

TEZĂ DE ABILITARE

Lect. Univ. Dr. Daniel-Cosmin Andronache

Domeniul: Științele Educației

Modele bazate pe dovezi științifice în formarea inițială și continuă a cadrelor didactice

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SUMMARY OF THE THESIS

The habilitation thesis entitled "*Evidence-Based Models in the Initial and Continuing Education of Teachers*", authored by Daniel-Cosmin Andronache, Lecturer PhD at the Department of Educational Sciences, Faculty of Psychology and Educational Sciences, Babeş-Bolyai University of Cluj-Napoca, is structured into three major parts, each addressing an essential aspect of the author's professional and scientific profile: academic achievements, scientific contribution, and strategic vision for future development.

The thesis begins with a presentation of our scientific and professional accomplishments, highlighting how applied research, curricular innovation, and teacher training have been consistently intertwined throughout the development of our academic trajectory. In recent years, we have focused on the development of empirically validated educational models, built on rigorous investigation and ongoing dialogue between theory and practice.

We have authored individual works and contributed to collective volumes that support the professionalization of the teaching career through analytical resources, practical tools, and proposals for formative models applicable in various educational contexts. We have integrated systemic and interactionist perspectives into curriculum analysis, used comparative data, and contributed to conceptual clarifications necessary for both initial and continuing teacher education.

Our publishing activity has crystallized around several converging research directions. We have addressed inclusive and intercultural pedagogical culture, exploring how training should foster sensitivity to diversity, reflexive competencies, and adaptability to various school contexts. We have investigated teachers' resilience and well-being, arguing that these should be approached systemically within training programs to support emotional balance and motivation throughout the teaching career. We have also analyzed the challenges posed by digital learning environments, with a focus on platform selection, cognitive load, and instructional strategy adaptation. Another research line focused on evidence-based curricular design, in which we proposed coherent models aligning objectives, content, and assessment, tailored to the demands of a dynamic society.

These ideas have been supported through numerous empirical studies published in prestigious journals, allowing us to test hypotheses, validate instruments, and formulate recommendations applicable to educational practice. We have actively participated in national and international research and development projects, either as coordinators or members of

implementation teams. These initiatives addressed themes such as global citizenship, sustainable communication, parental support, early literacy, or vocational counseling, aiming at direct interventions in schools, teacher training, and the transfer of research outcomes to real educational contexts.

Our teaching activities within the university have been closely aligned with these research interests. We have delivered courses and seminars in fundamental areas of pedagogy, at all levels of training, contributing to the development of an academic culture centered on reflection, applicability, and innovation. We have been involved in student mentoring, pedagogical practice coordination, and the development of new disciplines and support materials, adapted to current educational challenges.

We have completed this professional path through editorial and scientific activities: we have managed editorial processes in an academic journal, reviewed scientific articles, and participated in international scientific committees, promoting quality standards and the integration of Romanian research into international networks.

Overall, our activity in recent years reflects a coherent and integrated vision of teacher education, one based on evidence, grounded in solid research, intervention-oriented, and supported by a sustained commitment to the professionalization of education. This first chapter outlines the essential directions of our scientific and professional approach and substantiates the content and goals of the habilitation thesis.

The thesis continues with Chapter II, which offers an in-depth analysis of the evolution of the evidence-based education paradigm, focusing on its epistemological foundations, the historical transfer of the model from medicine to education, and the implications of this process on the relationship between research and pedagogical practice. In the first section, we document how the evidence-based medicine model, established in the 1990s, influenced the shaping of a similar approach in education, in the context of increasing demands for efficiency and accountability in educational decision-making. Major differences between the two fields are highlighted, especially the complexity of education as a phenomenon mediated by cultural, social, and psychological factors, which necessitated a significant epistemological reconstruction and methodological adaptation.

The transition from a prescriptive vision focused on the automatic application of research results to a reflective approach centered on contextualizing evidence and integrating professional judgment is documented. Thus, a conceptual framework emerges in which evidence-informed education requires a balance between research findings, the values of the educational community, and the professional autonomy of teachers.

Next, the structure of the consolidation process of this paradigm is analyzed, divided into four distinct stages: conceptual introduction, methodological diversification, institutionalization in teacher education, and critical reassessment for sustainability. Each stage is described in relation to the epistemological, political, and institutional shifts that have influenced how research is produced, interpreted, and used in education. The focus gradually shifts from external validity and standardization to ecological validity, contextual applicability, and professional reflection, alongside the recognition of methodological pluralism.

We also present an analysis of the epistemological and methodological tensions that accompany the application of the evidence-based education (EBE) paradigm. Criticisms related to the hierarchy of research methods, the risk of technocratization of the educational process, and the danger of evidence instrumentalization for political purposes are discussed. At the same time, we argue for a pluralistic approach that values both rigorous quantitative methods and qualitative or participatory research, depending on the specific educational questions being investigated. The importance of developing teachers' competencies to interpret and apply evidence, as well as the role of institutional structures in creating an ecosystem conducive to integrating research into educational practice, is emphasized.

