

TRANSVERSAL COMPETENCIES AS A FOUNDATION FOR LEARNING IN THE 21ST CENTURY

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Abstract: The rapid social, technological and economic transformations of the twenty-first century have fundamentally changed the expectations towards education and the competencies required for successful personal and professional development. Contemporary educational systems increasingly emphasize the development of transversal competencies that enable learners to transfer knowledge across different contexts, adapt to change and participate effectively in society. The purpose of this paper is to examine the conceptual foundations of transversal competencies and to analyze their significance as a basis for lifelong learning and competency-based education. The study applies a theoretical research design based on literature review, comparative analysis and conceptual synthesis of contemporary scientific publications and international educational frameworks. Particular attention is paid to UNESCO, OECD, the European Key Competences Framework and the LifeComp framework. The analysis demonstrates that transversal competencies extend beyond subject-specific knowledge by integrating cognitive, social, personal and socio-emotional dimensions of learning. These competencies facilitate critical thinking, collaboration, communication, adaptability and responsible decision-making, thereby strengthening the practical application of knowledge in authentic situations. As a theoretical contribution, the paper proposes a conceptual model of transversal learning that integrates personal, social, cognitive and practical dimensions into a coherent framework for competency development. The findings highlight the necessity of embedding transversal competencies across all educational levels and learning environments. Future research should focus on empirical validation of the proposed model and on developing reliable approaches for assessing transversal competencies within competency-based education.

Keywords: transversal competencies; lifelong learning; competency-based education; 21st century skills; personal development; education.

Field: Social Sciences (Education)

1. INTRODUCTION

Contemporary education is evolving in the context of rapid technological change, globalization, digitalization, and increasing social dynamics, all of which place new demands on the preparation of young people. The accumulation of knowledge is no longer a sufficient condition for successful personal and professional development. Increasing importance is attached to the ability to interpret knowledge critically, adapt it, and apply it creatively in a wide range of life and professional situations. This calls for a reconsideration of traditional educational models and shifts attention towards the development of transversal competencies as a major learning outcome.

Transversal competencies are universal capabilities that can be applied regardless of the specific academic discipline or professional field. They integrate the cognitive, social, personal, and socio-emotional dimensions of learning and support the development of critical thinking, communication, collaboration, creativity, adaptability, and self-regulation. Their transferability and broad applicability make them a key factor in successfully addressing the challenges of the twenty-first century and a prerequisite for effective lifelong learning. Among the various components of transversal competencies, social and emotional competence has acquired particular importance because it plays a pivotal role in personal development, the quality of interpersonal relationships, and learners' successful social adaptation. Social and emotional competence (SEC) has become established as a central construct in contemporary educational and psychological theory, as it integrates the emotional, social, and cognitive dimensions of the individual. It is generally defined as the ability to recognize and understand one's own emotions, regulate them appropriately according to the specific context, demonstrate empathy, and establish positive and sustainable interpersonal relationships. Contemporary theoretical models emphasize that social and emotional competence is not a single skill but rather a dynamic and interconnected system of competencies that functions across diverse social contexts (Smailov, 2026, pp. 151–156).

This paper aims to analyze the nature and educational significance of transversal competencies by examining their place within contemporary international educational policies and conceptual frameworks. Particular attention is paid to the relationship between transversal competencies, competency-

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based education, and learners' personal development. The analysis traces the main approaches to understanding these competencies, systematizes their various manifestations, and discusses the possibilities for integrating them into the educational process. The central thesis of the paper is that transversal competencies are not merely a set of universal skills, but rather a comprehensive educational logic that connects knowledge with its practical application and creates conditions for sustainable personal development, social adaptation, and continuous lifelong learning.

2. MATERIALS AND METHODS

The present study was designed as a theoretical investigation aimed at clarifying the nature, characteristics, and educational significance of transversal competencies in the context of twenty-first-century learning. The study adopts an interdisciplinary approach that integrates pedagogical, psychological, and educational policy perspectives to develop a comprehensive conceptual framework for the issue under investigation. The methodological design is based on a critical literature review, comparative analysis, and synthesis of scientific concepts. The literature review traces the evolution of the concept of transversal competencies and examines its place within contemporary scholarly publications. Comparative analysis enables the identification of similarities and differences among the principal international frameworks that conceptualize transversal competencies as a key component of contemporary education. The subsequent synthesis integrates these findings into a unified theoretical framework that outlines the relationships among the cognitive, social, personal, and socio-emotional dimensions of learning.

