Experimental Research on Metacognitive Competence Development at Freshmen Students from Three Romanian Universities

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Plan presentation

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I. Metacognition concept

- "Metacognition is the segment of stored knowledge that has to do with people as cognitive creatures and with their diverse cognitive tasks, goals and actions" (Flavell, 1979).
- Metacognitive knowledge is divided into three categories: knowledge of person variables, task variables and strategy variables (Flavell, 1983).
- Brown (1987) specifically delineated four components of metacognition: 1) planning, 2) monitoring, and 3) evaluating, and 4) revising.
- The metacognition is focused on the *active monitoring* and on the cognitive process *regulation*.

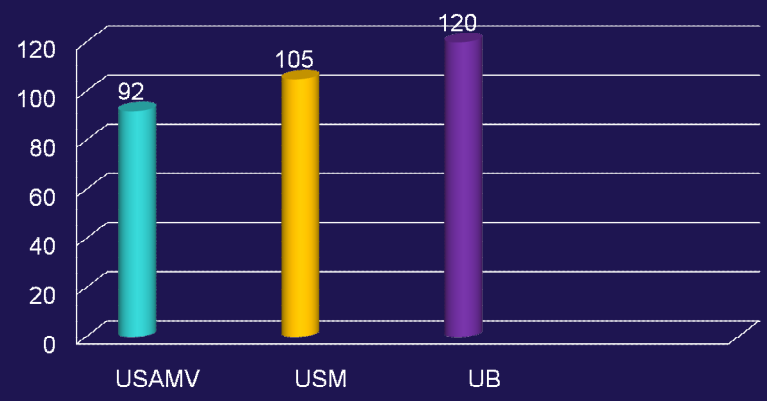
II. Experimental procedure

- 2.1. **The hypothesis** : if the students gain the learning techniques, then the results of the learning process will be a response to the postmodern society challenges.
- 2.2. **The objectives** of the project **: a)r**aising the students awareness towards the learning psychological mechanisms; b)enabling the students with the efficient learning techniques; c)dissemination and generalization of the acquired experience.

2.2. Methodology

- *2.2.1 The research sample* comprises 343 students, and it is structured in terms of independent variables as following: upon the *gained results* variable (239 students with all exams passes/ 104 students with failure exams); upon the *gender* variable (266 female/ 77 male);
- 120 students from University of Bacău; 105 from University of Suceava; 118 from U.S.A.M.V. Iaşi, Romania);

2.2. Methodology.
2.2.1 The research sample



2.2.2 The concept operational and the variable definition

- The metacognitive competencies concept was made operationally through 8 categories: capacity of taking notes, capacity of planning and presenting an individual project, capacity of planning and presenting a group project, capacity of planning and presenting a scientific paper, capacity of planning a learning system, capacity of following a learning system, capacity of assessing a learning system, capacity of material structuring.
- *The dependent variables* are the metacognitive competencies. *The independent variables* are: gender, the gained results, university, the graduated high school type, the didactic experience.

2.2.3 The research instrument

- We administered the questionnaire for identifying the metacognitive competencies (2005 – 2006 şi 2008-2009).
- The research project "The metacognitive competence development for the first year students" (research partnership U.S.A.M.V., Iaşi, University of Suceava, and University of Bacău).

III. Results

- *Work hypothesis 1*: The development level of the metacognitive competencies has significant differences in terms of *results*.
- In order to verify this hypothesis we have applied Independent Samples Test. The results show that there is no significant differences in terms of the results variable.
- The hypothesis is not confirmed.

Work hypothesis 2- terms of *gender*

Metacognitive competencies	Gender	Mean
systematic notes at courses	Female	**3,33**
	Male	2,89
	Total	3,23
planning and presenting an individual project	Female	**2,93**
	Male	2,70
	Total	2,88
planning a learning system	Female	**2,93**
	Male	2,70
	Total	2,88
follow a learning system	Female	**3,15**
	Male	2,87
	Total	3,09
assessing a learning system	Female	**2,91**
	Male	2,72
	Total	2,87
material structure	Female	**3,30**
	Male	3,09
	Total	3,26

Work hypothesis 4- the kind of the graduated high school

Metacognitive competencies	The graduated high school type	Mean	N
planning and presenting an individual project	Theoretical	2,87	154
	Vocational	**3,15**	59
	Technical	2,76	126
	Total	2,88	339
planning and presenting a scientific paper	Theoretical	2,32	154
	Vocational	**2,76**	59
	Technical	2,29	126
	Total	2,38	339
planning a learning system	Theoretical	2,76	154
	Vocational	**3,25**	59
	Technical	2,83	126
	Total	2,87	339
assessing a learning system	Theoretical	2,77	154
	Vocational	**3,08**	59
	Technical	2,89	126
	Total	2,87	339
material structure	Theoretical	3,20	154
	Vocational	**3,49**	59
	Technical	3,21	126
	Total	3,25	339

3.6. *Work hypothesis 5:* in terms of *didactic experience*

Metacognitive competencies	Didactic experience	Mean
planning and presenting an individual project	No didactic experience	2,81
	Didactic experience	3,20
	Total	2,88
planning and presenting a scientific paper	No didactic experience	2,32
	Didactic experience	2,71
	Total	2,38
planning a learning system	No didactic experience	2,77
	Didactic experience	3,37
	Total	2,88
follow a learning system	No didactic experience	3,04
	Didactic experience	3,31
	Total	3,09
assessing a learning system	No didactic experience	2,81
	Didactic experience	3,14
	Total	2,87
material structure	No didactic experience	3,19
	Didactic experience	3,54
	Total	3,25

IV. CONCLUSIONS

- 1. University professors must be empowered with the modern teaching approaches in view of the higher value on the powers of oneself in the 21st century.
- 2. organization with students of "learning workshop" to improve their techniques of efficient learning.

CONCLUSIONS (2)

3. **Dissemination and generalization of the acquired experience**:

- organization of a workshop for the students and teaching staff (30 oct. 2010);
- organization of a symposium on the university pedagogy issue *The focus of the educational process on the students` needs and interests. Modernization directions of the teaching – learning –evaluation process within higher education* (20 nov. 2010);
- elaboration and the publication of a guide about efficient learning;
- setting up a Regional Center of Pedagogical Pedagogy (RCUP) for the north-east developing region.

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- Thank you!
- Questions?