

CURRICULAR PERSPECTIVES AND STRATEGIES FOR DEVELOPING COGNITIVE SKILLS IN EARLY EDUCATION

Claudia Irina ALDEA

University of Craiova, Romania

Abstract

Starting from the assumption that in early education the curricular strategies are selected and developed according to the curricular context and the specificity of general and particular cognitive development, we decided to engage in an experimental research focused on identifying, validating and developing some curricular strategies that are as relevant in the development of cognitive skills, as well as of other areas of development and experience. Our research fulfils several functions: 1) The systematization of the conceptual analyses regarding the problem of the cognitive skills and of the curricular strategies of their development, accompanied by personal appreciations and interpretations; 2) Of retesting and developing a previous micro-research; 3) Of methodological research, based on the development and validation of relevant investigation tools;

4) The development of a methodological framework and operational landmarks for the development of cognitive skills in early education.

The article is conceived in the spirit of scientific consistency and comprehensive analysis of conceptual models, strategies and methodological models that outline the terminological code of the problem, but which also constitute premises for theoretical development and design of some experimental approaches.

The article is structured on two dimensions: a) theoretical foundation regarding the conceptual analysis of cognitive competence in early education, from the perspective of the skills-centred educational approach, of the curriculum for early education, with implications for lifelong learning; b) addressing curricular strategies, which facilitate the process of developing cognitive skills in preschoolers, with an emphasis on child-centred training.

Keywords: early education, lifelong education, cognitive skills, curricular strategies, child-centred training

1. The theoretical foundation of cognitive development in early education

One of the fundamental objectives of the curricular reform aims to develop the cognitive skills necessary for the adequate management, creative processing and comprehensive approach of the cognitive scientific and didactically processed system, in order to develop the autonomous learning skills and to crystallize the cognitive and metacognitive skills. In this sense, in recent years, in the Romanian education there is a special interest for the elaboration and implementation of curricular and educational programs with impact on the cognitive and affective-motivational development.

In the context of the curriculum focused on the development of the child, since the preschool period, the paradigms of cognitivism and constructivism have been capitalized, which offers the conceptual framework and methodological landmarks for developing and implementing curricular projects and strategies with an impact on the development of cognitive skills. In the last decades, all over the world, there is a special interest for the formation and development of the child in the first years of life, becoming a strategic formative intervention in education for all (EFA) and lifelong learning (LL).

Early education, comprising the years of ante-preschool and preschool, aims at the multidimensional and multifactorial action of child modelling and represents an important interval of learning with essential effects for the whole subsequent life of the person; it is the most complex and rich stage of child development, with an impressive number of cognitive, affective and social acquisitions. At the basis of the development of the concept of early education and of the programs of early education from all over the world are the theories of development and the important studies of many specialists, such as M. Montessori, J. Piaget, J. Dewey, L.S. Vygotsky, focusing, as a priority, on the cognitive aspects of the child's development, on their thinking, understanding and learning skills.

Early childhood education and care are considered as the basis of education and training systems, which translates into ensuring optimal conditions for the development of key skills.

Early education, in Romania, is characterized by an impressive evolution due to the educational policies existing at international level, these imposing periodic changes and reforms according to the educational ideal, the results of research and experiments in the field, the continuous evolution of the society. "Educational reforms cover different stages, with peak moments or radical

changes, with intermediate periods, less visible, and with periods of consolidation of the acquisitions acquired in the previous stages. “ (Potolea, D, Toma, S., Borza, A. coord., 2012, p.12) Thus, the changes in the system have led to the elaboration of a dynamic-evolutionary curriculum, by taking over, adding and adapting to the new contexts.

The Curriculum for Early Education, approved in August 2019, is a comprehensive, integrated and diversified curriculum, focusing on addressing the holistic development of children, achieving an appropriate balance between learning and harmonious development of personality and on transferable transversal collaborative learning, skills, attitudes and values useful for personal and social development.

Studies and research show that school success depends to a large extent on the education and fundamental learning that takes place before school starts, which means: acquiring precursory math and language skills – raising children able to communicate and share their thoughts with others (to gladly discuss their experiences, plans and discoveries), which will make it easier for them to learn to read and write; developing curiosity – curious children who investigated and compared quantities, shapes and materials when they were still very young learn more easily arithmetic and physics.

