analysis, systematization offers a pathway for transforming practice into theoretically grounded knowledge without sacrificing contextual richness.

The relevance of systematization in university education is closely linked to the rise of competency-based models, which emphasize the integration of knowledge, skills, attitudes, and values in professional formation (Guzman et al., 2014). Competency-oriented education requires pedagogical approaches that are adaptive, reflective, and responsive to diverse learning contexts, characteristics that resonate strongly with systematized inquiry (Marín & Guzmán, 2012). Moreover, as universities increasingly adopt innovative teaching strategies, including active learning, digital mediation, and intercultural collaboration, the need for research methodologies capable of capturing these dynamic processes becomes more pronounced (Dominguez et al., 2019).

Historically, systematization has roots in critical pedagogy and participatory research traditions, where the primary objective is not only to understand educational phenomena but also to transform them (Bartlett, 2005). This transformative orientation distinguishes systematization from purely descriptive case studies, as it involves intentional interpretation aimed at improving practice and informing policy (Bernal, 2010). In the context of university education, systematization enables institutions to learn from their own innovations, failures, and successes, fostering a culture of continuous improvement grounded in empirical reflection (Innova-Cesal, 2011).

Despite its growing recognition, systematization remains under-theorized and methodologically misunderstood within mainstream academic discourse. Critics often question its rigor, generalizability, and epistemic status, arguing that experience-based research risks subjectivity and limited transferability (Rodríguez & Valldeoriola, 2009). However, proponents counter that such critiques are rooted in positivist assumptions that inadequately address the complex realities of educational practice (Nicolescu, 1996). By articulating clear methodological procedures, analytical frameworks, and ethical principles, systematization can meet high standards of academic validity while offering insights unattainable through traditional methods (Barbosa-Chacón et al., 2015).

This article addresses a critical gap in the literature by providing an extensive, theoretically grounded, and methodologically detailed examination of systematization as a research framework for university pedagogy. While existing studies have explored systematization in isolated contexts, there remains a lack of comprehensive academic treatments that integrate methodological rigor, pedagogical theory, and institutional analysis within a single coherent framework (UNESCO, 2016). By synthesizing diverse strands of educational scholarship, this study seeks to position systematization as a central methodological option for researching and improving university teaching and learning.

The central problem guiding this research concerns the disconnect between pedagogical innovation and knowledge production in higher education. Universities often implement innovative practices without systematically analyzing their processes and outcomes, resulting in lost opportunities for institutional learning and theoretical advancement (Alexander, 2015). Systematization offers a mechanism for addressing this disconnect by transforming pedagogical action into structured knowledge that can inform both practice and theory (Guzman et al., 2014). Understanding how systematization operates, what theoretical assumptions underpin it, and how it can be methodologically implemented is therefore of critical importance.

The theoretical foundation of this study draws on dialogic pedagogy, competency-based education, and transdisciplinary research. Dialogic pedagogy emphasizes the centrality of interaction, reflection, and meaning-making in learning processes (Alexander, 2017), principles that are intrinsic to systematized inquiry. Competency-based education provides a framework for understanding learning as an integrated and contextualized process, reinforcing the value of experience-based analysis (Marín & Guzmán, 2012). Transdisciplinarity, as articulated by Nicolescu (1996), offers an epistemological lens for transcending disciplinary silos and embracing the complexity of educational phenomena, further legitimizing systematization as a holistic research approach.

By situating systematization within these theoretical traditions, this article advances an argument for its epistemic legitimacy and practical relevance in university education. The study does not seek to replace established research methodologies but to

complement them by offering a framework that is particularly well-suited to capturing pedagogical innovation, professional learning, and institutional change (Bernstein, 2000). In doing so, it contributes to ongoing debates about research quality, relevance, and ethics in higher education (Burroughs et al., 2020).

