HOW DO STUDENTS LEARN? A CROSS-SECTIONAL INVESTIGATION ABOUT LEARNING IN HIGHER EDUCATION

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Abstract: *The issue of learning has been frequently approached within the academic environment. Learning is a generic concept used to describe different processes that change people's behavior. Also, learning is a fundamental activity for students involved in higher education, as it provides the basis for the further development of professional and cross-sectional competencies. The study aims at approaching two research objectives, namely to analyze the students' learning process (why they learn; how many techniques of learning they know and use) and to identify to what extent students are interested in learning new and efficient learning techniques. The study has been accomplished during the second semester of the university year 2014-2015 on a sample of 72 students attending the first year of study at the Faculty of Agriculture of a Romanian university. The data was collected using a questionnaire of opinion as a tool that contained a total number of 10 items, 6 items with closed, pre-coded answers, 2 items having semi-opened answers and 2 with open answers. The analyses of answers for each item underline the fact that students are using a limited number of learning techniques and they are very interested in receiving more information regarding other efficient learning strategies. This research brings some openings for the higher education theory and practice, its results being useful to researchers in the field of pedagogy, to teachers involved in university education, pre-service teachers as well as to all those involved in the initial and continuous formation of educators*.

Key words: *learning strategies; pre-service teachers; higher education*

INTRODUCTION

Learning represents an evolutive process which is essentially informative and formative and consists in the active acquirement of life experience by the individual, and on this basis, in the selective and systematic modification of conduct, in its continual improvement under the influence of the surrounding environment variables (GOLU, 1985). In essence, learning suggests a psycho individual change accomplished as a consequence of living a personal experience. The ways of learning and also its forms or types are most various and their taxonomy should suppose the identification of some clear criteria. PAVEL MUREŞAN (1990) mentions the following learning modalities: repetition, intelligent discovery, trial and error. According to the social framework in which they take place, there are more types of learning to be distinguished: school learning, military instruction, individual socialization and social learning (MUREŞAN, 1990).

As a process, learning implies getting over multiple stages: the first stage is that of the contact with the new information and is followed by a processing of that information until understanding appears. This stage may be called the acquisition stage. During the next stage, the new knowledge is interiorized and integrated in a personal, coherent system. This stage is built leaving from previous experiences. The third stage presumes action from the perspective of new acquisitions which are to be used after they were acquired and operationalised. This stage is also called modification. The last stage is that of concretization of changes in abilities and behaviors, this stage being also named the results stage. Learning is built based on

previous experiences and is influenced by the climate in which it is accomplished (ROWNTREE, 1980).

Each person has a foundation of knowledge (of a procedural and declarative type), mentally represented by various modalities. Starting from those, the main objective of instruction is the transformation of this knowledge foundation in a scientifically structured one, in order to allow the person the efficient bringing up-to-date and usage of knowledge with the view of solving some problems (DULAMĂ, 2009).

The efficient learning has three important characteristics: it is active, it is purpose oriented and leads to measurable results. Active learning presumes involvement, and also conscious participation in the process of building the knowledge. Critical thinking and metacognitive strategies represent the tools of efficient learning. Critical thinking helps a person to reorientate in the world of possible alternatives, to become aware of and maximally use his or her own thinking mechanisms. The stability of acquisitions follows the perseverance in the learning activity. The research in the field of cognitive psychology have shown that the difference between experts and novices does not stand in the volume of knowledge or the ability to organize that knowledge into semantic networks, but the difference is situated at the metacognitive level (METCALFE, 1995, APUD BOGATHY AND SULEA, 2004). The metacognitive strategies designate aspects relating to the monitoring and control of learning, but they also have in view the development of learning potential. To learn how to learn means to efficiently increase the speed of the learning process. To learn efficiently means to gain a result, and that presupposes the establishment of a clear learning purpose and the active involvement in its attainment (ROWNTREE, 1980).

Among the key-competencies recommended by the Council and Parliament of Europe, to learn how to learn holds a central place, the most necessary condition in developing the integral personality of the student who is the future specialist in a domain of activity (Neacşu, 2015). Thus, within the context of higher education, learning has an overwhelming importance in building the professional and cross-sectional competencies, towards the academic, and later, professional achievement. The acquirement of high level academic results is conditioned by the learning strategies the students know and practice. The paradigm of student-centered learning indicate the development of some didactic strategies to intellectually activate more the student (JUCAN, 2009), simultaneously with the assimilation by the student of some efficient learning strategies and techniques.

