

Edu World 2016
7th International Conference

LEARNING TO LEARN – THE "SHADOW COMPETENCE"

Daniela Roxana Andron (a)*

* Corresponding author

(a) Lucian Blaga University of Sibiu, 10 Bv. Victoriei Sibiu, Romania, daniela.andron@ulbsibiu.ro

Abstract

For the human being, learning is a natural need, not only a social activity – children learn instinctively, while playing and interacting, and our role as teachers is to feed their need for learning and direct it towards fulfilling their adaptation needs. When it comes to cognitive development and when academic evolution is concerned, a different approach should be considered and our role as teachers should also include development of a vital competence that the students will need along their academic route – learning to learn. A research conducted in Lucian Blaga University of Sibiu, observing future teachers and their learning styles, techniques and habits shows that we still need to improve in making learning to learn a shadow competence by its permanent development, doubling instructional goals and routine, and not by keeping it out of the light. The research aims to identify the learning patterns of the future teachers and the most surprising finding of this research is the fact that the teachers of tomorrow do not have, themselves, clearly defined learning strategies, they have never been taught how to learn thus proving the lack of competence in providing their future students the most important of the academic life competences – learning to learn

© 2017 Published by Future Academy www.FutureAcademy.org.uk

Keywords: Active reading; metacognition; learning techniques and routine; organizing learning; conscious learning.

1. Introduction

We are all aware that we are living in the era of change - the fast and sometimes dramatic change affects our personal lives as well as the evolution of the society, and we know that adapting to change is a vital ability. Still, teaching seems to be a human activity that is showing reluctance in adapting to the demands of an unpredictable future. We are teaching our students according to the same paradigm – they need information, knowledge and competence. In order to adapt to this unpredictable future, our students

need new competencies and learning to learn might prove to be the most important adaptation tool that school offers to these new generations.

Learning is, indeed, an innate activity for the human being – we learn instinctively and we need learning activities during our entire life not only in order to adapt to the dynamic progress of the society but also for our natural well-being. The present paper intends rather to address some questions, instead of pretending to answer them – are our students gaining such competencies during school? Are we training teachers capable of shaping this learning ability in their future students?

Our main concern in training the teachers of tomorrow should be to prepare them for their most important role in the evolution of their future students – the facilitator that provides not only knowledge but mainly the ability to independently reach knowledge and continuously improve it. We need the teachers who are able to help our children in finding the most efficient ways of gaining knowledge and competence. These teachers need to be aware that they have to constantly improve their own learning abilities and that their main concern in teaching should be focusing on the learning abilities of their students – the most important of their tasks should be to identify learning styles of their students, to provide learning techniques and develop one of the most useful competencies of their students, while constantly improving their motivation. Motivated students will develop own learning systems and will be able to constantly improve their learning techniques; being aware of the importance of this ability they will also gain the ability of adapting to new learning contexts, to the increasing complexity of the knowledge they need to acquire.

2. Theoretical Foundation and Related Literature

Efficient learning will never occur without mental and emotional involvement in the process. Although our capacity to learn is innate, efficient learning is an acquired competence, it needs effort and techniques meant to improve the natural process. The quality of the learning process depends on each individual's personality and mental profile – attitude, curiosity, motivation, the combination of intelligence types, creativity – as well as on the trained capabilities of the individual – active learning and reading, metacognition, connecting information and organizing knowledge, awareness, conscious creating and developing of own knowledge. This is why learning to learn should be one of the main priorities of teachers, a competence that students need to obtain and develop. Not only a desirable outcome, but also the need of compliance with the National Qualifications Framework (consistent with the European Qualifications Framework), providing for the qualification levels aimed by the higher education transversal competencies such as "awareness of the need for continuing training, efficient use of learning techniques and resources for personal and professional development" (CNFPA, 2005)- learning to learn should be a main objective for teaching.

As learning to learn is a desirable competence for the educational system of the present and the future, literature widely reflects the issues of learning strategies. Learning strategies refer to "the action involved by the more active students, determining them how to learn and how to use what they learn in order to be successful" (Peculea, Bocoş, 2015). The research conducted by the quoted authors and presented in the article found out that the lack of awareness and regulation meta-cognitive skills generates difficulties in setting own learning goals, in identifying and adapting learning strategies. So, students

should not only be aware of the way they are building own knowledge, but also try different approaches in order to identify the most suitable combination of actions for their own learning styles.

