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THE INDIVIDUAL STUDY – A TRANSVERSAL COMPETENCY OF STUDENTS. AN OBSERVATIONAL STUDY

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ABSTRACT. In the present study we have defined individual study as being a transversal competency that implies an individual strategy for collecting data from various sources (notes, bibliography, textbook, dictionaries, compendiums, Internet, etc.), comprehending it, organizing and systematizing it, independently issuing hypotheses and their validation or invalidation through a personal self-imposed effort of a cognitive and metacognitive nature. We have undertaken a research effort in order to establish the importance accorded by students to the individual study, the extent to which the students possess information on the planning, organizing, and the development of the self-study; the methods (modalities) of implementing the self-study, the strategies for individual studying used by students, the modalities of taking notes, identifying the ways in which they study individually.

Keywords: *individual study, competency, students, methods of individual study*

Zusammenfassung. In dieser Studie haben wir das Selbststudium als Querschnittskompetenz definiert. Diese benötigt eine eigene Strategie für das Sammeln von Informationen aus verschiedenen Quellen (Notizen, Bibliographie, Handbuch, Wörterbücher, Kompendien, Internet usw.), das Verständnis, die Organisation und die Systematisierung von diesen, unabhängige Formulierung von Hypothesen, deren Bestätigung oder Ungültigkeit auf der Basis von persönlicher, selbst angenommener, kognitiver und metakognitiver Anstrengung zu etablieren. Wir haben eine Aktion durchgeführt, um uns über die Bedeutung von Selbststudium bei Studenten zu informieren. Wir wollten erfahren, inwieweit besitzen die Studenten Informationen über die Planung, die Organisation und die Durchührung des Selbststudiums, als auch über die Methoden (Wege) verwendet für Selbststudium. Wir stellten uns vor, Informationen über die Strategien verwendet von Studenten für das Selbststudium und für Notizen nehmen zu bestimmen und auch die Art, in der die Studenten individuell studieren zu identifizieren.

Schlüsselwörter: *Selbststudium, Kompetenz, Studenten, Methoden für Selbststudium*

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1. The individual study – a transversal competency of students.

Individual study is defined in classical pedagogy as the activity undertaken mostly at home or at the library and represents one of the tasks of pupils and students (Deese, 1979). Unfortunately, in contemporary education, within the daily routines of students, self-study holds an increasingly smaller share of time, its place being taken by the computer, mass-media, group of friends, and other things, even though the number of hours of didactic activity assigned to students is lower in comparison to the situation from several years ago. 'Individual study is the method of learning and self-studying through the referencing of specialized literature, the independent pursuit of experiences and experiments, the personal organization of knowledge, its acquirement and implementation.' (Mureşan, 1990)

We consider that in our modern pedagogy individual study must not be seen as an activity that only takes place at home or in the library, but also within the activities of the courses and seminars, becoming a form of continuous intellectual activity (Jucan, 2005, 2007, 2009).

Self-study is an activity of (re)construction of knowledge, of finding creative and original solutions, of practicing reflective and critical thinking. (Entwistle & Ramsden, 1983).

There is a tendency today towards the transformation of the individual study into a transversal competency that requires complex activities of acquirement and processing of information, activities acknowledged as a source of innovation and creativity. Self-study implies, for the students involved, personal cognitive and metacognitive reflections, self-knowledge, self-guidance, and self-control (Leat & Lin, 2002, Krievaldt, 2001, Ertmer, & Newby, 1996). We define individual study as being a transversal competency that implies an individual strategy for collecting data from various sources (notes, bibliography, textbook, dictionaries, compendiums, Internet, etc.), comprehending it, organizing and systematizing it, independently issuing hypotheses and their validation or invalidation through a personal self-imposed effort of a cognitive and metacognitive nature (Jucan, 2009).

Self-efficacy (Bandura, 1989) is the term that captures the mode in which the intellectual activity during the individual study of the students took effect. In individual study, the student evaluates his abilities, he opts for certain tasks, he distributes his effort, but also monitors his progress. Pressley, Borkowski, & Schneider (1987) make reference to certain principles for the use of efficient self-study strategies. One of these principles states that those

who use strategies for studying in an efficient manner predominantly make use of general strategies, but they also use specific strategies in order to achieve their set objectives. The research done (Palincsar, Brown, 1984, Paris, 1990) demonstrates the fact that there are close ties between the number of strategies used and the academic performances of those that use them.