OBJECTIVES OF THE STUDY

In reference with these theoretical premises, the present study is aiming at two objectives:

- the analysis of some essential aspects concerning the students' learning process (why they learn; how many techniques of learning they know and use);
- to identify the measure in which students are interested in learning new and efficient learning techniques.

METHODOLOGY

Procedure

The research has been carried out during the second semester of the university year 2014-2015 on a sample of 72 students from a Romanian university, students attending the first year of study at the Faculty of Agriculture. During the course in Pedagogy, a questionnaire of opinion was applied in order to determine some essential aspects regarding the students' learning process. The data was processed in the computer program SPSS 17.0.

Participants

The sample consisted of 72 pre-service teachers, students attending the first year of study at the Faculty of Agriculture. Their ages ranged from 20 to 28 years old (*M*=20.7; SD=1.31). In the sample there took part 35 male students and 37 female students. The selection of participants was based on willingness to participate in the study.

Measures

The data was collected using a questionnaire of opinion as a tool; the questionnaire contained a total number of 10 items, 6 items with pre-coded closed answers, 2 with semi-opened answers and 2 with open answers.

The content of items had in view the following essential aspects: the learning motivation (why do students learn?); the time allowed by students to study; the learning techniques known and used by students; the students' interests in acquiring new efficient learning techniques.

RESULTS

Results concerning the students' motivation for the learning activity

Table 1 shows students' centralized answers regarding their learning motivation:

Table 1.

Motivation regarding the learning activity

Motivational variables	Mean
Formation of professional competencies	4.6
Desire to know as much as possible	4.2
Acquiring a higher financial status	4.1
Discovery of some interesting things	3.9
Acquiring a higher social status	3.5
Appreciation of those around	3.2
Pleasing parents	2.7

We can conclude that among the most important motivating factors in the learning process there are intrinsic motivational factors (the desire to be competent, to know and discover as much as possible), but also extrinsic factors (financial and social status, acknowledgement and appreciation from those around and the desire to please the parents). We positively observe the fact that the intrinsic motivation has the precedence, an aspect which aligns with some research results which indicate that one of the main predictors of academic and later professional achievement is represented by the intrinsic motivation (EPPLER AND HARJU, 1997; TULBURE, 2010).

Results regarding the known and used learning techniques

The data in Table 2 presents the degree in which the student knows and use the learning techniques.

According to the results obtained, among the most known and used learning techniques we find the essay, the article, the summary, the abstract, the review and the study cards. These learning techniques are the tools that the students have at their disposal in order to accomplish the complex learning process. After analyzing the data, we notice that there are numerous learning techniques that the students know very little and use even less (SINELG, RICAR, SQ3R, APASE, MLP, RAFT, concept mapping). In a world open to the access of

information, in a society full of opportunities and offers, we are amazed by the limited range of learning techniques the first year students know and apply. We think that the implementation, during the seminars in Psychology and Pedagogy of an educational program based on acquiring some learning techniques would bring a significant improvement at the level of the students' learning process, formation of cross-sectional and professional competencies and also an increase in academic results.

Table 2.

The knowledge and usage of learning techniques

Learning techniques	Knowledge		Usage	
	Frequency	Percentage	Frequency	Percentage
Summary	72	100%	60	83.3%
Abstract	72	100%	69	95.8%
Study cards	54	75%	32	44.4%
Concept maps	8	11.1%	8	11.1%
Essay	72	100%	72	100%
Paper	72	100%	72	100%
Review	72	100%	21	29.1%
SINELG	3	4.1%	3	4.1%
RICAR	0	0%	0	0%
SPIR	0	0%	0	0%
PQRST	2	2.7%	2	2.7%
SQ3R	0	0%	0	0%
RAFT	0	0%	0	0%
MLP	0	0%	0	0%
APASE	0	0%	0	0%

CONCLUSIONS

The present cross-sectional study underlines the acute need of students to diversify the range of learning techniques, to learn how to learn in order to obtain high level academic and professional results. The results have brought some light upon aspects regarding the students' learning motivation, and also upon the learning strategies and techniques they use. According to the specialty studies (PARIS, 1984 AND EWELL, 1997, APUD JUCAN, 2009), there is a strong connection between the number of learning strategies used by students and their academic performance. This way, the accomplished research represents a theoretical and methodological premise and also an opening towards a longitudinal study which we intend to implement during the next university year, upon the sample of students included in this study. The paper may constitute a reference and reflection point for the theoreticians and practitioners of university education, for the researchers in the field and for all those involved in the initial and continuous formation of educators.

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