Learning strategies are clearly related to personality, the mix of the intelligence types, the cerebral structure, motivation, consciousness, all of these defining the cognitive style, which is the individual's preferred way of gathering, processing and evaluating data (Allinson, Hayes, 2012). The authors identify 29 dimensions defining the cognitive style, including convergence-divergence, reflection-impulsivity, serialism-holism, and rationality-intuition. Even if further research has extended the range of cognitive and learning style dimension up to 71 such measures, the main idea remains – the human diversity can cover a wide range of models when learning activities are involved. The model of Continuum of Cognitive Styles proposed by the authors identifies the traits for the intuition-analysis continuum, ranging from the intuitive style (synthesis, simultaneous, assessment of whole), to the analytic style (logic, linear, focus on detail).

As far as the cognitive structures are concerned, Ricky Linksman refers to the preferred use of the brain hemispheres as a determinant of the learning style (Linksman, 2000). He also states that individuals are able to consciously improve their brain activity by learning to process information using not only the preferred range of mental activities, but also by improving their neglected mental activities. He proposes ways of improving learning for the four different learning style categories – the visual students, the listeners, the tactile students, and the kinesthetic students. He also relates understanding and learning, showing that understanding is not an innate capability, but a technique that needs to be learned. Understanding is determined by the preferred brain activity, but it can be improved by learning techniques, such as connecting information to pre-existent knowledge, defining new terms, training memory by consciously addressing the long-term memory, the use of mnemonics, the use of note-taking techniques and the mind-mapping. The efficient learning process involves study techniques, organizing of the material to be studied, permanent checking on the understanding of terms, practical activities intended to exercise procedures, time management, exam preparing, obtaining the right attitude and mental state and last but not least, using the knowledge acquired – the main purpose of learning.

Still, learning does not occur only by exposing ourselves to information which we stock by using the preferred brain hemisphere, or only by choosing the most performant learning technique and following its instructions. Learning is determined by attitude, motivation, involvement in each stage of the process. The quality of knowledge also depends on the ability of gathering information and data, as a pre-condition of developing competencies. Listening and reading thus become important abilities that also need to be learned and developed. A good learner is patient and attentive, he does not rush his judgement and is never passive, always trying to state his own answer when questions arise. The quality of reading and/or listening allows not only extracting the maximum of information, but also allows, according to the creative potential of each individual, own elaboration, creative ideas (Andron, 2011).

This is why metacognition is essential in learning; how do we think about own thinking helps improving self-reflection, which allows establishing future goals and contours learning activities and strategies. Thus, the benefit of developing metacognition will reach the improvement of the application of knowledge, skills and character qualities. Awareness of the thinking process allows students own interpretation of tasks and choice of different solving strategies, thus leading to optimization of the whole process of achieving learning goals. When long-term learning is intended, marking the text, notes-taking,

scheduling may not prove effective enough. The higher-level thinking also allows the capability to persist in spite of the difficulties leading to valuable, long-term learning. Research shows that metacognition refers to three levels, as follows: verbalisation of verbal-state knowledge, verbalisation of non-verbal knowledge and verbalisation of explanations for either verbal or non-verbal knowledge; the higher level is responsible for improving routines in problem-solving (Fadel, Trieling and Bialik, 2015). According to the same authors, the purpose of education should be defining the 21st Century learner by overlapping four major areas: knowledge (defined as what we learn and understand), skills (referring to how we use what we know), character (revealing how we behave and engage in the world) and meta-learning which determines the three areas and which shapes our way of reflecting and adapting.

3. Methodology

A research was conducted in the Teachers' Training Department of Lucian Blaga University of Sibiu, in order to look at the learning patterns of students. The research was conducted during the university years 2014-2015 and 2015-2016, on groups of students of the Teachers' Training Department, reaching a total of 171 students. All of these students were attending the psycho-pedagogical training required to become certified teachers in the economical and technical domain of their university degree. The specialization of these students was not considered differently but their age was relevant for certain directions of discussion, so the research group age configuration is to be mentioned; most of them are in the 20-30 years age range (82%), some are over 31 (17%) and 2% are over 40 years old.

The specific objectives of the research follow the provisions of the National Qualifications Framework referring to the transversal competences required for the qualification level these subjects aim reaching, thus the research intended to identify a) whether the subjects prove the self-control of their learning process and b) whether they are able to diagnose own training needs (CNFPA, 2005). The hypotheses follow the main ideas presented by literature: I) active involvement in study allows better understanding of material; II) organizing own learning leads to deeper approaches of the learning material; III) conscious learning involves strategies for understanding and better use of new information, allowing more accurate self-assessment and satisfactory results

The research addressed a questionnaire consisting of 15 questions, aiming to provide data related to the research objectives, stated according to the theoretical approach previously discussed in the paper. Questions have been addressed according to a random order thus trying to avoid automatic answering. The subjects were asked to choose the most suitable answer, from the five options provided and results were thus considered by attributing different weight (1=never, 2=sometimes, 0=no answer/do not know, 4=often and 5=always).