The basics of lifelong learning are formed in the early years of childhood. Learning is a gradual process and building strong premises in early childhood is a prerequisite for developing skills and educational success from higher levels, being equally essential for the health and well-being of children. The school curricula for early education capitalizes the curricular paradigm centred on skills and bases the educational steps on the child and on his learning activity as a process, respectively on the acquisition of behaviours that ensure the premises of the development of the key skills later.

In the Recommendation of the European Parliament and of the Council of 23rd April 2008 on establishing the European Qualifications Framework for lifelong learning (Official Journal C 111 of 06.05.2008) skill is described from the perspective of responsibility and autonomy, as proven ability to use personal, social and/or methodological knowledge, skills and abilities in work or study situations and for professional and personal development. (Curriculum for Early Education, 2019, p. 4)

Early education is at the base of developing these skills, starting from the model of structuring the development levels of the eight key competences areas, in relation to the pre-university education levels. This represents the pre-elementary level, the prerequisites of the skills, the level of behavioural stimulation where the teacher will design appropriate learning activities to achieve the selected behaviours. The educational approach centred on skills will highlight the dynamic aspect of the accumulation of knowledge, through the need to articulate them in action sets useful in solving certain categories of problems.

The skill involves “integrating and adapting, mobilizing and transferring knowledge to various situations, regulating the thinking resources and strategies and action, acquiring more and more finesse in relation to the plurality of the experiences accumulated” (Perrenoud, 1998, apud. Manolescu, 2010, p. 102). The skill integrates abilities, aptitudes, and capacities, but there are two main elements: the application of what the child knows or can do within a given task and the capacity to transfer this ability between other different situations. Referring to the cognitive skill, this can be described as an intellectual capacity that has a variety of transfer possibilities to a given situation, a capacity that will also associate affective and attitudinal components, of motivating the action. Using information, as more effectively, it demonstrates a proper development of cognitive skill in older preschoolers, because through a set of skills, habits,

cognitive abilities they can easily sort information, finding meanings and significations that they can convert into practical behaviours.

The child must make a constant effort to integrate the new information into the existing system, to make deductions beyond the given information and to think strategically about his/her own learning activity. Preschoolers should be accustomed to seeking, learning and using information and ideas, going through processes of analysis, selection and critical reflection. Although they are in an early stage of systemic learning, preschoolers may be able to practice the identification and flexible use of some acquisitions from their own knowledge, skills, attitudes and values to meet certain educational and extracurricular challenges. For a good cognitive development, preschoolers go through a continuous process of interaction with the environment, which leads to the extension of the field of knowledge of the intellect and to the increase of the number of mental abilities.

The older preschool can use successfully within the integrated activities different cognitive processes such as: discovering, interpreting, sorting, and classifying information, but also processing, organizing and using them in an efficient way according to the context. At the same time, children can carry out evaluations of some statements, they can be involved in problem solving, easily understanding rules or concepts, planning, and anticipating alternatives and consequences of their own behaviours.

The preschool period represents the richest and most intense stage of cognitive development, due to the impressive number of cognitive acquisitions the child acquires, initially based on sensory processes, focusing on perception and representation. Although in the beginning the preschooler's thinking is irreversible, focused on perception, preoperative, the transition is made easily, based on the activities centred on the preschooler's experience of the surrounding

reality, towards a logical thinking, thus becoming operational. Thus, cognitive competence, in early education, is reflected in the abilities of logical thinking and problem solving, knowledge and basic mathematical skills of the child (numbers, numerical representations, operations, geometric shapes, measurement), as well as those related to the world and the environment the (living world, the Earth, the space, the scientific methods).

In this context, the curricular program will include training strategies that will create learning situations centred on the preschooler's direct action on the reality he/she must understand.