The study draws upon publications from peer-reviewed international scientific journals, scholarly monographs, and official documents issued by international organizations, published primarily during the last decade. Particular attention is devoted to the conceptual frameworks developed by UNESCO, the OECD, and the European Commission, as well as to the LifeComp and Key Competences for Lifelong Learning frameworks, which identify transversal competencies as a fundamental resource for personal development, social inclusion, and lifelong learning. In addition, contemporary empirical and theoretical studies examining the relationship between transversal competencies, the quality of education, and the preparation of learners for a dynamic social and professional environment are reviewed. Within the scope of this analysis, transversal competencies are viewed not as an isolated set of skills but as an integrative mechanism that connects cognitive processes, social interaction, personal development, and the practical application of knowledge. Such an approach makes it possible to identify their principal characteristics, systematize their various manifestations, and discuss the pedagogical conditions necessary for their effective development.

The findings of this theoretical investigation provide the basis for the development of an original conceptual model of transversal learning that illustrates the logical interrelationships among the personal, social, cognitive, and practical dimensions of competency development. In this way, the methodological approach extends beyond merely describing existing concepts and creates the conditions for their critical interpretation and conceptual synthesis within the context of contemporary educational theory.

3. RESULTS

Over the past two decades, transversal competencies have gradually become established as one of the leading concepts in the development of contemporary education. This process has been driven by rapid technological advancement, globalization, changes in the labour market, and the need for learners to adapt to an increasingly dynamic and unpredictable social environment. In a knowledge-based society, it is no longer sufficient for students merely to acquire large amounts of information. Transversal competencies are regarded as a key factor in successful learning, professional development, and active participation in public life (UNESCO, 2016, pp. 12–18).

In the scholarly literature, the term transversal competencies is used to denote a complex combination of knowledge, skills, attitudes, and personal qualities that can be applied regardless of the specific academic discipline or professional field. They are defined as transferable competencies because they support effective functioning across different educational, social, and professional contexts. Owing to their broad scope, they are frequently associated in the literature with concepts such as twenty-first-century skills, soft skills, social and emotional competencies, and competencies for lifelong learning. Although these concepts are not entirely identical, they all emphasize the need to develop capabilities that extend beyond the boundaries of traditional subject-based instruction and facilitate successful adaptation to contemporary societal challenges (Chen, 2023, pp. 213–219).

A fundamental characteristic of transversal competencies is their integrative nature. They are

grounded in the integration of the cognitive, personal, social, and emotional characteristics of the individual, which function as an interconnected system. Unlike subject-specific knowledge, which is linked to particular content, transversal competencies operate as a universal mechanism that enables learners to connect knowledge from different fields and apply it in a variety of situations. Critical thinking, problem-solving, communication, teamwork, adaptability, and self-regulation are relevant to every academic discipline and, at the same time, constitute a foundation for effective professional and social development. This universality explains why transversal competencies are increasingly regarded as a principal outcome of the educational process rather than as supplementary skills added to traditional instruction.

The development of transversal competencies requires a substantial change in the understanding of learning. Whereas the traditional model emphasizes the reproduction of knowledge, the contemporary approach focuses on the critical interpretation and application of knowledge, collaboration, and reflection (Rasheva-Merdzhanova, 2023, pp. 35–52). In this context, learning is understood as an active process of knowledge construction through engagement with real-world problems, practical situations, and the social environment. This understanding transforms the roles of both the student and the teacher. The learner becomes an active participant in their own development, while the teacher assumes the role of an organizer and facilitator of the learning process, creating conditions for the development of complex competencies rather than merely for the acquisition of curriculum content.