2. The research process

We have thus initiated an observational research, administering a survey (from which we have selected for analysis in the present study only certain items) in the interest of finding out the students' opinion on individual study, the modalities for its accomplishment, the strategies of intellectual activity used during courses and seminars, in general, and during Pedagogy courses and seminars, in particular. We were also interested in identifying:

- The frequency with which individual study for Pedagogy is undertaken;
- The methods through which individual study for Pedagogy is achieved;
- The modalities in which information is being processed by students;
- Reflectivity during the self-study of students;
- The depth of connections established by students;
- The modalities of structuring, synthesizing and processing of information within the individual study;
- Modalities of note-taking employed by the students.

We have opted for selecting a group of students in the 2nd and 3rd year in order to analyze the specificity of their concern for efficient learning, for the particularities of studying for Pedagogy (by Pedagogy we mean the disciplines of The Fundamentals of Pedagogy. The Theory and Methodology of the Curriculum and The Theory and Methodology of Teaching. The Theory and Methodology of Evaluation), with the purpose of uncovering their techniques of intellectual work and techniques specific to self-study.

There were 2836 students included in the study, enrolled in the Teacher Training Program and part of the Faculty of Mathematics-Computer Science, the Faculty of History, the Faculty of Biology, the Faculty of Physics, the Faculty of Chemistry, of Biology, of Philology, of Geography, of Sociology, of Economics (see Table 1).

Table 1. The composition, by departments and year of study, of the targeted population of the research

Department	Number of Students			Share (percentage)		
	2nd Year	3rd Year	2nd Year + 3rd Year	2nd Year	3rd Year	2nd Year + 3rd Year
Mathematics-Computer Science	182	133	315	15,2	8,1	11,1
History	139	218	357	11.6	13.3	12.6
Chemistry	66	91	157	5.5	5.6	5.5
Physics	44	34	78	3.7	2.1	2.8
Biology	101	112	213	8.4	6.9	7.5
Philology	291	430	721	24.2	26.3	25.4
Geography	212	301	513	17.7	18.4	18.1
Sociology	65	144	209	5.4	8.8	7.4
Economics	101	172	273	8.4	10.5	9.6
Total	1201	1635	2836	100.0	100.0	100.0

First we have aimed at finding out the time allotted by students to the self-study for the discipline of Pedagogy. The percentages for each answer are presented in Table 2.

Table 2. The distribution of answers on the first item of the survey

How frequently do you study individually for the discipline of Pedagogy:	Students
Between 0-25% of situations allocated to individual studying	335 (57.2%)
Between 25-50% of situations allocated to individual studying	127 (21.7%)
Between 50-75% of situations allocated to individual studying	84 (14.3%)
Between 75-100% of situations allocated to individual studying	39 (6.66%)

In the case of Pedagogy, most of the responding students, 57.2%, have indicated that they only make use of about 0-25% of situations allocated for self-study. A relatively large share of students, 21.7%, have stated that they only utilize about 25-50% of situations allocated to individual studying. Furthermore, worrying is the small percentage of students that have stated that they employ approximately 50-75% of the situations allocated for the individual study for Pedagogy, the percentage being of only 14.3%. Also in the case of this item, the smallest percentage of students, 6.66%, have indicated that they exploit roughly 75-100% of situations allocated to the individual study for Pedagogy. These results denote the fact that students do not in fact utilize a large share of the time assigned for individual studying and do not fully exploit the situations in which they could be studying individually for this discipline.

Going forward, we were interested in the modalities of individual study, specifically the modalities through which students engaged in the self-study of important disciplines. Because the answers were varied, in the processing of the data we have grouped the answers given by the students in the following categories, after which we have ordered them by their frequency.