2. Curriculum strategies that facilitate the process of developing cognitive skills in preschoolers

Within the process of teaching knowledge and skills in an educational institution, any teacher carries out a whole series of activities and behaviours oriented towards obtaining a maximum quality of educational results. All of these are initiated by analysing the resources, conditions, educational factors building authentic educational strategies. The notion of strategy represents a component of the training program, it constitutes "the dynamic, active aspect, through which the teacher directs the learning" (Manolescu, 2008, pp.193) or "the set of coordinated and harmoniously integrated actions meant to direct the learning in the vision of achieving the pre-formulated objectives". (Vlasceanu, 1993, pp. 97)

The strategies are the "defining instruments" of the didactic activity, which aims at the whole process of teaching-learning-assessment. Thus, I. Cerghit defines the training strategies as "a set of deliberately structured or programmed teaching-learning actions and operations, oriented towards the achievement, under conditions of maximum effectiveness of the predetermined objectives". (Cerghit, 2002, pp. 276). There are numerous variants of defining the educational

strategy that covers a wide area, from mentioning it as an element of the learning process (classical didactics) to its limitation to methods, processes and ways of solving a work task, respectively catching in its sphere of the entire actual accomplishment of one or more objectives, as a basic element of the design and realization of the activity.

In the context of education reform, for the formation of skills, attitudes and values towards school, life, work, and according to the Curriculum for Early Education, which is based on the experiential paradigm, to be effective, the training strategy used must be child-centred, to create a bridge between teachers and children for their active and creative training in the assimilation and use of information. Referring to the development of cognitive skills in early education, through the strategies used, the teacher involves the child in specific situations of learning, rationalizes and adapts the content of the training to the particularities of the children's personality (motivation, preparation mode, knowledge/learning styles). Thus, strategies can be defined as the set of methods, means, learning experiences through which the teacher can design, realize and evaluate the educational process in order to develop cognitive skills, based on the specific behaviours of the development areas.

Early education capitalizes the constructivist paradigm so that training strategies, with an emphasis on developing the cognitive skills of preschoolers, can be diversified only by transforming the child into a central point of training, as a direct explorer of the environment, building on their own learning. An open, diverse and resource-rich learning environment leads to active learning through reflective observation and exploratory behaviour.

Child-centred training implies its autonomy in the process of acquiring new knowledge, acquiring cognitive schemes and operational procedures for solving problems. The formative effects of child-centred training and the affective

resonance of the results obtained through their own efforts are included in the spectrum of curricular reform objectives: divergent, flexible, creative, critical thinking; transfer, application, generalization skills; strategies, styles, cognitive schemes that will be the basis of learning in the process of continuous (self)training, as a future student and adult. (Bunăiașu, 2011, pp. 158-159).

The specialized literature presents a variety of training strategies, the most relevant categories being punctuated by I. Cerghit and R. Iucu (Cerghit, 2002, pp.279 -283, Iucu, 2001, pp. 100-101). Selecting those with applicability in early education, we obtained the following taxonomic system (op. cit):

- a) according to the field of predominant instructional activities:
 - cognitive strategies – aim to train the cognitive processes in achieving the objectives;
 - psychomotor strategies – specific to achieving the psychomotor objectives;
 - affective-motivational strategies – training situations that favour intellectual experiences and stimulation of motivation.
- b) following the logic of thought:
 - inductive strategies: the learning process follows the path from intuitive perception to explanation, from the concrete example to the idea;
 - deductive strategies – the educational route is from principle to example, from hypothesis to observation and experiment;
 - transductive strategies, through the use of transitive, essays, etc.
 - analogue strategies – learning by using models (knowledge, action models, models representing complex processes);
 - mixed strategies: the educational approach is a compilation, interactive and dynamic one;

- c) according to the degree of leadership or flexibility and creativity in the learning process:
- algorithmic strategies: impose a strict learning direction, by designing a didactic behaviour specific to each objective;
 - semi-algorithmic strategies: the guidance is no longer strict for the learning process, and the didactic behaviours are no longer so rigorously outlined, being open to the teacher's situational decisions;
 - heuristic or creative strategies – focused on fostering learning through discovery, on learning through solving problematic situations, encouraging search behaviours and guiding the child in the decision-making process.

These strategies that capitalize on children's learning experiences by providing an interactive, participative and effective educational environment automatically lead to the development of intellectual capacities and the construction of new cognitive experiences, thus facilitating the development of cognitive skills. However, the highlighting of their efficiency results only in the results obtained after using the assessment strategies, combined and applied according to the particularities of the age of the children and the built situations.