Starting from the analysis of the competencies and meta-competencies required in the 21st century, the habilitation thesis also proposes an integrative analysis of normative frameworks developed by organizations such as the OECD, UNESCO, or the European Commission, with emphasis on the convergences among these reference points and the profile of the teacher as a learning facilitator, reflective professional, and engaged social actor. In this context, essential competencies are outlined, including critical thinking, adaptability, interdisciplinary collaboration, educational technology use, and understanding of cultural and social diversity. The importance of meta-competencies as an expression of a higher level of knowledge integration and professional self-regulation capacity is also emphasized, in defining a sustainable framework for teaching in a fluid and challenging educational landscape.

Continuing along this line, the thesis addresses the professionalization of the teaching career, proposing a conceptual analysis of the progression from novice to reflective expert. Key theoretical models describing the professional development of teachers are discussed, including references to the competence paradigm, lifelong learning, and research-based continuous development.

A distinct section of the thesis is dedicated to teachers' socio-emotional competencies and resilience, considered key elements in maintaining a sustainable and effective career. The analysis begins with acknowledging the professional stress specific to the education field and

the risks associated with burnout, continuing with the identification of protective factors and coping strategies that contribute to the development of psychological resilience. Furthermore, we support the integration of these dimensions into initial and continuing training programs, with the aim of cultivating an organizational culture based on mutual support, collective reflection, and care for the emotional well-being of teaching staff.

The thesis also articulates a perspective on the role of research in the professional development of teachers, advocating a transition from a merely receptive practice to one that is critically engaged in analyzing and transforming educational reality. The concept of the “teacher-researcher” is discussed, and the benefits of integrating research into teaching activity are emphasized, not only as a source of data but as a tool for deeper understanding, pedagogical adaptation, and innovation. Various forms of applied research are addressed, such as action research, collaborative projects, and the systematic use of learning data, arguing that teacher education must include not only scientific literacy but also competencies for designing and implementing context-sensitive research initiatives. In this way, research becomes not only an external resource but a professional way of thinking and acting, anchored in the practical reality of the school and in the commitment to improve the instructional-educational process.

Following the theoretical analysis and conceptual synthesis, the thesis advances toward an applied examination of validated models and practices in the initial and continuing education of teachers. Through a comparative and analytical approach, we explore functional models and relevant tools used in diverse educational contexts, highlighting both convergences and the national specificities of training systems in several countries with strong educational traditions, such as Finland, Singapore, England, or the United States. The ways in which these systems structure initial teacher training are analyzed, referencing quality standards, research integration, pedagogical practice, and institutional collaboration. Convergent trends are identified, such as the emphasis on critical reflection, integration of theoretical training with practice, strong partnerships between universities and schools, and the introduction of rigorous evaluation mechanisms for the formative progress of future teachers. At the same time, differences in approach are noted, reflecting distinct cultural and institutional priorities: from the focus on professional autonomy and institutional trust (in Finland) to standardized assessment systems and performance orientation (in the United States or Singapore). The issue of validating competencies acquired through continuing training is also addressed, including the recognition of micro-credentials and flexible learning pathways. The need for a training offer centered on the real needs of teachers is emphasized, based on contextual diagnosis and

authentic professional dialogue, with an emphasis on the immediate applicability of content in teaching activity.

Finally, the thesis examines the tools used in evaluating teachers and the indicators of their professional performance. International models are reviewed that value professional portfolios, systematic observation of practice, peer feedback, and analysis of student progress as relevant sources of information regarding training effectiveness. The limitations of these methods are also discussed (e.g., validity and equity issues associated with student performance-based statistical models), and a balanced vision is proposed, combining quantitative and qualitative data in a formative and constructive approach to evaluation. Emphasis is placed on the idea that teacher training evaluation should not be a bureaucratic exercise but a practice of institutional learning that contributes to the continuous improvement of training processes and the strengthening of a professional culture based on evidence.

The thesis concludes with a forward-looking chapter dedicated to the academic career development plan, outlining strategic directions for the consolidation of the professional and scientific path. This plan is based on the thematic coherence of research conducted so far and proposes a well-articulated framework for development in the coming years, integrating applied research, international collaborations, innovation in teacher education, and increased scientific visibility.

The plan includes clearly defined objectives, with emphasis on deepening applied research on evidence-based teacher education, consolidating an international network through the formalization of the EDCORE center (International Center for Cooperation and Research in Education), developing formative programs with demonstrable impact, and taking an active role in the professional and scientific mentoring of young researchers. Also targeted is the expansion of international collaborations through co-authorship, participation in European projects, etc.

In addition, concrete measures are proposed to increase the public impact of research, through publications in Q1/Q2 journals, active participation in international conferences, and the initiation of a "communicating science" column aimed at teachers. Overall, this chapter marks a stage of academic career maturity, articulating a medium and long-term strategic vision that combines scientific excellence with social responsibility and a commitment to developing an evidence-based educational culture.