The remainder of this article is structured to provide an in-depth exploration of systematization as a research framework. The methodology section elaborates the epistemological assumptions, procedural stages, and analytical strategies that define systematized educational research, drawing on established methodological literature (Rodríguez & Valldeoriola, 2009). The results section presents a descriptive and interpretive synthesis of findings derived from systematized university teaching experiences, grounded in existing scholarship (Guzman & Marin, 2015). The discussion offers a critical engagement with theoretical perspectives, addresses limitations, and outlines future research directions, particularly in relation to transdisciplinary and ethical considerations (Estalella & Ardèvol, 2007). The conclusion synthesizes the main contributions and underscores the significance of systematization for advancing university pedagogy (UNESCO, 2016).

METHODOLOGY

The methodological foundation of this study is grounded in a qualitative, interpretive research paradigm that recognizes educational practice as a complex, socially situated, and meaning-laden phenomenon. Systematization of educational experiences, as employed here, is not conceived as a mere compilation of activities or outcomes but as a rigorous process of analytical reconstruction through which practice is interrogated, interpreted, and transformed into knowledge (Barbosa-Chacón et al., 2015). This methodological stance aligns with broader qualitative traditions in educational research that emphasize depth, reflexivity, and contextual understanding over measurement and generalization (Bernal, 2010).

At the epistemological level, systematization assumes that knowledge is constructed through interaction between subjects and their contexts, rather than discovered as an objective reality independent of human experience. This constructivist orientation positions educators simultaneously as actors and analysts of their own practices, thereby challenging conventional researcher–subject dichotomies (Rodríguez & Valldeoriola, 2009). Such an approach is particularly relevant in university pedagogy, where teaching practices are embedded in institutional cultures, disciplinary traditions, and policy frameworks that shape and are shaped by educators' actions (Alexander, 2008).

The methodological rationale for adopting systematization in this study is threefold. First, systematization allows for the recovery and critical interpretation of pedagogical knowledge that is often marginalized in formal research, particularly experiential and tacit knowledge developed through sustained teaching practice (Guzman et al., 2014). Second, it supports professional development by fostering reflective practice and collective learning among educators (Marín & Guzmán, 2012). Third, it contributes to institutional learning by generating insights that can inform curriculum design, teaching strategies, and policy decisions within higher education institutions (UNESCO, 2016).

The process of systematization, as articulated in this study, follows a series of interrelated stages that are iterative rather than linear. These stages include the identification of the experience to be systematized, the formulation of guiding questions, the reconstruction of the experience, critical interpretation, and the articulation of learned knowledge. Each stage is informed by theoretical frameworks drawn from pedagogy, competency-based education, and transdisciplinary research (Nicolescu, 1996).

The first stage involves the deliberate selection of educational experiences that are considered significant due to their innovative character, impact on learning, or relevance to institutional objectives. In the context of university education, such experiences often include curriculum reforms, active learning initiatives, competency-based assessment strategies, or professional development programs (Dominguez et al., 2019). The selection process is guided by criteria of relevance, feasibility, and ethical responsibility, ensuring that the experiences chosen are both meaningful and appropriate for systematic analysis (Estalella & Ardèvol, 2007).

The second stage entails the formulation of guiding questions that orient the systematization process. These questions are not hypothesis-driven in the positivist sense but are exploratory and reflective, aimed at uncovering the logic, assumptions, and outcomes of the educational experience under study (Barbosa-Chacón et al., 2015). Typical guiding questions address issues such as the pedagogical intentions underlying the experience, the contextual factors influencing its implementation, the challenges encountered, and the transformations observed in teaching and learning processes (Guzman & Marin, 2015).

Reconstruction of the experience constitutes the third

stage and involves the detailed documentation of the educational process over time. This includes narrative accounts, reflective journals, institutional documents, and other qualitative materials that capture the sequence of actions, decisions, and interactions that defined the experience (Bernal, 2010). The emphasis at this stage is on richness and completeness, as the quality of subsequent analysis depends on the depth of the reconstructed narrative (Rodríguez & Valldeoriola, 2009).

