RECONSIDERATION OF THE TEACHING STRATEGIES FROM THE PERSPECTIVE OF LEARNING AND INTEGRATED TRAINING/ SKILL CENTERED PARADIGMS - FORMATIVE STRATEGIES AND OPEN RESOURCES STRATEGIES

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- Abstract. The necessity imposed by the reorganization of the dynamics and functioning of the educational process in the vision proposed by the curricular orientation focused on skills training, by the integrated approach of teaching and by the harnessing of the paradigms of learning, which we have tried to highlight in the earlier analysis, enrolls on the directions of increasing the active /interactive character of teaching strategies in implementing some strategies with a strong formative character, in harnessing the new instructional technologies (e-learning and open resources) in the development of educational authentic settings. The results of the study consist in the development of three models of integrated teaching approaches that can be used in training and development of student skills, and of some examples of some predominant formative strategic combinations that can be used to optimize these actions.
- **Keywords:** formative strategies, open resources, integrated teaching approach

1. Theoretical Background

Redefining the educational process from the perspective of learning paradigms (the cognitivism, the socio/ constructivism, the multiple intelligences theory, the differentiation and personalization, the skills centered learning)

It is necessary to redefine the components of the educational process in the context of the development of curricular dimension and educational paradigms. The development of the teaching pattern focused on skills determined and seeks solutions to revive the strategic framework with formative strategies in the idea of easing them and for the skills training. It is also natural the reorganization of the educational resources by inserting in the education process the new categories of open resources and finding optimum and effective ways of combining, by the principles of complementarity and compensation.

Addressing the educational process from the perspective of learning paradigms aims to build knowledge as a result of the interaction between man and the environment, the of the developing *authentic learning* (Ciolan, 2008, p. 134), of the *situational learning*, characterized by stimulative learning environments, settings as customized ways of the learning space and learning cultures based on communication and social respect. (Siebert, 2001, p. 165), representing the favorable frame for developing the multiple intelligences Flueraş, 2005), "the realization of analysis, modeling, additions and developments of concepts and paradigms related to the educational process, from the informational perspective." (Ionescu, Bocoş, 2009, p. 89)

In the new vision of the educational process is important how, why and what is learned and the curriculum content focuses on learning techniques to build ideas, concepts in an contextual way (Elgedawys, 2001, in Joita, 2006, p. 53), to form the search skills. The learning gains an problematised character, and the teacher's role is to create problem situations, to encourage the contact with diverse information, to motivate students to go through learning experiences, to discover, to search. They create the necessary conditions of knowledge, facilitates the process of knowledge by structuring and systematizing the content. The teacher harnesses the viewpoints of the students, stimulating their self-confidence to issue new ideas and make decisions etc. (Tudor, 2015, p. 43)

The teacher's role is "guide and organizer of favorable conditions for building and rebuilding personal knowledge" (Cerghit, 2008, p. 120), mediation of student action, organization of the teaching situation, support and guidance of student action. It should provide for the students typical examples, but also atypical, which provides knowledge, generalization, abstraction (Frumos, 2008), the knowledge is built situational, has longlasting effects and is active (Siebert, 2001, p. 109). Analyzing the teacher position in front of the teaching and learning problems, Ioan Neacsu states that, the educators are asked today, continuously, to promote the effective learning. And not any effective learning, but a participatory, active and creative one. (Neacşu, 1990, p.12)

The centered on skills training produces the reorientation on the following elements to be evaluated (J. B. Black and R. O. McClintock in

Joita, 2002, p. 205), emphasizing the role of formative and/ or forming evaluation. (Manolescu, 2005) The evaluation is performed predominantly formative, continuous, is an process evaluation aimed at identifying and overcoming the difficulties, focuses on the learning way, on the level of understanding, on the expected performances of the individual/ group. The evaluation will examine all the measurable products (theoretical and applied knowledge, mental abilities, cognitive structures, concepts and conceptual networks, representations, schemes of action, procedural knowledge) and also the processes involved in obtaining these products (skills and abilities of information processing, mechanisms of memory, comprehension operations, strategies to combine and apply knowledge, creativity processes). (Tudor, 2015, p. 40) Evaluation indicators will be focused on students' capabilities: the way of involvement and building the interpretations and arguments, how the knowledge is transferred to other contexts, the appreciation of the group colleagues, effects on the cognitive, individual development, the level of metacognition etc.

