A multidimensional approach of learning to learn competency

Lorena Peculea [*]

Technical University of Cluj-Napoca [Romania]

Abstract

The starting point for an attempt to define, in the personal approach, the learning to learn competency is the context of theoretical and conceptual framework of defining the competency as a holistic concept. The variety of theoretical contributions within the scientific literature has led us to try to structure a development model of learning to learn competency in an integrative manner articulating systemically the combination of knowledge, abilities and attitudes necessary for the development of this competency according to the levels of learning taxonomy; it values entirely the processes of critical reflection, of metacognitive reflection and strategic decision making within a socio-constructivist context. We bring some arguments underlying the construction of the theoretical model and on which we based the future application of our educational intervention program.

Key words: *competency, critical reflection, learning to learn, metacognitive reflection, strategic decision making*

Introduction

Desired transformations in society require increasing student performance, which will generate the competencies necessary for professional and social future success of students nowadays. In this context, learning to learn is an essential tool for lifelong learning. Thus, education and training have to secure the learning environment in order for this competency to be developed for every citizen, including individuals that are part of a disadvantaged group (those with special needs, dropping out of school etc.) as well as through different learning contexts (formal, non-formal and informal). Learning to learn increases student's responsibility in his role as leader of his own learning. Organizing a supportive educational environment

[*]Assistant PhD, E-mail: lorysava@yahoo.com

that will enable students to learn from mistakes, to develop gradually self-directed capabilities, learning management, reflection on their own learning, is an essential condition of instruction.

Concern of contemporary education is for training the competencies, rather than the transmission of knowledge and it is motivated by the major changes occurring on the market of beneficiaries aspiring to qualifications and employment. The educational systems must ensure the competencies development for all members of society, not being concerned just with educating young people. Education for competencies is a challenge for all segments of the education system. One thing is clear, namely, that the current educational systems consider the essential role of competencies in their role as organizers of knowledge.

Challenges of the concept of competency in postmodern pedagogy

The term "competency" denotes "a complex system of actions that includes cognitive skills, attitudes and other non-cognitive components" (Rychen, D.S., Tiana, A., 2004, p. 22-23). Proposing a functional approach of competency, the authors consider this conceptualization as being a holistic one in the sense that external requirements, individual attributes and context are integrated as essential elements of competent performance. Therefore, each competency defined in this perspective corresponds to "interdependent combination of cognitive and practical skills, knowledge, motivations, values, attitudes, emotions and other social and behavioral components that together can be mobilized for effective measures in a particular context" (Rychen, D.S., Tiana, A., 2004, p. 21).

Many recent approaches in defining the concept of competency reveal not so much the competent product represented by performance, but rather explore and emphasize its formation process. The definitions of many authors, both foreign and Romanian, (Parry, S.B., 1996; Mirabile, R.J., 1997; Delory, C., 2002; Jeris, L., Johnson, L., 2004; Dooley, K.E. et al. 2004; Bocoş, M., 2008;

Potolea, D., Toma, S., 2010) converge to consider competency as *a set of knowledge, skills and attitudes that selected, interacted and used properly, allow the successful implementation of tasks to professional or social contexts.*

It may be that the most solid recent exploration of the concept was realized by OCDE within the program DeSeCo. Relying on this, the term competency was defined by Rychen and Salganik (2003) as being: „the ability to successfully satisfy complex requirements in a particular context, through the engagement of psychosocial prerequisites including cognitive and non-cognitive aspects" and as „internal mental structures, namely abilities, dispositions or resources incorporated in the individual when interacting with an assignment or a real life specific requirement" (Hoskins, B., Crick, R. D., 2010). Rychen and Salganik also highlight the danger of reducing the concept of competency to only one of its dimensions, as often happens when assessing skills in school tests and large-scale assessments, where it is traditionally limited to cognitive components. The competent performance or the efficient action supposes the engagement of knowledge, of cognitive and practical abilities, as well as social and behavioral components, such as attitudes, emotions, values and motivations. A competency, as a holistic notion, could not be reduced to its cognitive dimension (Rychen and Salganik, 2003).