Table 3. The distribution of answers on the 2nd item of the survey

Describe the modalities (methods) through which you study individually for important subjects!	Rank
I read the text closely	I
I use the study notes	II
I memorize the important data	III
I underline the important ideas	IV
I take notes of what I consider to be relevant	V
I select and retain the key ideas	VI
I solve the exercises and problems	VII
I extract the keywords	VIII

The results achieved on this item prove that the most frequently used modality of individual studying is the attentive reading of the text. Another self-study modality frequently used by students is that of utilizing the notes taken. The memorizing of important information is also considered to be a significant method of individual studying. A similar importance in the case of self-studying is given to the method of underlining important ideas. We note the fact that when studying individually most students read the material and utilize the notes, fewer resorting to more complex approaches to the content. We consider these aspects to be relevant due to the fact that recent studies (Gama, 001, Blakey & Spence, 1990) have proven that the subjects that are aware of their own metacognitive processes are more efficient at studying. As such, we consider that the intervention should be made upon this issue, namely through the practice, during courses and seminars, of efficient learning strategies.

In what follows we wish to observe which are the concrete modalities of individual studying that students use within the discipline of Pedagogy.

Table 4. The distribution of answers on the 3rd item of the survey

Describe the modalities (methods) through which you study individually for Pedagogy!	Students
I read the textbook	164 (28%)
I try to comprehend the information	31 (5.2%)
I only read the notes taken during the courses	215 (36.7%)
I only memorize the notes taken during the seminar	83 (14.1%)
I read the bibliography	42 (7.1%)
I memorize the examples given by the teacher	50 (8.5%)

Most of the students in the survey have indicated that they use as a method of individual studying for Pedagogy the reading of the notes taken during the courses, this method being used by 36.7 of the respondent students. A 28% share of the students have stated that they use as a method of individual studying for Pedagogy the reading of the textbook provided by the teacher. Likewise, a proportion of 14.1% of students have specified that a self-study modality for Pedagogy that is efficient for them is the memorizing of the notes taken during seminars. These statements made by a considerably large number of students show that they prefer during the individual study for Pedagogy the methods that require a minimal amount of effort on their side, namely reading and memorizing. The specialized literature also highlights the fact that there are students who adopt a superficial approach and who have the tendency to be preoccupied by the mere learning of the words, by memorization (Entwistle & Ramsden, 1983).

The question 'When you are studying for Pedagogy, how are you trying to facilitate retention?' was aimed at estimating the reflectivity of the students during studying and whether they achieve deep connections when learning.

Table 5. The distribution of answers on the 4th item of the survey

When you are studying for Pedagogy, how are you trying to facilitate retention?	Students
By reading the textbook	347 (59.3%)
By retaining the examples	90 (15.3%)
By taking notes	45 (7.6%)
By learning the notes taken	39 (6.6%)
By underlining the key ideas	34 (5.8%)
By retaining the main ideas only	30 (5.1%)

59.3% of the students have stated that the easiest way to retain information when learning for Pedagogy is by reading the textbook. Only retaining the examples is another modality of easier retention, used by 15.3% of the students when they are studying for Pedagogy. Other ways of retention when studying for this discipline are used in the following proportions: 7.6% of the students take notes, 6.6% of the students only learn the notes they took, 5.8% of the students underline the main ideas, and only 5.1% of students retain solely the main ideas. The modalities used for easier retention when studying for Pedagogy and the number of students that make use of each one of these show that they are not sufficiently reflective and they do not establish enough deep connections when studying. The answers on this item complements the ones from the previous item, where few students mentioned that they are 'trying to comprehend the information' when studying for Pedagogy.

The answers to the 9th item on the survey 'Do you ask questions of yourself and try to answer them while studying?' further contributes to the estimation of reflectivity in studying and of the depth of connections established by students.

Table 6. The distribution of answers on the 9th item of the survey

Do you ask questions of yourself and try to answer them while studying?	Students
Yes	198 (33.8%)
No	387 (66.2%)

Most of the respondent students, namely 66.2%, do not pose questions and do not try to answer those questions when learning. Even though in the contemporary educational system, within the process of teaching-learning, the accent falls on comprehending the content studied and not solely memorizing and duplicating knowledge, a relatively small portion of students, namely 33.8%, have stated that when learning they are asking themselves questions and trying to answer them. This aspect points to the fact that students do not problematize when studying and, also, we note the fact that students should be reflective and should establish deep connections when studying (Gama, 2001, Blakey & Spence, 1990), not just for Pedagogy, but for all the disciplines on their education plan.