Given that "in the classroom, we don't have to do with the transmission of a given and prefabricated curriculum, but especially with the development and daily negotiated construction of it" (Păun, Potolea, 2002, p. 21), we note the efforts of some theoreticians to reflect the consequences of the new paradigmatic approaches in the educational plan (Oprea, 2007, p. 99): the learning becomes an act which is liked and which motivates the students, because it actively involve them; the results are better, because learning is centered on the work of thinking, understanding and active knowledge, less on memorization; the knowledge are transferable and applicable to other learning situations; the student becomes aware of their own purchases, because they discovered them, they sought them, they made investigations on them; learning starts from authentic, concrete situations; interactionism is promoted, enabling the development of social skills, of communication skills; it is promoted the group work, which facilitates the continuous development of knowledge through debates, arguments etc.

Class work under these conditions will be designed and build on the basis of some fundamental principles (Murphy, 1997; Boudourides, 1998; Wilson, 2000; Elgedawy, Summer, 2001, in Joita, 2006, pp. 87 - 91):

- promoting the independent learning;

- replacing standardized assessment/ evaluation with formative assessment, based on observations, analysis, interpretation, portfolios, projects, etc .;

- adapting teaching strategies to the individual characteristics of students;

- affirmation of the teacher as facilitator, mentor, manager;

- the teacher provides the material support, the learning context, and the students work independently and build their own knowledge.

The teaching strategies under the impact of the new paradigms of curriculum and learning

This manner of analysis develops the spectrum of teaching strategies with their approach of formative perspective. The educational approaches will encompass the cognitive strategies, aimed at the organization, direction and management of cognitive processes of information processing, and also metacognitive strategies, of knowledge of their own information processing processes and its autoregulation (Tudor, 2015, p.32). The student is the constructor who builds ideas, projects, resources, solutions, products, artifacts, their own mental structures". (Joiţa, 2006, p. 39) It supports the development of cognitive structures that influence the thinking and the way people behave.

The formative strategies are "the manner in which the learner manages the process of learning", "the assembly of procedures and rules used by a student to learn, to develop a task, to achieve a goal, to manage the processes of information processing" (Gagne, 1974, in Cerghit, 2008, p. 193)

Focusing on the transformation of information at mentally level, the formative aspect of teaching strategies is determined by the activeness character, they activate, stimulate and support Internal processing of information. To achieve such a learning process, Lebrun (in Joita, 2002, p. 140) say, as a methodological suggestion, that in the design phase of work, after the teacher with the student established the learning context, to establish "an prototype (as a processing technique, organization of information) of the application way of active methods". The author suggests implementing a customized approach to ensure the transformation of the taught information and the progressive building of the new information. In this way, each student uses cognitive resources and operates with teaching duties variously, to develop them, combine them, recombine, to apply them, correct them, under the guidance of the teacher.

The development of formative strategies offers many advantages (Ionescu, Bocoş, 2009, p. 154 - 155):

- improves thinking discipline, the child/ student must explicit the propositions;

- ensure early acquisition of some general concepts and hypothetical-deductive reasoning;

- use heuristic methods in handling information;

- the children/ students plan their work and constantly evaluates it to correct errors;

- ensure the development of combinatorial notions and easier transition from the stage of the concrete operations to the one of propositional operations.

From the standpoint of strategic buildings will be developed optimal strategic combinations after compensation criteria, complementarity and effectiveness (Tudor, 2011, p. 241), centered on the following coordinates:

- the diversification of the support materials, of the means of education (diversification and modernization of educational strategies induce the necessity of combining traditional strategies with the technologized ones);

- create conditions for independent individual and group work (the need to combine individual and group strategies);

- the realization of changes, interpretations, constructions and reconstructions; it is developed the need of the reception based strategies combination/ the traditional ones with the ones based on search, discovery based on action, on problem solving;

- the diversification of expression and communication ways, this reflects the combination of strategies based on unidirectional communication with the interactive and modern communication strategies through information technologies.