Constructivist approaches and interpretations (Eraut, 1995; Dall'Alba and Sandberg, 1996; Stoof et al., 2002; Sandberg and Pinnington, 2009 apud Ripamonti, S., Scaratti, G., 2011) believe that qualitative manifestation of competency is directly influenced and dependent on contextualized experiences that individuals are living. It is not only the context can influence the quality of the competency manifestation, but also subjective experiences of individuals, determined by context. Therefore, the definition of competency should be guided by context, by area in which it manifests itself. Each author has a personal vision about competency, but they all agree with the fact that the term "competency" is polysemantic. Therefore, the optimal approach to defining the concept of competency is the constructivist perspective, an approach for which

not the definition itself is important, but whether the definition was proved to be reliable and adequate within the context in which it was used.

Pedagogy of competencies fits perfectly with a constructivist view of learning in which students approach the knowledge as competencies in order to solve problems. But this practice should not make us forget that learning also requires the automation and structuring phases, which reminds exactly the twice aspect of competency: the repertoire of standard actions and the adapting to new. Pedagogy, therefore, that aims to develop the competencies, increases also student's efforts for meaningful experiences by focussing on purpose, active, authentic and collaborative tasks (Jonassen et al., 2008). Teaching methods that are, therefore necessary to develop key competencies, should be oriented towards interdisciplinary and cross-curricular teaching and learning oriented towards teamwork combined with individual approaches and project-based work (Gordon, Halasz, Krawczyk et al. , 2009).

Understanding the conceptual point of view of "competency" and of "competency-based education" differs significantly among stakeholders and involved parts - researchers, policy makers in education, teachers in the field etc. There are several reasons for this popularity of competency-based education. The first is the emphasis that it places on the positive side of education and learning. The main goal of education is to help students become more proficient, instead of highlighting their knowledge deficit. Another reason is that this approach is expected to bridge the gap between labor market requirements and the offer of the school system.

Competency-based education is a learning process centered on the ability and the responsibility of each student and the development of autonomy and self-confidence. Briefly, it is a teaching and learning system focused on student in exchange for the previous teacher centered system. Competency-based education follows essentially three main objectives (Roegiers 2004 apud Manolescu, M., 2010, p. 55):

1. To emphasize the competencies that the student have to master at the end of each school year and at the end of compulsory education;

2. To make sense of learning, to show student how he/she can use what he learns in school.

3. To certify the student acquisitions in terms of solving the specific situations and not in terms of a sum of knowledge and skills that the student will forget and doesn't know how to use them in working life.

The student-centered learning and training process is oriented, finally, toward the goal of increasing student success by focusing on what it is necessary in order to improve their learning experience and their active involvement in the process, as well as the satisfaction which gives them this learning. The implicit aim is, also, to enable them to have confidence in learning, so that they can continue to implement their learning skills in the workplace, into adulthood as well as in lifelong learning.

The advantages of competency-based learning within the school are summarized by B. Rey et al. (2012, p. 37) as follows:

- Avoids fragmentation of tasks and loss of meaning for students.
- Incites the learning in an active state.
- Gives purpose and meaning to school knowledge.
- Helps learning to operate a deep transformation within the learners.
- Can contribute to reducing the selectivity and the "failure culture".

Multidimensional nature of learning to learn competency

"Learning to learn" is one of the desirable competencies proposed by EU for its citizens. How do we teach others to learn? All educators are looking for the answer to this question in order that their students achieve the best results. Unfortunately, the students memorize more than learn, but they are convinced that they have learnt. Therefore, the Romanian school must become the school of innovative learning and in depth learning (Chiș, V., 2005), a school of forming and developing the competencies. Contemporary pedagogy, pedagogy

for competencies provokes all educational agents in a debate on the future and sustainable applications, where knowledge becomes full value if they are integrated with certain abilities and skills in the application structure, in problem solving or in situations created by daily life. Hofmann (2008, p. 173) describes the term learning to learn as the most important and vital one for people trying to cope with the changing world. He considers this competency as a ”method-in-action” and argues that people have to engage the method itself. On the other hand, Candy (1990 apud Hofmann, 2008, p. 175) describes learning to learn as a competency that allows people to become more efficient, flexible and self-organized learners in a variety of contexts. The learning to learn competency is understood as a meta-competence (Hofmann, 2008, p. 175), because it has an impact on the selection, implication and acquisition of other competencies for XXI century.