4. Results and Discussion

The research intends to find out to what extent the theoretical assumption can be found in the learning patterns of the investigated group, the results being discussed for each objective/hypothesis:

4.1. Active Reading and Listening

Active reading and listening should be an important prerequisite of learning – better learning occurs when individuals understand information, they have a certain representation of the information received, when they are able to estimate the extent of this understanding. The subjects were asked to appreciate to what extent they are able to represent mental images of the material/text they read (question 10) and most of the students have answered that they generally do, but with a surprising 11% of non answering or "do not know" answers, and 2% of "never" answers the awareness of reading in the learning process seems not to be always considered a condition for learning. In such situations, memory is probably intended to be used, not understanding. Weighting the values, an average of 3.58 out of the maximum 5 is reached, with a different weight for each age group, indicating a more conscious reading of material as age increases, as follows:

Table 1. Weighted average for active reading/listening within age groups.

Weighted average/ Age	20-30 y	31-40y	Over 41y
Group : 3.58	3.5	3.61	4.6

For the next step, the subjects had to identify whether they are able to assess how much they understand written information found either in texts or on display, blackboard, and presentations. As meta-cognition can't be reached without a certain personal involvement in reaching knowledge, the answers for this question (question 13) have been put into relation with the previous item related to representing new material. Results confirm the assumption, as those who are able to represent mental images of the new information show better scores for assessing own understanding of new material.

Table 2. Scores for assessing understanding.

Values	Never (1)	Sometimes (2)	N/A (0)	Often (4)	Always (5)
Mental representations	3	25	19	75	52
Scores for understanding new material	3.67	3.1	0.88	3.26	3.69

4.2. Learning Routines

The second direction of the survey focused on learning routines and organizing the learning process. The most common learning habit is marking the text. Most of the subjects are marking material to be studied (underlining, highlighting the most important parts of the study material) while scouring it (the average score for the survey group being 4.27, out of a 5 maximum possible), as shown in Figure 1. Marking or underlining text is not enough for efficient learning, so the next questions referring to dispersing learning activities over time (question 2), being able to re-read the material (question 6) or covering important volumes of information over a short time (question 11) were considered within each group of answers, as follows:

Table 3. Scores for learning routines.

Values	Never (1)	Sometimes (2)	N/A (0)	Often (4)	Always (5)
Marking the text	6	17	1	43	104
Dispersing	1.63	2.54	0	3.71	3.45
Re-reading	3.17	3.05	0.67	4	4.35
Great amount of information	1.55	1.78	0.75	3.5	2.46

Those who never or sometimes mark the text tend to reach lower scores in dispersing material over time and re-reading material; they also seem to have a more superficial approach in covering material. The failure in organizing material leads to a superficial approach of learning activities. The subjects that have no opinion or simply do not know how they usually organize learning activities are also failing to disperse learning activities over time, re-read material or cover great amount of information while learning. For those who use marking the material as a first stage of their learning process, dispersion of learning activities over time is better, and re-reading allows the benefit of smaller amount of information to be covered during their learning activities.

4.3. Conscious Learning

However, the most important issue of the learning process analysis is the conscious learning. The subjects were asked to consider the situation that during study they find a certain piece of information that they have previously heard about (question 14). In such a situation, 72% of the subjects declared that they make sure to verify their knowledge on the matter, later, while 20% of the subjects declared that they go on with their study, focusing on new issues (fig.2).

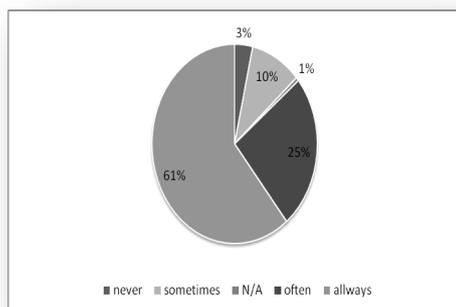


Fig. 1. Marking the text while reading (question 7).

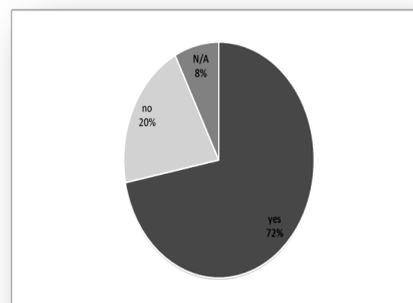


Fig. 2. Deepening previous knowledge.