The importance of transversal competencies is further reinforced by their contribution to lifelong learning. They create the conditions for continuous professional development, successful adaptation to new technologies, and effective functioning in an environment of constant change. Contemporary educational systems increasingly recognize transversal competencies as an essential prerequisite for developing individuals who are able to search for, evaluate, interpret, and apply information independently across a range of contexts (Tsankov & Levunlieva, 2010, pp. 254–269). Consequently, transversal competencies do not constitute an addition to education; rather, they form its new conceptual foundation by linking academic knowledge to its practical applicability and to sustainable personal development (Sala et al., 2020, pp. 9–18).

The development of transversal competencies occupies a central place in contemporary international education policies, which emphasize their importance for successful learning, social inclusion, and professional development. Despite differences in terminology, international organizations share the view that education should develop not only subject-specific knowledge but also universal capabilities that enable individuals to adapt to a continuously changing environment (Tsankov & Levunlieva, 2010, pp. 254–269).

The European Union laid the foundations of the competency-based approach through the European Framework of Key Competences for Lifelong Learning, which defines eight key competencies required for personal development, active citizenship, social inclusion, and employability (Council of the European Union, 2018, pp. 2–8). Among these, personal, social, and civic competencies, together with learning-to-learn competence, are of particular importance, as they provide the foundation for the development of the remaining competencies. In addition, the European Commission developed the LifeComp framework, which organizes personal, social, and learning competencies into three interconnected areas: personal development, interaction with others, and learning to learn. The framework emphasizes that competencies can be developed throughout life, regardless of age or educational setting, and provides a conceptual basis for the design of curricula and innovative pedagogical practices (Sala et al., 2020, pp. 12–24).

UNESCO defines transversal competencies as universal capabilities that support individuals in successfully addressing the global challenges of the twenty-first century. The organization emphasizes critical thinking, communication, collaboration, global citizenship, and intercultural interaction, while stressing that these competencies should be integrated across all levels of education and all academic subjects rather than taught in isolation (UNESCO, 2016, pp. 20–28).

A similar position is adopted by the OECD, which links the development of transversal competencies to social and emotional skills, collaboration, self-regulation, and responsible decision-making. According to the organization, these competencies have a direct impact on academic achievement, professional development, and quality of life. Their development and assessment should therefore become a priority for contemporary educational systems (OECD, 2023, pp. 15–27).

Taken together, the international frameworks examined outline a shared understanding of transversal competencies as a strategic resource for developing individuals who are capable of learning, adapting, and participating actively in the knowledge society (Buzov, 2020, pp. 311–322). Transversal competencies encompass a broad range of interconnected capabilities that support individuals in functioning successfully across different educational, social, and professional contexts. Despite the diversity of classifications found in the scholarly literature, these competencies can be systematized into several principal groups.

Cognitive competencies include critical thinking, creativity, analytical thinking, problem-solving, and information literacy. Social competencies encompass effective communication, collaboration, teamwork, and the ability to engage in intercultural interaction. Personal competencies are associated with self-regulation, adaptability, resilience, and motivation to learn, whereas social and emotional competencies support the development of empathy, emotional awareness, and responsible behaviour in interpersonal relationships (Chen, 2023, pp. 220–224).

In the context of the digital society, digital and civic competencies are also becoming increasingly important. They include the ability to evaluate information critically, use digital technologies ethically, demonstrate media literacy, and participate actively in public life. These competencies enable learners not only to use technology effectively but also to demonstrate social responsibility, respect for democratic values, and a willingness to contribute to the sustainable development of society (Council of the European Union, 2018, pp. 5–10).

The educational significance of transversal competencies is reflected in their capacity to connect subject-specific knowledge with its application in real-life situations (Sala et al., 2020, pp. 18–27). They facilitate the transfer of learning across different academic disciplines and promote integrated learning, in which knowledge ceases to exist in isolation and becomes a tool for analysis, collaboration, and decision-making. In this sense, transversal competencies serve as a connecting mechanism between learning and practice, transforming education into a process of holistic personal development. For this reason, they are increasingly regarded as a key indicator of the quality and effectiveness of contemporary education.

4. DISCUSSIONS

Transversal competencies are gradually becoming established as a core element of the contemporary educational paradigm, as they reflect the need for education to prepare individuals capable of adapting to continuously changing social, economic, and technological environments. Unlike traditional education, which emphasizes the acquisition of subject-specific knowledge, the competency-based approach views learning as a process of developing universal capabilities that can be applied across different contexts. In this sense, transversal competencies do not constitute an addition to curriculum content; rather, they create the conditions for knowledge to be understood, integrated, and applied in solving real-world problems.