Among all the basic competencies, more or less possible to be built at the discipline level, the learning to learn competency requires the most complex approaches, being varied according to the features of every European educational system. The most advanced concerns regarding the approach and development of learning to learn competency have been reported in European documents.

The starting point for an attempt to define, in the personal approach, the learning to learn competency is the manner and context of theoretical and conceptual framework of the definition and selection of the competency as a holistic concept (DeSeCo). In other words, the learning to learn competency is one of the key competencies and necessarily implies the general characteristics of all competencies. The concept is a change in the understanding of the learning process, which previously focused on achieving the measurable results (defined as knowledge), then on the objectives (premise for the development of purpose) and finally, the concept of competencies (which allows us to consider the learner in terms of systemic and multilevel influences and interactions).

In this paper we choose the definition of the European Union (European Commission, 2006), which supports the existence of three structural dimensions of learning to learn competency: cognitive, metacognitive and emotional and motivational dimensions combined with socio-cultural learning environment. Following the issue of European recommendations was designated a group of experts to design a framework for assessing the learning to learn competency (Expert Group set by the European Network of Policy Makers for the Evaluation of Education Systems, 2006). The framework is based on the assumption that ”learning to learn” contains two dimensions: cognitive and affective. In 2008, the Centre for Research on Lifelong Learning (CRELL) published a revised framework for measuring the learning to learn competency, presently used (Hoskins, B., Fredriksson, U., 2008) and in which they added a new dimension, the metacognition. Thus, according to Hoskins and Fredriksoon (2008), the concept of learning to learn is studied to consider an European framework and to test measuring the expression ”learning to learn”. Such an European framework model is based on three dimensions of learning to learn, cognitive, affective and metacognitive:

- Concerning the affective dimension the social skills are present to support learning and interpersonal relationships, motivation, self-confidence and learning strategies.
- The cognitive dimension is reflected in ”the ability to acquire, process and assimilate new knowledge” and ”ability to overcome obstacles” (European Commission, 2006).
- Regarding metacognitive dimension, the definition takes the approach involving individual self-regulation of learning and an awareness of the methods used and built in lifelong learning. In this sense, the concept of metacognition can be seen as an element of knowledge, as regulator of learning, providing knowledge.

Learning to learn is a meta-learning which means it is a self-motivated, a self-directed learning towards lifelong learning. The learning to learn

competency consists in that students are able and prepared to establish independent learning objectives, to plan appropriate stages in learning, to find relevant information for learning, to solve problems, to reflect critically on the learning process, individually or with others. The learning to learn competency includes processes such as the individual's specific learning needs assessment, goals setting for learning, choosing effective learning strategies and monitoring progress toward learning goals. Consequently, the learning to learn competency involves cognitive, metacognitive and non-cognitive aspects about learning. Research shows that students who reported more self-regulated learning strategies perform better in school learning (Boekaerts, M., Corno, L., 2005).

In Romania a research of the Institute of Educational Sciences (2008-2009) highlighted the ways in which teachers define the student that knows how to learn and the way in which they perceive producing effective learning at students as well as its contribution to this result. The survey data showed that information management is the most represented quantitatively and more exposed component, as evidence of the ideal profile of the student that knows how to learn. The motivational and attitudinal dimensions, motivation and confidence to pursue and succeed in lifelong learning are poorly acknowledged. According to teachers the elements facilitating effective learning are as follows: the variety of resources and learning activities; the quality of content presentation given by graphical representation of the ideas; the activating students' prior knowledge; the valorisation and exploration of learning outcomes; the control of teachers on students activities; the socio-cultural climate of the classroom; the balance between individual activities and group tasks; the students' ability to work in groups; the students' mastery learning techniques that lead to self-directed learning; the application of the teachers' indications; the formative assessment based on constant learning support and not on stressing and penalizing the errors; the student motivation for learning through interactive teaching strategies and valuing their non-formal learning experiences (Bercu, N., Căpiță, L., 2010).

Based on the findings of this research we suggest, at present, to increase the actions of students engagement in independent learning, to develop skills for expressing personal meanings and creating personal learning contexts, to take responsibility for planning, organizing, deployment and evaluation of their own learning.

