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CUMULATIVE DEVELOPMENT OF EDUCATIONAL RESEARCH AND INNOVATION COMPETENCES IN THE TRAINING OF PRIMARY AND PRE-SCHOOL EDUCATION TEACHERS

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Abstract

The article analyses, from multiple perspectives, the problem of developing the educational research and innovation competences of the future primary and pre-school education teachers, with a view to the integral development of the training dimensions. Our previous research and papers in the field of educational curriculum and the development of professional and transversal competences represent a consistent conceptual basis and a useful platform for curricular representations and concepts, which have been capitalized in the issue of reflections, hypotheses and in the development of the theoretical framework of the problem.

Starting from an analysis of the categories of professional and transversal competences formulated in methodological guides and institutional documents, we appreciated the legitimacy and the opportunity of explicitly introducing the educational research and innovation competences in the competence profile of the primary and pre-school education teacher. Our analyses reveal the possibilities of deriving and operationalizing these categories of competences, their ability to legitimize specific curricular structures, which will facilitate the development of the reflective-investigative-innovative dimension of the primary and pre-school education teacher. Also, our theoretical approaches converge towards asserting the comprehensiveness of the educational research and innovation competences, illustrated in a taxonomic system and it constitutes the support for further empirical and experimental research.

Keywords: *cumulative development of professional and transversal competences, educational research and innovation competences, cognitive competences, action-methodological competences, axiological competences, self-management competences of development in the field of educational research.*

1. The profile of professional competence for primary and pre-school education

The crystallization of the desirable competences for the teaching career during the initial training period and their manifestation in professional performances represents a strategic objective assumed by the academic institutions that manage didactic professionalization programs. The initial training for the didactic career is the first stage of the process of cumulative

development of professional and transversal competences, which represents “the systematic process of acquiring new competences or of perfecting them, in a rational manner, in formal contexts, through the curricular programs of the academic subjects and through professional internships, to ensure the accumulation of the necessary credits, as well as in non-formal and informal contexts, through activities outside the university environment and through self-training” (Bunăiașu, 2012, 8-9).

An analysis of the formulation and description of the profile of professional and transversal competences, at official level, reveals the taxonomic rigor. We can establish the increase of their degree of complexity, especially at the level of the generic descriptors of the professional competences, defined in the Matrix of the National Qualifications Framework for Higher Education (apud Bunăiașu, 2012, 11-12):

a) “Professional competences:

- at the knowledge level 1) Knowledge, understanding and use of specific language;
- 2) Explanation and interpretation.
- at the skill level: 3). Application, transfer and problem solving; 4). Critical and constructive reflection 5) Creativity and innovation”.

b) **Transversal competences (at the level of attitudes, values):** 6). Autonomy and responsibility; 7) Social interaction; 8) Personal and professional development.

The professional and transversal competences covered by the bachelor program *Pedagogy of primary and pre-school education, defined in the National Register of Qualifications for Higher Education* are (<http://site.anc.edu.ro/registrul-national-al-calificarilor-din-invatamantul-superior-rncis/>):

1. “ Professional competences:

C1 Designing training or educational programs adapted for different age/training levels and various target groups.

C2 Realization of the specific activities of the instructional-educational process in primary and pre-school education.

C3 Assessment of learning processes, outcomes and progress of pre-schoolers/young school children.

C4 Managerial approach of the pre-school/young school children group, of the education process and the age-specific learning/social integration activities of the target group

C5 Counselling, guidance and psycho-pedagogical assistance of the various categories of people/educational groups (pre-schoolers/young school children/students, families, teachers, employees, etc.).

C6 Continuous self-evaluation and improvement of professional practices and evolution in the professional career.

2. Transversal competences:

CT1 Applying the principles and norms of professional deontology, based on explicit value options, specific to the specialist in the educational sciences.

CT2 Effective cooperation in professional, interdisciplinary work teams, specific to the development of projects and programs in the field of education sciences.

CT3 Use of effective lifelong learning methods and techniques for continuous professional development and training”.

In the system of competences for the *Pedagogy of primary and pre-school education* we note the integrative character, relevant for the multidimensional structure of the profile of professional competence, finding component elements (specific knowledge, skills, habits/abilities, attitudes and professional values), for all the training plans: epistemological-cognitive (scientific, pedagogical, psychological), methodological-operational (pedagogical, didactic), managerial, counselling, psychosocial, personal and

professional development. But, also at this level, we point out the lack of categories of general competences, which, explicitly specified, legitimize and guide the curricular structuring of the process of developing the emotional, intercultural, educational research and innovation dimension. In our opinion, these dimensions represent strategic axes of professional training, in the spirit of affirming postmodernism in educational practices.

At another level, of the evolution in the didactic career by obtaining didactic degrees, the official documents reveal the characteristics of the stages of professional training in primary education, according to the regulations in force: “1) Initial training: analytical, fragmentary, disciplinary, dominantly cognitive; 2) Full-time professional degree: synthetic, interdisciplinary and complementary, holistic, unitary and integral, situational-experiential training; 3) Teacher certification degree II: action, reflective, decisional, interactional training; 4) Teacher certification degree I (Senior teacher): innovative, creative, attitude-reflective training” (Manolescu, Voiculescu, Albu, Ezechil, Ionel, 2007).

The characteristics of the evolutionary route reveal the cumulative development of the professional competences in relation to the specific of the curricular development for the didactic training, in the diachronic sense. This perspective highlights a separation of the dimensions of professional development between initial and continuous training. In our opinion, the cognitive dimension should not be exacerbated in the initial training, which leads to a fragmented, monodisciplinary, predominantly theoretical curriculum. Cognitive competences represent the basis of professional development, but their cumulative development is achieved by correlating them with the methodological-actions, with creativity, research and innovation, with the managerial, socio-emotional and cultural dimensions, of career management.

