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**CURRICULAR ORGANIZATION OF PEDAGOGICAL STUDIES PROGRAM FOR
THE TEACHING CAREER IN ROMANIA FROM THE PERSPECTIVE OF
UTILIZING THE INFORMATION AND COMMUNICATIONS TECHNOLOGY**

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Abstract: *Modern society is increasingly dependent on the communication and information technology. Teachers' preparation cannot ignore matters such as the increasing threat of trading, development of the impact of Communication and Information Technology nor the requirement for sustainability. Under this context we have considered useful to present in this article the results pertaining to a section of a much wider research, having as main object the Romanian teaching professionals initial training process by means of study programs organized within universities. We have chosen to illustrate the section referring to the ICT utilization frequency under the initial training programs designed for the teaching career on one side, and the importance given to ICT in the context of initial training for the teaching profession on the other side. The research, performed between 2010 and 2011, has an observational – improvement character. Looking at the matter methodologically, as per investigation techniques we have used documentary analysis and questionnaire based investigation on subjects belonging to two target groups: academic teaching professionals and students. The two samples were representative for the target population. From the literature review we have extracted all mentions referring to the introduction of the discipline of Computer assisted learning in the curriculum for the initial training of teachers in 2008. We have projected the investigation instruments considering problem identification and solution finding in relation to multiple facets of the teaching profession training. In the present article we have presented only elements related to the curriculum organization of the teaching study program designed for the teaching career in Romania from the perspective of ICT utilization. From the questionnaire applied to the academic teaching professionals we have extracted the item through which we have requested opinions on the utilization situation of ICT in the training of teaching professionals. From the questionnaire applied to the students we have extracted the item through which we have requested opinions on the importance given to certain subjects in the initial training as future teachers, including topics among which we have also included new technologies skills development. The results emphasize both the opinions of the trainers as well as the opinions of the beneficiaries of the training system.*

Keywords: *teacher, training, ICT, curriculum organization*

I. INTRODUCTION

Modern society is increasingly dependent on *information and communication technology*. A new dichotomy therefore appears between people who have or do not have access to it. Currently, almost 40% of the EU people with ages ranging between 16 and 74 do not know to how to work on the computer and more than 30% have never used a computer. Europe can not afford to have a workforce insufficiently trained and such knowledge of ICT is necessary to all. The role of education is to prepare trainees and allow them to use ICT efficiently and to prevent a disruption for the future development of the society. Teachers' training cannot ignore matters such as the increasing threat of

trading, increasing the impact of *Information and Communication Technology* and the requirement for sustainability. As society has higher expectations from schools, teachers must be prepared to face these problems. Teachers are not only essential by their contribution to the critical reflection on the society; nevertheless they will also have to prepare their trainees to adapt a reflexive approach similar to their own environments. From this perspective, education and the professionals involved must remain independent. Therefore, one of the main responsibilities of the civil society is to provide funding and protect education as a public service.

ICT becomes a major factor in the current societies and bears an inevitable aspect of everyday life especially for children and youth. It can also be a useful tool for learning activities. Teachers must not only be aware of the growing impact of the new technologies, but they also have to creatively use the offered opportunities and disapprove of their limitations. A recent EU survey showed that over 90% of teachers use classrooms equipped with computers for the preparation of lessons and 74% also use them as a teaching support, although there are differences between countries ranging from 95% in the UK to 35% or 36% in Greece and Latvia. The survey though offered no information on the extent to which ICT was used for specific educational purposes.

If humanity hopes to survive, its only chance is to maintain a *sustainable environment*. Again, education must raise awareness of the trainees towards sustainability and get them sufficiently critical and serious for public relations exercises that have little in common with effective sustainability. This is what contributes to the survival of various life forms that we currently know and that we are supposed to protect for future generations.

Under this circumstance we find it useful to introduce in this article part of the results from a much broader research targeting the Romanian teaching professionals initial training through study programs organized within universities. We chose to present this section referring to the use of ICT in initial training programs for the teaching career on one side and for the connotation given to ICT in the context of initial training for the teaching profession on the other side.

II. RESEARCH METHODOLOGY

The research, performed between 2010 and 2011, has an observational – improvement character. Viewing the matter methodologically, as per investigation techniques we have used literature review and questionnaire based investigation of the subjects belonging to two target groups: academic teaching professionals and students.

From the literature review we have extracted all mentions referring to the introduction of the discipline of *Computer assisted learning* in the curriculum for the initial training of teachers in 2008.

We have projected the investigation instruments considering problem identification and solution finding in relation to multiple facets of the teaching profession training. Next we shall present only the elements related to the curriculum organization for the psychological-pedagogical study program designed for the teaching career in *Romania from the perspective of ICT utilization*. From the questionnaire applied to the academic teaching professionals we have extracted the item through which we have requested opinions on the utilization situation of ICT (information and communication technology) in the training of teaching professionals. From the questionnaire applied to the students we have extracted the item through which we have requested opinions on the importance given to certain subjects in the initial training as future teachers, topics among which we have also included new technologies skills development.

III. LITERATURE REVIEW

An element of novelty and at the same time an element of alignment with the requirements imposed by European educational policies was, in 2008, the introduction of *Computer assisted*

learning subject to the curriculum for initial training of teachers, as mandatory requirement, having 14 hours of lecture and 14 hours of seminars, thereby ensuring that teachers and their students by default, have access to information and communication technology close to the level of the contemporary developments.

For a long period of time an unfortunate situation was recorded in the Romanian education system, due to the fact that there was no monitoring during the initial training as to the future teachers attainment of skills specific to teaching and learning using information and communication technology.