An integrative multilevel model for the development of learning to learn competency

Approaches to the concept of competency are extremely varied, some of which are converging towards some common points, while others are largely divergent. The authors argue that the existence of a consensus and a single definition of competency is impossible. In this paper we accepted the definition of X. Roegiers that the competency is ”a mobilizing integrated set of resources to address a significant situation belonging to a set of problem-situations” (Roegiers, X., 2001, p. 29-38) as a landmark concept in developing the concept of learning to learn competency. Starting from a set of resources, the student should know and be able to combine different resources to manifest certain competencies. The same resources can generate the forming of more competencies on how to combine them. For example, two students that have the same resources can build different competencies and, conversely, two students who have different resources can have the same competencies. Resources are based on the knowledge acquired by students in various disciplines of study.

Analyzing the diversity of definitions, as well as the interpretations of the structure ”learning to learn” and taking into consideration the definition of competency suggested by X. Roegiers, we have established the following definition of learning to learn competency:

The learning to learn competency represents an integrated ensemble of knowledge, capacities, attitudes, all developed within a particular context by means of reflection and strategy which includes cognitive, metacognitive and

non-cognitive resources, in order to be actively and interactively involved in learning situations and efficient task solving.

The variety of theoretical contributions within the scientific literature dedicated to the learning to learn competency has led us to try to structure a development model of this competency in an integrative and original manner, which should reflect our understanding of the theme. The theoretical model that we suggest articulates systemically the combination of knowledge, abilities and attitudes necessary for the development of learning to learn competency according to the levels of learning taxonomies; it values entirely the processes of critical reflection, of metacognitive reflection and strategic decision making within a socio-constructivist context. Between these internal structural components there is an inter-dependency relation thus one emphasizes the other reciprocally.

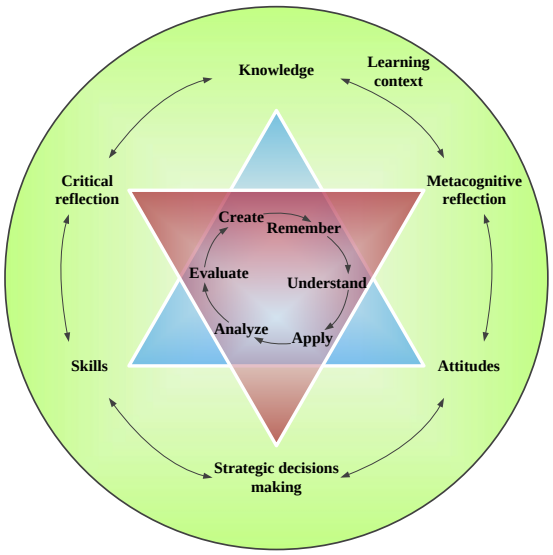

Figure no.1. The theoretical development model of learning to learn competency (original model)

For an instructive strategy to be efficient for students, it is necessary to focus on the cognitive, metacognitive and non-cognitive (motivational, emotional and contextual) processes, following a coherent model of action. Many of these approaches are oriented toward some of the above mentioned

aspects, but not toward all of them. The challenge that we introduce is to apply a model as complete as possible.

We were also concerned that our theoretical-applicative model designed and experienced by us during further formative interventions for students with learning difficulties to be characterized by:

- *structural relevance*, ensured, on the one hand, by the introduction within the model of the cognitive, metacognitive and non-cognitive dimensions, which are intrinsic and complementary in every learning process, and, on the other hand, by the introduction of the main components of the competency (knowledge, abilities, attitudes), considered as fundamental in the scientific literature;
- *functional relevance*, through the identification of the conditions and practical approaches so that to support the development of learning to learn competency.

In the following we bring some arguments underlying the construction of the theoretical model and on which we based the application of our futur educational intervention program.

The context for formation and development of competency represents the integrative set of conditions and interactions where a certain activity takes place and influences, directly or indirectly, that activity. The socio-constructivist dimension of context, as emphasized in this model, underlines the social nature of knowledge, based on social interactions, plus the influence of culture, time, space in which knowledge construction occurs. It is, in fact, a co-construction, a collective organization and construction, facilitated by group interactions and language, through cooperation and mutual collaboration. The students are placed systematically in learning situations likely to generate beneficial cooperative learning experiences for learning activities, to form and develop the competencies.