Critical interpretation represents the analytical core of systematization. Drawing on relevant theoretical frameworks, educators and researchers collaboratively examine the reconstructed experience to identify patterns, tensions, and underlying meanings (Alexander, 2017). This interpretive process is dialogic in nature, involving multiple perspectives and iterative reflection to avoid overly individualistic or anecdotal conclusions (Bartlett, 2005). Theoretical constructs related to pedagogy, competencies, and institutional culture are used as analytical lenses, enabling the transformation of experiential data into conceptual insights (Guzman et al., 2014).

The final stage involves the articulation and socialization of learned knowledge. Rather than producing universal laws, systematization generates contextualized understandings that can inform similar practices in other settings through processes of transfer and adaptation (UNESCO, 2016). This stage underscores the ethical and political dimensions of systematization, as knowledge produced through collective experience is shared with broader academic and professional communities to contribute to educational improvement (Estalella & Ardèvol, 2007).

Methodological rigor in systematization is ensured through strategies such as reflexive transparency, theoretical grounding, and collaborative validation. Reflexivity requires researchers and educators to critically examine their own assumptions, positions, and interests throughout the process (Bernstein, 2000). Theoretical grounding ensures that interpretations are anchored in established scholarship rather than solely personal opinion (Alexander, 2009). Collaborative validation involves engaging peers and stakeholders in reviewing and discussing findings to enhance credibility and relevance (Marín & Guzmán, 2012).

Despite its strengths, systematization is not without limitations. Its context-specific nature may limit direct generalization, and its reliance on participant reflection raises concerns about subjectivity and bias (Rodríguez & Valldeoriola, 2009). However, proponents argue that such limitations are inherent to all qualitative research and can be mitigated through methodological transparency and critical dialogue (Bernal, 2010). Moreover, the depth and contextual sensitivity of systematization offer compensatory strengths that are particularly valuable in the study of complex educational phenomena (Barbosa-Chacón et al., 2015).

RESULTS

The results presented in this section are derived from the interpretive synthesis of systematized educational experiences within university pedagogy, as informed by the methodological framework described above. Rather than reporting statistical outcomes, the results focus on identifying recurring patterns, transformations, and insights that emerge from reflective analysis of pedagogical practice (Guzman & Marin, 2015). These findings are grounded in existing literature and contribute to a deeper understanding of how systematization functions as a mechanism for pedagogical and institutional learning (UNESCO, 2016).

One prominent result concerns the enhancement of reflective capacity among university educators. Systematization consistently fosters a heightened awareness of pedagogical intentions, strategies, and outcomes, enabling educators to critically examine their own practices (Barbosa-Chacón et al., 2015). This reflective engagement extends beyond individual introspection to collective dialogue, where shared experiences become the basis for collaborative learning and professional growth (Marín & Guzmán, 2012). Such findings resonate with dialogic pedagogy, which emphasizes reflection and interaction as central to educational development (Alexander, 2017).

Another significant outcome relates to the alignment of teaching practices with competency-based educational models. Systematized experiences reveal that when educators consciously analyze their pedagogical actions, they become more adept at integrating knowledge, skills, and attitudes in meaningful learning activities (Guzman et al., 2014). This alignment enhances coherence between curriculum objectives, instructional strategies, and assessment practices, addressing a common challenge in university education (Innova-Cesal, 2011). The results suggest that systematization serves as a practical tool for operationalizing competency-based frameworks in real teaching contexts (Marín & Guzmán, 2012).

Institutional learning emerges as a third key result. Through systematization, universities are able to document and interpret innovative practices that might otherwise remain isolated or ephemeral (UNESCO, 2016). The collective analysis of such experiences contributes to the development of shared pedagogical knowledge, informing policy decisions and institutional strategies (Bernal, 2010). This process

supports the creation of learning organizations within higher education, where continuous improvement is grounded in empirical reflection rather than prescriptive reform (Alexander, 2015).

The results also highlight the ethical dimensions of systematization. By emphasizing participation, dialogue, and respect for contextual knowledge, systematization promotes ethical research practices that acknowledge the agency and expertise of educators (Estalella & Ardèvol, 2007). This ethical orientation contrasts with extractive research models that prioritize data collection over participant empowerment, reinforcing the moral legitimacy of systematized inquiry in educational contexts (Bartlett, 2005).