The complete development of the profile of professional competence represents a strategic option of the professionalization programs for primary and pre-school education, transposed into the holistic academic curriculum, in the spirit of the pedagogical constructivism paradigm. The curriculum is designed and made more effective in the sense of the competency-centred curricular model and revised according to the training and professional development needs of the trainees.

2. Educational research and innovation competences; structural and evolutionary characteristics

In our previous works, we addressed the problem of developing intercultural competences, in the initial and continuous training of teachers (Bunăiașu, Strungă, 2016) and of emotional competences (Bunăiașu, 2018), with emphasis on their role, the derivation in specific competences and the development strategies. Regarding the educational research and innovation competences, we assess that they have some defining notes:

- they represent an operable set of knowledge, skills, habits/abilities, values and deontological attitudes, which favour constructivist reflections on educational theory and practice, the scientific attitude in the complex knowledge of the problems of education, facilitate the comprehensive understanding and interpretation, issuing of hypotheses, the rigorous design of investigative measures, the proper management of research projects, capitalizing and extrapolating the research results, innovation of educational programs and practices;
- they are highlighted by superior performance in academic learning and professional training;
- they have an integrative, comprehensive character, by including components specific to other types of professional competences of the

teaching career, which facilitate creativity, research and innovation (didactic, design, curricular management, assessment competences; managerial competences; counselling and psycho-pedagogical assistance competences; psychosocial, cultural competences; personal and professional development competences);

- are at the intersection of professional and transversal competences, including both cognitive and methodological elements, as well as professional attitudes and behaviours;
- the affirmation of the research and innovation competences is conditioned by the development of other categories of competences and by the crystallization of professional values and attitudes. The process of developing these competences is long lasting, being structured during the initial training period and progressively affirmed in the continuous training.

The professional profile of the educational research and innovation competences is crystallized, according to generic structural models, on several dimensions: cognitive, action-methodological, axiological, to which we added the dimension of teaching career management. With this in mind, we propose a comprehensive taxonomic system of educational research and innovation competences, within the initial professionalization of primary and pre-school education teachers. The model is structured on three elements: 1) Dimensions of educational research and innovation competences; 2) General competences, by dimensions of training; 3) Examples of professional performances, which highlight the development of these competences.

In this perspective, we propose the following taxonomic system:

I. Targeted competences:

1. Cognitive dimension:

C.1.1. Complex analysis and personal interpretation of the methodological paradigms, theories and systems of pedagogy – as an integrative science of

education and of the subjects of the sciences of education, studied in the bachelor program of *Pedagogy of primary and pre-school education*.

C.1.2. Identification, description and critical and constructivist analysis of innovative perspectives and problematic situations in educational practice, which may constitute research topics.

C.1.3. Development of a consistent, diversified and operational cognitive system, regarding the educational research methodology.

2. The action-methodological dimension:

C.2.1. Development of learning capacities through research, individually or in groups, in direct activities or in virtual learning environments.

C.2.2. Development of the design abilities of theoretical and practical-applicative research activities, in accordance with the methodology of scientific research.

C.2.3. Elaboration of research projects, which meet a number of conditions: relevance for the problematic field of education sciences and educational practice in primary and pre-school education; complying with the methodological framework of scientific research; the realistic character, given by the operability and feasibility of the project; a high degree of originality in the research of the theme and a great capacity in obtaining innovative solutions.

C.2.4. Adequate and creative application of the methodology specific to the project management, in the organization, implementation, monitoring, assessment and revision of the educational research projects.

C.2.5. Implementation of innovative results of educational research in pedagogical practice.

3. Axiological dimension:

C.3.1. Demonstration of the scientific and professional attitude of receptivity to innovations in the educational field and in the practice of the pedagogy of primary and pre-school education.

C.3.2. Applying the deontological principles and norms specific to the scientific research activities.

C.3.2. Efficient cooperation and assuming specific roles in research teams, in direct activities or in virtual environments.

4. Career management dimension:

C.4.1. Crystallizing the concept of self-management of professional development in the field of educational research and innovation.

C.4.2. Development of metacognitive strategies, of self-assessment, self-monitoring, self-training, in order to self-perfect the educational research competences.

C.4.3. Elaboration and implementation of a professional development project, structured on objectives and training areas, in which strategic options regarding the development and affirmation of educational research and innovation competences are integrated.

II. Expected performances: educational research projects; operational plans for managing research projects; elaboration of research tools: questionnaires, interview guides, focus groups, observation grids, matrix of analysis of curricular documents; docimological tests; research reports; studies (impact, experimental, comparative), research papers; innovative educational and curricular products: optional curricular programs, curricular guides and auxiliaries, educational partnership projects; professional development projects; operational self-management plans of the professional development project.

3. Conclusions

The analysis of the comprehensive character and the process of cumulative development of the educational research and innovation competences represents a useful cognitive and methodological platform in the issue of presuppositions, which will legitimize and guide our further studies. Thus, several operationalized variables were outlined as references for our subsequent reflections and research, with the objective of developing these competences and facilitating affirmation in academic and professional performances: a) increasing the consistency of the reflective-investigative-innovative dimension of the primary and pre-school education teacher; b) resizing the curriculum for the *Pedagogy of primary and pre-school education* bachelor program; c) development of learning strategies through research, in the pedagogical, psychological and didactic disciplines of the specialty; methods and techniques of experiential academic learning, through research; d) collaborative learning through research in virtual environments.

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