The more recent Bloom's revised taxonomy (Anderson et al., 2001) regards both what students know (types of knowledge) and what they think about what

they know (cognitive processes). Because of the well-known importance recognized in learning process, metacognitive knowledge was added as the forth category in Bloom's revised taxonomy 2001 (Krathwohl, 2002). In Anderson's taxonomy we find the levels of learning corsponding to three stages of the development of the competency. Thus, the first two levels in Anderson's taxonomy (to remember and to understand) are *the initial/emergence stage* of the competency, being in process of development, the next two levels, *the development stage* (to apply and to analyze), and the last two levels (to evaluate and to create) having the equivalent in *the consolidation and validation stage* of the competency. The model of competency could be integrated in the taxonomy model for explaining how the competency evolves.

A constant concern of teachers should be to stimulate students to reflect on their learning process so that they become aware of their strengths, but also about their weaknesses, which they can compensate by personal ways to explore the information through personal management of information and knowledge, and thus effectively managing their knowledge. A teacher is a facilitator of learning and has the responsibility to encourage students to reflect on the material presented, to integrate it into their own cognitive system in systemic vision, to relate to what they already know, to try to make sense of new knowledge in their vision, to identify opportunities to apply and explore it in the future.

By doing so, the student not only discovers new knowledge and creates the meanings, but also builds the knowledge, strengthens its own cognitive and metacognitive abilities. Students will be able to achieve constructivist approaches to the extent that the teacher ensures that teaching, learning and assessment processes are not limited to providing information (what to learn). Its support/guide/help students learning (how to learn) and thinking, practicing the high, active, logical, analytical and critical thinking skills in activities of analysis, synthesis, evaluation, problem solving. Reflection is a cognitive process through which students become aware of what took place during the

learning process (Ngeow and Kong, 2001). The authors state that there are two types of reflection activities: 1) the emphasis is on content issues as student believes that needs to know about a specific task or area; 2) the focus is on the student's learning in general, such as, for example, if the student understands or not the task objectives.

Critical thinking is ”a habit of mind characterized by comprehensive exploration of the issues, ideas, artifacts and events before accepting or formulating an opinion or a conclusion” (Rhodes, 2010 apud Colley, B.M., Bilics, A.R., Lerch, C.M., 2012, p. 1). The concept of reflection transversely crosses the disciplines in ways that lead to a deeper understanding and reflection. The skills needed to think critically about the material presented, to reflect on the information provided are the same in any discipline. Learning is enhanced by ***critical reflection*** which involves ”creating the meanings and conceptualizing from experience” (Brockbank and McGill, 1998). As educators, we need to facilitate critical reflection to allow students to go beyond a superficial understanding of their world toward a deeper and meaningful learning. Critical thinking skills refer to cognitive processes that include the ability to evaluate deliberately, to make inferences and analyze concepts (Burbach, Matkin and Fritz, 2004). Trilling and Fadel (2009) define critical thinking as ”ability to analyze, interpret, evaluate, summarize and synthesize information” (Pacific Policy Research Center, 2010, p. 7). Critical thinking allows students more opportunities to reflect on understanding content, to monitor the cognitive activities, to choose and apply appropriate skills, which are clearly metacognitive. Therefore, providing students critical thinking questions can stimulate reflection, and, in turn, leads them to metacognitive activities using reflection on the quality of learning and understanding other related issues. Although many have reported that critical thinking is closely related to reflection and metacognition and have speculated that supports of critical thinking promote metacognition, there are only a limited number of empirical research on the association between critical thinking and

metacognition, particularly experimental research. In other words, most studies in the past do not have experimentally examined the association between critical thinking and metacognition. Therefore, this can be valuable to conduct an experimental study focusing on how critical thinking affects metacognition.

Reflection on thinking and processes implies students thinking about thinking (metacognition), about actions and processes, as well as transfer of knowledge in new contexts and creating alternatives or opening new possibilities. According to Candy, Harri-Augstein and Thomas (1985), ***metacognitive reflection*** is ”a specific approach which allows students to analyze their own learning process in a systematic manner and to discover their personal hypothesis and constructions of what they are producing as a way for students to identify and question their own strategies.”