Finally, the interpretive synthesis indicates that systematization contributes to the development of transdisciplinary perspectives in university pedagogy. As educators reflect on experiences that intersect multiple disciplines, institutional roles, and social contexts, they generate knowledge that transcends traditional disciplinary boundaries (Nicolescu, 1996). This transdisciplinary orientation enhances the relevance and adaptability of pedagogical insights, addressing the complexity of contemporary higher education (Alexander, 2009).

DISCUSSION

The findings presented above invite a deeper theoretical interpretation that situates systematization within broader debates on educational research, pedagogy, and institutional change. At the core of this discussion lies the question of how experiential knowledge can be transformed into academically legitimate and practically useful insights without sacrificing contextual specificity (Barbosa-Chacón et al., 2015). Addressing this question requires engagement with competing epistemological perspectives and critical examination of the assumptions underlying systematized inquiry (Bernstein, 2000).

From a pedagogical standpoint, systematization aligns closely with dialogic and reflective traditions that view teaching as an intellectual and ethical practice rather than a technical activity (Alexander, 2008). The emphasis on reflection, dialogue, and meaning-making positions educators as active agents in knowledge production, challenging hierarchical models of expertise that separate theory from practice (Bartlett, 2005). Critics may argue that such an approach risks relativism or lack of rigor; however, proponents contend that rigor in qualitative research derives from transparency, coherence, and theoretical grounding rather than standardization (Rodríguez & Valldeoriola, 2009).

The relationship between systematization and competency-based education warrants particular attention. Competency frameworks often face criticism for reducing education to measurable outcomes and instrumental skills (Guzman et al., 2014). Systematization offers a counterbalance by emphasizing the holistic and contextual nature of competence development, integrating cognitive, affective, and ethical dimensions of learning (Marín & Guzmán, 2012). Through reflective analysis of teaching experiences, educators can critically examine how competencies are enacted in practice, moving beyond superficial implementation toward meaningful pedagogical integration (Innova-Cesal, 2011).

Institutional implications of systematization are equally significant. Universities operate within complex organizational and policy environments that often prioritize efficiency and accountability over reflective learning (Burroughs et al., 2020). Systematization challenges this orientation by valuing slow, dialogic processes of analysis that may not yield immediate measurable outcomes but contribute to long-term institutional capacity building (UNESCO, 2016). This tension raises important questions about how systematized knowledge can be recognized and rewarded within academic cultures that privilege traditional research outputs (Alexander, 2015).

Methodological limitations must also be acknowledged. The context-specific nature of systematized findings complicates issues of transferability and comparison across settings (Bernal, 2010). Additionally, the dual role of educators as practitioners and researchers raises concerns about bias and self-justification (Rodríguez & Valldeoriola, 2009). Addressing these challenges requires explicit reflexivity, peer dialogue, and theoretical engagement to ensure that interpretations remain critical rather than celebratory (Barbosa-Chacón et al., 2015).

Future research directions include exploring the integration of systematization with digital and intercultural pedagogies, particularly in increasingly globalized and technologically mediated university contexts (Freiermuth & Huang, 2021). Additionally, comparative studies examining how systematization operates across institutional and cultural settings could deepen understanding of its adaptability and limitations (Alexander, 2009). Such research would contribute to the ongoing refinement of systematization as a methodological and pedagogical framework (UNESCO, 2016).

CONCLUSION

This article has developed an extensive and integrative analysis of electronic commerce as a socio-technical

and legal phenomenon. By synthesizing foundational perspectives on electronic commerce with theories of knowledge management, cybernetics, and consumer protection law, the study offers a comprehensive academic framework for understanding digital markets. The findings underscore the necessity of holistic governance models that address knowledge asymmetries, systemic control dynamics, and consumer vulnerabilities. As electronic commerce continues to evolve, interdisciplinary scholarship will remain essential to ensuring that digital innovation advances in alignment with social and legal values.

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