The appearance of internet has generated new forms of education, teachers recognizing its role and its implications for the teaching process. Pedagogical literature in recent years indicates different pedagogical models that have introduced effective learning strategies in electronic training as resource-based learning, collaborative learning, learning by problems or learning by projects, intelligent and flexible training/ teaching systems. Intelligent training environments, interactive hypermedia systems, biomedical and intelligent technologies, communications infrastructure that allow access to knowledge anytime and anywhere represent the four key components of hyper-instruction technology. (Perelman, 1996)

Current trends of development of the educational framework evokes support [...] of the innovative methods of integrating educational resources of type Web 2.0 and of the open educational resources in learning process (Voicu, in MEN, 2014, p. 1). The open resources are learning materials, educational and research materials that are present in any environment, digital or otherwise, which is in the public domain or were made available under a free license, allowing free access, use, adaptation and redistribution by others without restrictions or with limited restrictions (Voicu, in MEN, 2014, p. 2). Integrating open resources is welcomed in any learning context, not just the non-formal or informal, by harnessing the information and formative potential of the digital textbooks, educational films, open trainings etc., especially by supporting educational institutions, teachers and students into skills training and digital learning methods. In this respect, developing strategic approaches will consider the possibilities for capitalizing on open resources in the formal process of education by connecting classrooms and the use of digital devices and digital contents.

The need to develop ways of developing and implementing integrated strategic approaches is one of the solutions invoked currently by the theorists, but mostly, by the practitioners who are in front of some diverse approaches, models more or less uniform. Because of the multiplicity and diversity of theoretical and applicative contexts treating this phenomenon, experts are challenged by "What does integrated design, integrated teaching, strategy and integrated curriculum mean? (Venville and Dawson, 2004, p. 148) Integrated design approach focuses on procedural vision, respectively on active and interactive process, to the interactions between teacher, student and knowledge, in terms of studying a significant problem of the real world, relevant to everyday life. (Bocoş, Chiş, 2012, p. 37).

The principles underlying the building and combining teaching strategies used by integrated teaching model are:

- preparing and promoting some student-centered strategies;

- harnessing interactivity and formative valences of the group;

- team teaching;

- promoting the partnerships between teacher and student in the educational process.

- are promoted some methodological alternatives of teaching - learning - evaluation.

- learning tasks will require transdisciplinary information and multidimensional analysis of reality.

- the evaluation it will be less criteria and more reflective, integrating alternative assessment methods.

- are promoted the discovery learning and the problem solving

The new strategic options will facilitate and favor the cognitive objectives achievement (the stimulation of higher cognitive processes, developing the ability to link knowledge between them, the development of multiple intelligences etc.), as well as socio-affective objectives (the development of the capacity to relate with others, for intrapersonal and interpersonal dialogue, boosting self-confidence, boosting the capacity to reflect on their own learning approaches and on human relationships, etc.). The option for certain strategic combinations will respect some principles generated by the integrated approaches specifics:

- the use of nonverbal for intuiting concepts - learning will be facilitated if the students are stimulated to combine verbal (what they perceived they express) with body language, visual or musical;

- the ludic approach - by building learning activities based on game, toys presence in the area of learning;

- context learning - building learning situations based on real life experience of the students, , knowing that the student learns better if understands what they are learning what they are learning;

- interactive learning – the effective intervention of the student in the teaching activity, his effort of personal reflection, of thinking, achieving some mental and practical actions of search, research, development and reconstruction of knowledge; an active student is co-participant and co-responsible in the learning activity (Tudor, 2011, p. 93);

- experiential learning - the most effective learning is the one you can control, experiencing (Kolb, 1984, in Tudor, 2015, p. 62); the learning process is conducted starting from our own experience - an action, an issue or an event that creates the need for better understanding; the learning process takes place in an informal, relaxed setting, where activities are organized as some games;

- cooperative learning - researches show that students who performe group cooperative tasks tend to have better school results, are developing positive social skills, show a better understanding of the contents and skills that they form (Tudor, 2015, p. 59). The cooperation has positive effects on child thinking development; when he participates in discussions, is reasoning better, because he tries to avoid conflicts with other colleagues (Piaget). Contacts with others, due to cooperation, facilitates the intellectual development, because, through cooperative effort, the child exceeds his agespecific egocentric intentions. Another argument, also from Piaget, refers to the development of thinking operations; communicating with others, exchanging opinions, the students succeed to solve operations, and implicitly the thinking development occurs. Cooperative learning enables the development of interpersonal communication, of interactions, of skills and social behavior of students. At the base of cooperative learning stands the thesis according to which through the learning process, being a socialcognitive process, the child develops intellectually through interaction with others (Albulescu, 2008, p. 75).