Cornoldi C. (1998) approaches the issue of metacognitive reflection and its components. The metacognitive reflection is people's own beliefs and interpretations about their own cognitive activity. It is objectified in two important aspects: metacognitive knowledge and metacognitive conceptualization of a task. Reflection is a more general term than metacognition. In reflection, the student engages in an active, persistent and careful analysis of ideas in order to search a deeper understanding, a broader and more motivated perspective. To consider consciously our own knowledge and how regulation of this knowledge is controlled, reflection is necessary (Tarricone, P., 2011). In the scientific literature, almost all strategies for improving the metacognition contain elements of reflection and also require a certain degree of introspection, self-awareness and self-knowledge (Tarricone, P., 2011). Considerations on teaching metacognitive strategies recommended in the literature highlight the reflective nature of metacognitive thinking. Reflection is understood as ”the internal examination and exploration of interest issue, triggered by an experience that creates and clarifies meaning in terms of self resulting in a changed conceptual perspective” (Boyd and Fales apud Palmer, Burns and Bulman, 1994). Implicitly, reflection is an intense personal

experience. Here is the first challenge. Some students consider the reflection process uncomfortable. They exhibit resistance integrating affective and metacognitive elements of learning, but preferring to work only in the cognitive domain that they would find less challenging. On the other hand, reflection is a difficult process because the student has to formulate judgments about their own learning, which means that it is possible to change their learning style. In this case, it seems safe not to reflect because the student does not want to change what is wrong and what he/she learned up to that point. While some students have difficulty recognizing discomfort and do not accept reflection, others are able to articulate and reflect beyond their initial discomfort and concerns. As a strong link between thought and action, reflection can provide information about the results and effectiveness of selected strategies, thus making it possible for a student to gain strategic knowledge from specific learning activities. Because the metacognitive knowledge could be considered as a ”static” knowledge regarding the variables related to task, itself and strategies, reflection is considered to be a more active exploration and discovery (Ertmer and Newby, 1996). The challenge of situations where students can reflect, requires them to reflect on their specific learning and understanding and to provide explanations regarding the use of strategies and the mental structures guiding them to choose the strategies. But students, especially those who have learning difficulties, find it difficult to reach a higher level of reflection, query, metacognition, without an explicit model. Therefore, we believe that the role of the class teacher guiding student learning activities must be doubled by the practice of new competency - that of *reflective teacher*. The teacher should give students a model of reflection and action on the proposed tasks, when the student is asking.

Several researchers (Butler, 2002; Schraw, 1998) emphasized the importance of understanding to use the learning strategies. In addition to several types of strategy instruction, students need to acquire knowledge about how, when, why and where to apply these strategies (Veenman et al. 2006 apud

Dignath, C., Büttner, G., 2008). In this sense, reflection is a facilitator factor to internalize, to appropriate effective learning strategies and to apply them successfully in various learning situations. During the teaching-learning activities of strategies, the teacher will organize the so-called ”metacognitive times” that will allow objectifying the acquired knowledge. ”Return on knowledge acquired is very important. This return is intended to make students reflect on the knowledge acquired, to understand that they have learned something, to state what they learned and how they have done this, to identify the difficulties encountered along the way, but also means that they have found to solve them and to find function, utility, effectiveness and relevance of their learning” (Archambault and Chouinard, 2003 apud Vianin, P., 2011, p. 247). ***Decision-making process*** is also used for choosing a working method, a technique or a strategy. The process of adopting a decision to use a particular learning strategy has a common operational scheme with other decisions, which consists of several steps: gathering information about each action alternative; processing and evaluating the relevance and representativeness of the information collected; comparing the alternatives on the basis of an optimal matching; evaluating the win-loss report associated with each variant; formulating the option for one of the variants; implementing the option in decision. Decision-making is part of problem solving as decision making occurs at each step in the process of problem solving.