In the 10th item of the survey, the modalities used by the students for synthesizing the information when studying individually are being referred to. The modalities of synthesizing in discussion are: underlining, abbreviations, charts, numbering or figures.

Table 7. The distribution of answers on the 10th item of the survey

Do you use underlining, abbreviations, charts, numbering when studying individually?	Students
Yes	203 (34.7%)
No	382 (65.3%)

The majority of the students, namely 65,3%, have indicated that they do not use underlining, abbreviations, charts, or numbering when studying individually, thus we draw the conclusion that students, at least the vast majority of them, do not synthesize and do not process in a certain way the information with which they are working.

The mode in which students synthesize and process the information should also be evident in the study of the 16th item of the survey. By studying this item, we wish to find out what is the manner in which they take notes in courses and seminars and we also wish to find out if they utilize any particular system for note-taking. In quantifying the answers for this item we have established that the majority of the answers concentrated on the method of note-taking that involves 'writing down everything I hear' (473 answers, approximately 81%), an answer that was easy to anticipate since students prefer the simplest modalities that do not require any additional effort on their part, an aspect evident in the analysis of the other items as well.

Table 8. The distribution of answers on the 16th item of the survey

Describe the mode in which you take notes in classes and seminars!	Respondents
I write down everything I hear	473 (80.8%)
I write down the important ideas	31 (5.2%)
I write down the key terms	24 (4.1%)
I copy what is written on the blackboard	20 (3.4%)
I write down the schemes on the blackboard	20 (3.4%)
I write down the examples given by the teacher	17 (2.2%)

The 17th item of the survey references the concrete manner in which students synthesize information when studying individually. We note that synthesizing information takes the second place in the students' concerns. A small part of them make use of modalities for synthesizing the information, through numbering (rank II), ordering the information (rank III), extracting the main ideas (rank IV), or systematizing the content (rank V).

Table 9. The distribution of answers on the 17th item of the survey

Describe the mode in which you synthesize the information when studying individually!	Rank
I do not synthesize the information	I
I number the information	II
I order the information	III
I extract the main ideas	IV
I systematize the content	V

3. Conclusions and research directions

During their higher-education studies, unlike their high school years, students process an ever increasing quantity of information and they operate with it on an increasingly abstract level. As they develop intellectually, students become ever more aware of the characteristics of their own cognitive processes and they acquire more and more knowledge on cognition in general (Shulman, 1986, 1987, 1992). These acquisitions, when efficiently comprehended and used, will facilitate and improve the formation of the competency for individual studying (Jucan, 2005, 2007, 2009):

There is a category of students that learn these strategies implicitly, another category of students that deduce them through reflection upon their own cognitive style (Ornstein, Thomas & Lasley, 2000), but there are also categories of students that do not acquire them or that deduce counterproductive strategies. For these situations, the interventions for the development of efficient self-study strategies (in accordance with the individual style of learning of the students) prove to be very useful. In the present study, the conclusion that becomes evident is that most students are not sufficiently reflective and they do not establish deep connections when studying individually; they prefer to read the entire textbook or their notes and they do not synthesize or process the information in any certain manner, and as such they rarely utilize key-terms, organizing graphics, charts, figures, etc.

Furthermore, they do not problematize sufficiently when studying individually, they generally take notes by writing down everything they hear the professor say and they do not have a particular system for note–taking.

Even though the strategies for studying are, for the most part, specific to the area of study, we consider that there is knowledge and there are skills relevant to the development of strategies for studying that can be transferable (Brodkey, 1986). As such, the teaching staff proposes superior strategies for individual studying, strategies that involve the development, the organization, and the comprehension or processing of the information (Shulman, 1986, 1987, 1992). We also propose the acquirement of strategies of intellectual activity that will contribute to the efficient processing of the information and to the accelerated acquirement of knowledge by the students (Jucan, 2005, 2007, 2009).

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