For the next questions referring to the conscious learning, analysis intended to search for differences between these three groups. Question 1 inquired on the habit of checking on covered learning material, by means of using chapter quizzes, exam themes, problems, cards or any other supporting material. Those who usually deepen their learning by clarifying superficial knowledge have shown higher scores than those who speed on covering study material. Question 3 inquired on whether participants do combine materials or types of problems during their study sessions. Once again, those who show disposition for a slower pace of learning seem to score higher than the faster learners, but this practice of combining materials and/or problems is less usual than the checking on materials during study. The routine of self-explaining new information, concepts and relations during study was addressed by question 4 (explaining new concepts) and question 5 (explaining relations between new information and previous knowledge). Explaining seems to be an important learning routine for all the subjects. Even the more rapid learners have understood that explaining relations and concepts is a key-factor in learning. Writing short summaries of the studied material while reading it (question 8) and/or using key-terms or mental images in order to better remember and use new concepts or information (question 9) are also

good techniques for a conscious learning, the short summaries technique being preferred by those who do not always afford the time for a second reading or a better understanding of the material. Using key-terms or mental images in order to increase retention of new information is a learning procedure very useful for all the subjects of the survey (which is understandable, as no learning can occur without the "anchors" that creativity offers to each individual during the process of learning).

Table 4. Scores for conscious learning.

Values	Deepening knowledge	Superficial learning	N/A
Checking on material	3.42	2.69	3.23
Combining materials	2.79	2.48	3
Explaining new concepts	3.27	3.46	3.61
Explaining relations	3.87	4.02	3.61
Writing short summaries	1.91	3.06	3.69
Use of key-terms	3.72	3.57	3.76
Exam expectations	1.63	1.14	0.77

The same group delimitation has been considered for the concluding question. After having considered their learning routines, participants were asked to answer question 12 – a statement, in fact, not a question: "My exam results are usually worst than my expectations". It is to be noticed that 85% of the answers of those of the last group (non-answering or "do not know" group) was the same "do not know", proving the same lack of interest or involvement in the process of assessing the learning, which they have shown in the process of learning, while the remaining answers showed that subjects do obtain results that are lower to their expectations.

The final question (question 15) inquired on whether subjects have ever been taught the learning techniques they are using or they have developed these learning routines all by themselves. The answer for this question might be, itself, the reason for the research and a very good starting point for further teaching strategies as a strong majority of subjects (76%) have never been taught to learn, and an important 9% are neither aware, nor do not answer. As all of the interviewed students have been enrolled in an academic program that will provide them access to an eventual teaching career, the situation is even more dramatic. How should we expect teachers to be able to build a competence that the teachers, themselves, do not master?

5. Conclusions

The key-factors for the learning process are memory, the awareness of reading or listening in the classroom and metacognition as the research showed. Re-reading of material seems to be a rather frequent learning habit; as the first reading of a new material allows extracting a lot of information, while the second reading gives the reader the feeling of already knowing the material, mindless re-reading is at least useless, if not even an unwanted waste of time. Thus, a second reading of any material should be selective – after reading students should quiz themselves, either using the questions/problems offered by the book or making up their own questions. Asking questions helps reaching a deeper understanding of the new material, while trying to explain leads to a better learning, a better use of memory. Anything that creates active learning, engaging the student in the process is much more retention-effective. Memory enhancing

methods should be aimed in teaching, as well as learning strategies, (dispersion of study by means of brief revisions, home-works, weekly quizzes) especially when students enrolled in Pre-service Teacher Training programs are concerned. Since attitude is a good predictor for success, (pro-active attitude generates the suitable learning strategies, facilitates a better organizing of work, and allows perseverance), building the proper mindset should be a priority of teaching. The teacher's role in engaging students and shaping the desirable attitude towards learning is very important but not enough. As the research shows, learning strategies used by students are mostly the result of their own creativity and not a competence obtained in the classroom, thus an important area of the didactical training of the future teachers should focus on learning techniques and strategies. More than that, the University might also provide courses of Learning to Learn to its students enrolled in various academic programs wishing to improve such competencies, using the expertise of the Teachers' Training Department academic staff.

References

- Allinson, C. & Hayes, J. (2012). The Cognitive Style Index: Technical Manual and Userguide, *Pearson Education Ltd.*, 2-4
- Andron, D. R. (2011). Didactica Științelor Economice în Contextul Ariei Ccurriculare. *Psihomedica Sibiu*, 34
- Fadel, Ch., & Trieling, B. & Bialik, M. (2015). Four-Dimensional Education: the Competencies Learners. <http://curriculumredesign.org>. accessed 10/08/2016
- <http://www.project-predict.eu/>, accessed 20.10.2016
- Linksman, R. (2000). How to Learn Anything Quickly (Romanian version). *Teora Bucharest*
- Peculea, L. & Bocoș, M. (2015) The Role of Learning Strategies in the Development of Learning-to-Learn Competency of 11th Graders from Technical Schools. *Procedia-Social and Behavioural Studies*, 203, 16-21
- www.cnfpa.ro, accessed 18,08.2016