Competency is closely linked to processes of reflection and decision-making (refers to strategic knowledge), supported by developing of an intention or involving in rehabilitation and coordination of student resources. Therefore, it is necessary to teach metacognition and the formation of a "metacognitive attitude". This attitude is "general inclination of the subject to reflect on the nature of his/her own cognitive activities and to recognize the possibility of using and expanding it" (Martini, B., 2007 apud Ardelean, A., Mândruț, O., 2012, p. 55). Metacognitive strategies refer to the ability of decision-making, planning, self-assessment of student performance and self-regulation. Both

awareness and knowledge of psychological mechanisms that underlie decisions are manifestations of metacognition and help to improve the individual control over mental activity and, therefore, the actual behavior (Dinsmore, Alexander and Loughlin, 2008). A high level of control can lead to increased motivation and interest, giving students the opportunity to exercise control over their learning and to involve them in decision-making processes (Alexander, Jetton, 2003; Moos, Azevedo, 2008 apud Azevedo, R., Aleven, V., 2013). Stimulation of the decision-making process develops students' ability to perform independently tasks, to take responsibility for their own work, to formulate options and evaluate alternatives, consequences, to complete correctly organized systematically tasks.

In this context, teachers should be aware of their personal resources enabled in decision making, specific trends of certain categories of students in certain subjects of study and be able to report the effects of strategic decisions on school performance and student learning.

Conclusions

So this new model proposed by us for the development of learning to learn competency articulates the following components relevant from an educational perspective and, in particular, relevant for the psycho-pedagogical issues investigated by us:

 Critical reflection (cognitive dimension) - referring to activate existing knowledge and cognitive skills and to apply them in new situations, to analyze, to evaluate, to create of opinions and conflicting interpretations;

 Metacognitive reflection (metacognitive dimension) - which emphasizes awareness and regulation of their thinking processes;

 Strategic Decision Making (non-cognitive dimension) - which refers to behavior management in alternative situations of solving problem, the selection, adaptation, application etc. of learning strategies, the student having to make a choice or successive elections of the optimal variant or at least suitable one.

We believe that promoting the learning to learn competency should not be done only at a philosophical level, but it should be explored from the methodological and practical-action point of view. Thus, to support the students' learning autonomy, teachers should constantly have in mind the overall picture of the actions which have to follow an individual engaged in learning to learn. They also should have a clear picture of the situation learning of each student on identifying learning outcomes in relation to the purposes of schoolwork, on knowledge and understanding of preferred learning strategies, the strengths and weaknesses of their competencies. It is also need to provide the learning opportunities where students can practice their reflective and strategic learning skills and can also assume an active role in setting learning goals.

Acknowledgements

This work was possible due to the financial support of the Sectorial Operational Program for Human Resources Development 2007-2013, co-financed by the European Social Fund, under the project number POSDRU/159/1.5/S/132400 with the title „*Young successful researchers – professional development in an international and interdisciplinary environment****”.***

References

Ardelean, A., Mândruț, O. (coord.). (2012). *Didactica formării competențelor. Cercetare-Dezvoltare-Inovare-Formare*, „Vasile Goldiș" University Press, Arad.

Azevedo, R., Aleven, V. (2013). *International Handbook of Metacognition and Learning Technologies,* Springer Science+Business Media, New York.

Bercu, N., Căpiță, L.-E. (2010). Despre a învăța elevul să învețe, *Revista de Pedagogie*, nr.58(3).

Bocoş, M. (2008). *Teoria curriculum-ului. Elemente conceptuale şi metodologice*, Cluj-Napoca: Ed. Casa Cărţii de Ştiinţă.

Boekaerts, M., Corno, L. (2005). Self-Regulation in the Classroom: A perspective on Assessment and Intervention, *Applied Psychology: An International Review*, 54(2).

Butler, D. L. (2002). Individualizing instruction in self-regulated learning, *Theory into Practice*, 41.

Candy, P., Harri-Augstein, S., Thomas, L. (1985). Reflection and the self-organized learner, în Boud, D., Keogh, R., & Walker, D., *Refection: Turning experience into learning*. New York: Kogan Page.

Chiș, V. (2005). *Pedagogia contemporană-pedagogia pentru competențe*, Editura Casa Cărții de Știință, Cluj-Napoca.

Colley, B.M., Bilics, A.R., Lerch, C.M. (2012). Reflection: A Key Component to Thinking Critically, *The Canadian Journal for the Scholarship of Teaching and Learning*, Vol. 3: Iss. 1, Article 2, DOI: http://dx.doi.org/10.5206/cjsotl-rcacea.2012.1.2, accesat la http://ir.lib.uwo.ca/cjsotl_rcacea/vol3/iss1/2.