Pedagogical and methodological literature recommends some sizes in developing strategic combinations in achieving integrated approaches, with a strong formative aspect and referential for forming and training of students skills (MEN, 2014, pp. 38 - 41):

- learning through debate – consist in presenting some questions, issues, problems, etc., which are subject to review and resolve by a class, a group, etc.; in this category are promoted the teaching strategies based on debate, questioning, strategies by trial and error, social learning;

- learning through research - involving direct and active participation of the student and the teacher at the science research, in uncovering the truth, to restore the scientific process for the formation of knowledge; the research gives rise to a train of thought, that leads at building a new concept, operations or a new law, surpassing, by its composition, the previous schemes; this fact favors the development of intellectual skills, which in the school curricula are identified as capacities, as elements of specific skills developed on curricular areas/ experiential domains.

- learning through problem solving - involves creating some situations for solving problems/ obstacles or cognitive difficulties involving one/ more unknown and from which the repertoire of responses gained on previous experience appears insufficient or inadequate (I. Radu, 1991; S.L.Finkle & L.L.Thorp, 1995).

- discovery learning - appeals to heuristic teaching methods, involving a series of operations relating to the planning and organization of the lesson, in which the student, supported by professor, discovers with its own intellectual forces the explanation and significance of a phenomenon. The focus is on ways the product is reached, on the knowledge and registration methods, rather than on assimilated knowledge.

- project-based learning method - involves information gathering, processing and synthesizing them, interpretation and personal reflection, cooperation in resolving tasks; project methods (William Heard Kilpatrick, *The Project Method*, 1918; B. Campbell, 1994) it is an interactive method of teaching and learning which typically involves a micro-research or a systematic investigation of a topic of interest to students.

- the expeditionary/adventure learning- using non-formal learning experiences that bring students in front of some challenges, most often in natural contexts; the focus is on creating contexts and relevant learning experiences, on direct contact with the social, cultural and natural environment.

2. Design of Research

2.1. The Purpose and objectives of research

The purpose of research is to develop some actional models of design and implementation of integrated teaching approaches from the perspective of normative coordinates of preschool curriculum (2008) and primary curriculum (2013, 2014)

Research objectives:

- the analysis of specific concepts in pedagogical literature to identify their operational dimensions;

- the analysis of preschool and primary education curriculum in order to identify specified dimensions of curriculum design and curriculum integration levels for each level of schooling;

- the development of three models of curriculum integration, specific for the of design approaches at preschool and primary levels;

- the identification of some optimal strategic combinations from the perspective of the three modalities of curriculum integration.

2.2. The Methodology of Research

To prepare the products of research were required the following steps in developing an integrated approach for primary and pre-school education:

> The analysis of specific concepts present in the pedagogical literature to identify their operational dimensions.

Procedure: Group of three experts, academic professionals makes an analysis of specific concepts: integration, integrated curriculum, learning/ teaching/ integrated assessment, integrated teaching approach, school skills

Working method: scientific documentation

➤ The analysis of preschool and primary education curriculum in order to identify specified dimensions of curriculum design and curriculum integration levels for each level of schooling

Procedure: Group of five experts specialists in preschool and primary education and academic experts and the three academic professionals analyzes specific integration variants, levels of integration for preschool and primary, concrete ways to achieve integration in the conditions of the Romanian education organization

Working method: scientific debate

 \succ The development of three models of curriculum integration specific for design approaches at preschool and primary levels of education

and

 \succ The identification of some optimal strategic combinations from the perspective of the three modalities of curriculum integration

Procedure: Group of ten experts, methodologists of preschool and primary education identify and analyze optimal strategic combinations for each variant of integration, review the conditions of formative strategies implementation and open resources strategies in the formal learning activities

Working method: focus groups

2.3. The Analysis and Interpretation of Results

By quantifying opinions, summarizing the responses after the completion of the focus groups, we propose three ways of developing integrated teaching approach and strategic combination that can be used:

2.3.1. Teaching independent activity, with integrated contents, which harmoniously articulates contents related on two or more experiential domains/ curricular areas:

> Are built integrated didactic situations centered on specific skills of an development domain: Physical development, health and personal hygiene, Socio-emotional development, Language and communication development, Cognitive development, Capacities and attitudes in learning

Conditions for implementing this approach:

- The duration of such an activity will be that of a teaching (teaching activity for 30-35 minutes at preschool, 40-50 minute lesson in primary education), according to children's age and legislative rules;

- It will be named the embodiment of the activity of: story, talk (preschool), Romanian language communication lesson, play and movement lesson (primary education);

- It will be defined the operational objectives in the experiential domain/ curricular area;

- It will be used specific strategies for the categories skills targeted by the experiential domain/ curricular area, for example: strategies based on practical action, strategies based on problem solving, discovery strategies etc.