Educational assessment in early education is part of the paradigm of curriculum reform and the assessment system and aims to shift the focus from assessment focused on product measurement to development-focused assessment (of children's competences, of the educational process), organically integrated into the training process. The centring of the competency assessment represents a paradigmatic change of great relevance in postmodern pedagogy, which requires new methodological options, compared to traditional evaluation criteria and tools. In this context, the standards represented by the performance descriptors tend to be replaced by standards of a qualitative nature, to which the

appraisals of internal processes and mechanisms relate. The competences are not the object of the quantitative assessment; they are qualitatively assessed by reference to the performances, which express the level of development of the skills. (Bunăiașu, 2015, pp. 89-91)

The assessment represents “the process by which useful information is delimited, obtained and provided, allowing subsequent decisions taking, assuming three relatively distinct moments: measurement, assessment of school results and adoption of improvement measures” (Cucoș, 2002, p. 367); is “the activity by which value judgments about the process and product of school learning are issued based on pre-determined qualitative criteria, in order to make decisions according to the significance given to the assessment approach: regulation/improvement, selection, certification, etc.” (Manolescu, 2010, p. 21)

The strategy in the educational assessment is the responsible deliberative conduct of the assessor in all aspects and throughout the scope of the evaluative approach, as well as the option for the most appropriate and adequate type/method of pedagogical assessment, in the given instructional-educational situation. The classifications of the assessment strategies are quite different, depending on the criteria used, but these classifications only present a temporary situation. A brief classification of the evaluation strategies was made by Marin Manolescu, grouping them around two analysis perspectives, from which we have selected several representative variants for the assessment of cognitive abilities in early education (Manolescu 2010, pp. 53 - 66):

1. Critical perspective – the assessment strategies are designed according to criteria such as:

a) Assessment actors:

- assessment centred on the teacher, on his correctness;
- assessment focused on the child, on his personality.

- b) Assessment tools:
 - objective strategies – standardized tests or other tools that faithfully measure preschoolers’ performances;
 - qualitative strategies – focused on the qualitative aspect of the results.
- c) The objective of the assessment:
 - summative assessment, focused on the final products of the learning process;
 - formative assessment, of appreciation of the way of development of the learning process and of the training program.
- d) Extension of the assessment act:
 - frontal assessment;
 - group assessment;
 - individual assessment.
- e) After the moment of the assessment in the curricular process:
 - initial or predictive assessment;
 - continuous or formative assessment;
 - summative or final assessment.

2. Polar axes perspective

- a) The normative assessment axis versus the critical assessment. The normative assessment is based on the analysis of the results of the preschoolers in comparison with the results of other colleagues having the effect of ranking them; The criterion assessment is focused on the report of the children’s performances to the educational objectives, to the curricular standards of performance defined in the curricular programs.
- b) Axis of product assessment versus process assessment.

- c) Axis of proactive assessment versus retroactive assessment. Proactive assessment activities are planned, while retrospective evaluation activities develop during the training program.
- d) The axis of global, holistic assessment versus analytical assessment. The global evaluation refers to all the components or features of the object of the assessment, and the analytical assessment focuses on certain variables.
- e) The internal assessment axis (carried out for regulatory, didactic purposes, by the teacher or authority within the school institution) versus the external assessment (carried out during school examinations and competitions, by external assessors, with certified expertise).

The construction of these strategies, either for training or assessment represents an analytical-synthetic approach and is based on the education policy, the needs of the children's training and professional development of the teacher, and their application has a specific context: the school culture and access to modern means of communication and information. The process of constructing these strategies involves the following essential stages: strategic analysis, strategic choice and strategic implementation.

3. Conclusions

The comprehensive conceptual approaches of the concept of cognitive skill, the presentation of the modalities of didactic transposition of the theoretical references and of selecting/adapting the taxonomies of the training strategies, systematized in the article, constitute prerequisites in designing the investigative approach assumed by us. The theoretical-methodological references analysed have the terminological code value of the research carried out in several stages.

In the next stage of the investigative approach, of retest and development of a micro-research, we will have as a starting point the following presupposition, developed on the basis of the crystallized conceptual system:

The use, alternatively and complementarily, and the appropriate adequacy/ contextualization of the curricular strategies presented will generate didactic approaches favourable to the development of the cognitive skills of the preschoolers. In this respect, curricular strategies, selected and developed on relevant theoretical bases, integrated in flexible, child-centred training situations, can constitute effective methodological-procedural resources for increasing the educational act in early education.

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