Cornoldi, C. (1998). The impact of metacognitive reflection on cognitive control in G. Mazzoni, T.O. Nelson (eds.), *Metacognition and cognitive neuropsychology*, Mahwah, NJ: Lawrence Erlbaum Associates.

Dignath, C., Büttner, G. (2008). Components of fostering self-regulated learning among students. A meta-analysis on intervention studies at primary and secondary school level, *Metacognition Learning*, 3, 231-264. doi:10.1007/s11409-008-9029-x.

Dinsmore, D. L., Alexander, P. A., Loughlin, S. M. (2008). Focusing the conceptual lens on metacognition, self-regulation, and self-regulated learning. *Educational Psychology Review*, 20, 391-409. doi: 10.1007/s10648-008-9083-6.

Gordon J., Halasz G., Krawczyk M., Leney T., Michel A., Pepper D., Putkiewicz E., Wiśniewski J. (2009). *Key competences in Europe: opening doors for life-long learners across the school curriculum and teacher education*, CASE-Center for Social and Economic Research.

Graham, A., Phelps, R. (2002). 'Being a Teacher': Developing Teacher Identity and Enhancing Practice Through Metacognitive and Reflective Learning Processes, *Australian Journal of Teacher Education*, 27(2) accesat la http://ro.ecu.edu.au/ajte/vol27/iss2/2

Hofmann, P. (2008). Learning to learn: a key-competence for all adults?, *Convergence*, 41(2–3), accesat la http://splet03.izum.si:2105/docview/204605679/fulltextPDF/13C539DB7CC7ECFD72B/1?accountid=31309

Hoskins, B., Fredriksson, U. (2008). *Learning to Learn: What is it and can it be measured?*, Joint Research Centre – Institute for the Protection and Security of the Citizen, Luxembourg: Office for Official Publications of the European Communities, CRELL.

Hoskins, B., Deakin, Crick, R. (2010). Learning to learn and civic competences: different currencies or to sides of the same coin?, *European Journal of Education Research*, Vol. 45/1.

Jonassen, D., Howland, J., Marra, R., Crismond, D. (2008). *Meaningful Learning with Technology*, (3rd edn). Upper Saddle River, New Jersey: Pearson Education.

Manolescu, M. (2010). Pedagogia competențelor – o viziune integratoare asupra educației în *Revista de Pedagogie* nr. 58 (3).

Ngeow, K., Kong, Y. S. (2001). Learning to learn: Preparing teachers and students for problem-based learning (Report No. EDO-CS-01-04). Bloomington, IN: *ERIC Clearinghouse on Reading, English, and Communication*. (ERIC Document Reproduction Service No. ED457524).

Potolea, D, Toma, S. (2010). *„Competenţa": concept şi implicaţii pentru programele de formare a adulţilor*, a III-a Conferinţă naţională de educaţie a adulţilor,Timişoara.

Rey, B., Carette, V., Defrance, A., Kahn, S., Pacearcă, Ș. (2012). *Competențele în școală. Formare și evaluare*, Editura Aramis Print, București.

Ripamonti, S., Scaratti, G. (2011). Weak knowledge for strengthening competences: A practice-based approach in assessment management în *Management Learning*, no.43.

Rychen, D.S., Salganik, L.H. (2003). *Key Competencies for a Successful Life and a Well-Functioning Society*, Hogrefe & Huber, Göttingen.

Rychen, D.S., Tiana, A. (2004). Developing Key Competencies in Education: Some Lessons from International and National Experience, Geneva: UNESCO-IBE, *Studies in Comparative Education*.

Tarricone, P. (2011). *The taxonomy of metacognition*, New York: Psychology Press.

Vianin, P. (2011). *Ajutorul strategic pentru elevii cu dificultăți școlare*, Editura ASCR, Cluj-Napoca.

***Education Council. (2006). Reccomendation of the European Parliment and the Council of 18 December 2006 on key competences for lifelong learning, *Official Journal of the European Union*, Bruxelles accesat la http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex:32006H0962.

***Pacific Policy Research Center. (2010). *21st Century Skills for Students and Teachers*, Honolulu: Kamehameha Schools, Research & Evaluation Division.