Of particular importance is the recognition that these competencies should be developed across all academic subjects rather than through separate educational activities (Rasheva-Merdzhanova, 2016, pp. 191–207). Critical thinking, communication, collaboration, self-regulation, and digital literacy are developed most successfully when they become an integral part of the learning process and are practised in a variety of situations. This requires a change in the organization of instruction—from the predominant reproduction of knowledge to active learning based on inquiry, discussion, project work, and the solution of practical tasks. Such a transformation calls for a new understanding of both the teacher's role and the learner's participation in the educational process.

Despite their widespread recognition as a strategic objective of education, the integration of transversal competencies continues to present a number of challenges. One of these is the absence of a commonly accepted conceptual framework regarding their content and classification. Different international and national frameworks use similar concepts but place varying emphasis on individual competencies, making their unambiguous interpretation and practical application more difficult. Moreover, the assessment of competencies that are demonstrated in real-life situations and encompass cognitive, social, and personal components requires a considerably more complex approach than the traditional measurement of knowledge.

Based on the analysis conducted, an original conceptual model of transversal learning can be proposed. The model represents competency development through four interconnected dimensions: personal, social, cognitive, and practical-applicative. The personal dimension includes the development of motives, values, interests, attitudes, self-regulation, and personal responsibility, which determine the learner's active participation in the learning process. The social dimension encompasses the development of communication skills, collaboration, empathy, and moral and civic qualities necessary for effective interaction with others. The cognitive dimension is associated with the development of intellectual abilities, critical and analytical thinking, creativity, problem-solving, and the capacity to transfer knowledge. The practical-applicative dimension is manifested in the use of acquired knowledge, skills, and competencies to address real-life, educational, and professional tasks. For example, within the educational environment, social and emotional development often remains secondary to academic achievement, thereby limiting opportunities to create a holistic and supportive learning environment. This tendency creates the risk that

social and emotional learning (SEL) will be perceived as a secondary component of education rather than as a fundamental factor in students' overall development (Smailov, 2026).

These four dimensions do not develop sequentially or in isolation from one another; rather, they function as an integrated system. They are characterized by constant interconnection, mutual influence, and interaction, whereby the development of each dimension supports and enriches the others. Personal development influences cognitive processes; social interactions contribute to the formation of values, skills, and knowledge; and the practical application of learning simultaneously consolidates and develops all the other dimensions. In this way, transversal competencies function as an integrative mechanism that connects personal development with successful learning and social and professional fulfilment, creating conditions for continuous improvement throughout life.

5. CONCLUSIONS

The theoretical analysis conducted in this study demonstrates that transversal competencies occupy an increasingly significant place in contemporary education and are gradually becoming established as a fundamental component of competency-based education. They broaden the traditional understanding of educational outcomes by emphasizing not only the acquisition of knowledge but also its effective application, transfer, and use across a wide range of social, professional, and real-life contexts. In this way, transversal competencies establish the connection between academic knowledge and its practical application in personal development.

The analysis confirms the central thesis of this paper that the development of transversal competencies constitutes a necessary prerequisite for successful lifelong learning. These competencies foster the development of critical thinking, communication, adaptability, collaboration, and social responsibility—qualities that are becoming increasingly important in the context of a rapidly changing society. Furthermore, their development contributes to the formation of autonomous individuals who are capable of analysing information, making well-reasoned decisions, and adapting to emerging challenges.

The scientific contribution of this paper lies in the systematization of the principal concepts related to transversal competencies, their differentiation from closely related concepts, and the development of an original conceptual model of transversal learning. The proposed model illustrates the interrelationships among the personal, social, cognitive, and practical dimensions of competency development, emphasizing their interdependence, integrity, and dynamic interaction throughout the developmental process.

Future research may focus on the empirical validation of the proposed model, the development of reliable instruments for assessing transversal competencies, and the analysis of pedagogical practices that most effectively support their development across different levels of education. Such research would contribute to the more comprehensive integration of transversal competencies into educational practice and to enhancing the quality of education in the context of the knowledge society.

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