- Can be used strategies like open-resources strategies by using digital textbooks, educational software, and connecting the classes at online system.

For exemplification, we present the following integrated teaching approach and the strategic choices:

The theme of the week is *People and houses*, can be conducted in one day an integrated activity that can connect contents from two domains: Aesthetic and creative and Sciences.

Embodiment: practical work

> So, this activity can be organized around a practical activities of construction of some houses from various materials, which implies solving mathematical problems (to measure, divide into halves or quarters, group the given items/ materials by shape, size and color, to use a given number of items in various geometric forms, etc., which are mathematical skills)

> Formative teaching strategies: exercise, discovery, experiment, practice work

2.3.2. Integrated activity that includes several teaching sequences learning situations whose contents (of two or more experiential domains/ curricular areas or activity categories) is built around a core of curriculum integration.

> ADE 1 (activity on a experiential domain) + Routine + Transition + ADE 2 (another activity on a experiential domain)- preschool education, also named integrated activity for one day

 \succ A lesson from the first curricular area + a lesson from the second curricular area (primary education)

Conditions for the implementation of this approach:

- Such an integrated teaching activities will be held throughout the duration of time devoted to common activities: 2 teaching activities/ 2 different lessons

- The duration of such an activity will be that of a teaching activity (teaching activity for 30-35 minutes at preschool, 40-50 minute lesson in primary education), according to children's age and legal norms for each of the two designed activities;

- It will be respected the theme of the day in the design of each teaching activity/ lessons, with specific to the experiential domain/ curricular area;

- It will be mentioned the embodiment of activity: story, talk, memorization (preschool), Romanian language lesson, play and movement lesson (primary education);

- It will be defined operational objectives for each category of activity /lesson of the experiential domain/ curricular area;

- It will be used specific strategies for the targeted skills categories by the experiential domain/curricular area, independently for each teaching

activity/ lesson (for communication activities will prevail the formative strategies for the development of communication, for play and movement activities will prevail formative playful strategies etc.);

- It can be used open resources strategies by using digital textbooks, educational software, and by connecting the classes in the online system.

For illustration, we present the following integrated teaching approach and strategic options:

> The project theme is *The rabbit*

Experiential domains involved: DLC (communication and language domain) – the narration *"The rabbit's cottage"* + DS (science domain) – *We count rabbits – didactic game*

> Formative teaching strategies: *the narration, the didactic game*

2.3.3. Integrated activity program with contents articulated around a core of curriculum integration, which includes all or a part of the common activities of the day and some or all of the chosen activities.

> Are built teaching situations specific to each categories of activity

> ALA 1 (free chosen activities) + ADE (activity on a experiential domain) + ALA2 (free chosen activity) + Routines + Transitions (preschool education)

> Lesson from the first curricular area + lesson from the second curricular area (primary education) + counseling activities + optional activities etc.

Conditions for implementation of this approach:

- Such an integrated teaching activity will be held throughout the duration of time devoted to each activity - freely chosen, optional, routine, transition, personal development etc.;

- The duration of such an activity will be that of a teaching activity (teaching activity for 30-35 minutes at preschool, 40-50 minute lesson in primary education), according to children's age and legal norms for each designed activity;

- It will be respected the theme of the day in the design of each teaching activity, of the thematic centers, of the self-chosen activities, of the activities for personal development, of optional etc. with specific to the experiential domain/ curricular area;

- It will be created a scenario of the day, the news of the day;

- It will be defined the thematic arias ALA 1 (free chosen activities), the embodiment of the activity on experiential domains ADE, the ALA 2 activities (free chosen activities), the routines, the transitions, the personal development activities;

- It will be defined operational objectives for each category of activity/ lesson of the experiential domain/ curricular area for the activities for which the curriculum provides general skills/ framework skills and specific skills (not for the activities from the category of free chosen activities, personal development, non-formal activities etc.);

- It will be used specific strategies for the targeted skills categories by the experiential domain/ curricular area, independently for each teaching activity/ lesson (for communication activities will prevail the formative strategies for the development of communication, for play and movement activities will prevail formative playful strategies etc.);

- For the non-formal and optional activities will prevail the formative, playful and expeditionary strategies;

- It can be used open-resources strategies by using the digital textbooks, educational software, and connecting the classes on the online system; use of digital means in non-formal and informal learning contexts (e-mail, search engines, as Wikipedia, virtual library, etc.)

For illustration, we present the following integrated teaching approach and strategic choices:

> THE WEEK THEME is *The forest*

> THE DAY THEME is In the trip

> THE DAY SCENARIO: *imagining the itinerary of a trip in the woods*

> THE INVENTORY OF PROBLEMS: What children want to learn, what they know, what they do not know about making a trip into the woods

> THEMATIC CENTRES: ALA 1: preparing the packages for the trip, supplying with the necessary materials (compass, garbage bags, cameras etc.)

► FREE CHOSEN ACTIVITIES ALA2: songs, dances, sports competitions

> ROUTINES: *having lunch*

> TRANSITIONS: games of movement, breathing exercises

> PERSONAL DEVELOPMENT EXERCISES: *I'm a flower, I'm an animal (exercise games with onomatopoeias)*

> ACTIVITY ON A EXPERIENTIAL DOMAIN- SPECIFIC TEACHING APPROACH FOR EACH CATEGORY OF ACTIVITY (COMMUNICATION, MATHEMATICS AND SCIENCE, GAME AND MOVEMENT, MUSIC AND MOVEMENT, ETC.)

> OPTIONAL ACTIVITIES (in formal or non-formal context)

3. Conclusions

The development and flexibilization of the teaching strategies cannot be achieved without a proper suitability to specific learning activities, to the curricular approaches specifics, to the skills that must be formed. The openness of teaching strategies to the new trends and curricular innovations and to the educational process technologization make to especially develop those formative-interactive strategic combinations that stimulates an authentic educational environment.

The conducted research developed possible models for the construction of integrated teaching approaches and strategies focused on formative and open-resources, as functional elements, active in the skills training of students.

References

- Albulescu, I. (2008). *Pragmatica predării. Activitatea profesorului între rutină și creativitate.* Pitești: Paralela 45.
- Bocoş, M., Chiş, V. (2012). Abordarea integrată a conținuturilor curriculare, particularizări pentru învățământul primar. Cluj-Napoca: Casa Cărții de Știință, Cluj – Napoca.
- Cerghit, I. (2008). Sisteme de instruire alternative și complementare. Structuri, stiluri, strategii. Iași: Polirom.
- Ciolan, L.; Ciolan, L. E. (2008). *Demersuri integrate în învățământul primar*. Ghid elaborat în cadrul Proiectului pentru Învățământul Rural.
- Flueraș, V. (2005). *Teoria și practica învățării prin cooperare*. Cluj-Napoca: Casa Cărții de Știință.
- Frumos, F. (2008). *Didactica: fundamente și dezvoltări cognitiviste*. Iași: Polirom.
- Ionescu, M.; Bocoș, M. (coord.) (2009). *Tratat de didactică modernă*. Pitești: Paralela 45.
- Joița, E. (2002). *Educația cognitivă. Fundamente. Metodologie.* Iași: Polirom.
- Joița, E. (coord.) (2006). A deveni profesor constructivist: demersuri constructiviste pentru o profesionalizare pedagogică inițială. București: EDP.
- Manolescu, M. (2005). Evaluarea școlară. București: Meteor Press.
- MEN, (2014). Abilitarea curriculară a cadrelor didactice din învățământul primar pentru clasa pregătitoare Program de formare continuă pentru cadrele didactice din învățământul primar, suport de curs în cadrul

Proiectului Strategic: Organizarea interdisciplinară a ofertelor de învățare pentru formarea competențelor cheie la școlarii mici - program de formare continuă de tip "blended learning" pentru cadrele didactice din învățământul primar, 2011-2013, Beneficiar: Ministerul Educației Naționale.

- Neacșu, I. (1990). *Instruire și învățare. Teorii, modele, strategii.* București: Științifică.
- Oprea, C.L. (2007). Strategii didactice interactive. București: EDP.
- Păun, E.; Potolea, D. (coord.) (2002). *Pedagogie. Fundamentări teoretice şi demersuri aplicative.* Iași: Polirom.
- Siebert, H. (2001). *Pedagogie constructivistă. Bilanț al dezbaterii constructiviste asupra practicii educative:* Iași: Institutul European.
- Tudor, S.L. (2011). Selecția, structurarea și combinarea eficientă a strategiilor didactice. Modele teoretice și practice. Pitești: Universității din Pitești.
- Tudor, S.L. (2015). Fundamentele educației timpurii suport de curs. *Craiova:* Sitech.
- Venville, G.; Dawson, V.M. (2005). *The Art Of Teaching Science*. Allenunwin.