Very few students - future teachers learned in the initial training stage of their career how to use audio - visual technical means, how to handle the equipment or use the computer in the process of teaching - learning, these skills being most of the times the result self-study acquired by trial and error. On the other hand the technical - material equipment of the educational institutions has been for a long time below the level of the recent requirements or practices in other countries.

Therefore, this category of skills was rare among the line of teachers, most of them showing restraint, clumsiness and finally refuse towards using the technical and information technology instruments in the classroom.

Pupils were thus deprived of technological education, of the intuitive, practical or movement character that some learning activities offer, the benefits of modern audio - visual teaching resources. Computer specialists have tried over time to engage students in using computers, but without creating skills for the future teachers that would encourage the inclusion of the computer in the teaching – learning – assessment process, as a means of education.

IV. QUESTIONNAIRE-BASED SURVEY RESULTS

4.1. Surveyed population

We have applied the survey tools to representative samples of the two target populations. Thus, the research was performed on the following two samples: sample of students, comprising 569 subjects and sample of academic teaching professionals within DTPT, comprising 196 subjects.

4.2. Sample validation

As a result of applying the tools to the two projected samples and of the response rate, we have attained the following sample validation results. Within the research we have included subjects pertaining to 23 sampling units, the two working samples showing structure in table number 1.

Table 1. Sample of teaching professionals from universities and students

No.	Higher education institutions where initial training programs are organized for the teaching career	Teaching staff		Students	
1	Academy of Economic Studies FROM Bucharest	4	2.0%	12	2.1%
2	"1 Decembrie 1918" University Alba Iulia	13	6.6%	28	4.9%
3	"Babes Bolyai" University Cluj-Napoca	4	2.0%	43	7.6%
4	"Dunarea de Jos" University Galati	10	5.1%	42	7.4%
5	"Ovidius" University Constanta	9	4.6%	16	2.8%
6	"Petrol-Gaze" University Ploiesti	7	3.6%	13	2.3%
7	"Politehnica" University of Bucharest	9	4.6%	26	4.6%
8	"Spiru Haret" University Bucharest	12	6.1%	96	16.9%
9	"Stefan cel Mare" University Suceava	10	5.1%	13	2.3%
10	"Titu Maiorescu" University Bucharest	6	3.1%	0	0.0%
11	"Valahia" University Targoviste	13	6.6%	41	7.2%
12	"Vasile Alexandri" University Bacau	12	6.1%	21	3.7%

13	University of Bucharest	8	4.1%	30	5.3%
14	University of Bucharest - Sociology-Psychology	9	4.6%	26	4.6%
15	University of Craiova	5	2.6%	6	1.1%
16	North University Baia Mare	8	4.1%	44	7.7%
17	"Vasile Goldis" West University Arad	16	8.2%	13	2.3%
18	West University Timisoara	12	6.1%	16	2.8%
19	Ecological University Bucharest	3	1.5%	4	0.7%
20	National Arts University Bucharest	5	2.6%	10	1.8%
21	National Music University Bucharest	4	2.0%	9	1.6%
22	University of Oradea	5	2.6%	21	3.7%
23	University of Pitesti	12	6.1%	39	6.9%
Total		196	100.0%	569	100.0%

Taking into account the representativeness targeted through the design of the sample referred to the distribution on the main academic specialisation fields that train the teaching professionals, validation of the sample from this perspective confirmed the student sample representativeness both in terms of academic domains (D01-D06), and in terms of its completeness, with reference to other fields in which the **TPTD** courses were taken. The Chi square coefficient values are lower than the table values for 5 (Hi-p=11.07), respectively 6 (12.59), with a probability of 95% and a selection error of 5%. Student sample distribution according to fields of study is shown in table number 2.

Table 2. Student sample distribution according to fields of study

	Location size	Projected sample	Sample	Chi square
D01	mathematics-computer studies	78	44	
D02	sciences	78	75	
D03	romanian language-modern languages	156	150	
D04	socio-human	156	154	
D05	physical education	78	57	
D06	arts	52	51	9.00
D07	technical /economic	52	38	9.80
		569	100.0%	

The sample unit structure represented by the 196 academic teaching professionals confirms the average selection of 10 subjects per sample unit, as methodologically indicated. Consequently, both samples are representative of the target population. The diversity of structures resulting from the analysis of the target population features allows us to state that the results (information / opinions) obtained by applying questionnaires reflects the diversity of opinions as regards of situations / conditions / social - educational environments / training levels etc., that describe the education system.

4.3. Questionnaire-based survey results

The results highlight both the views of the trainers as well as the opinions of the ones profiting from the training system. The 196 people of the academic professionals questioned were requested opinions on the situation of ICT in teachers' training, by providing them with the following options: systematic and extensive usage under the programs of initial training; reduced usage especially due to the lack of equipment (computers) and necessary training; still do not use ICT for the teaching activities.

The share of responses is shown in table number 2.

Table 3. The share of responses

Items	Total	%
1	156	79,6%
2	35	17,9%
3	3	1,5%
NA	2	1,0%
Total	196	100,0%

From the analysis of the academic professionals responses results that about 80% (79.6%) of these believe that ICT is used systematically and extensively in the initial training programs for the teaching profession. Other nearly 20% of the academic staff respondents consider that the reduced usage of ICT is especially caused by the lack of equipment (computers) and training needed.

These responses may be correlated with data from the literature review, which show that the educational institutions technical and material endowment has long been below the level of requirements or current practices from other countries. However, results show that the share of academic professionals using ICT has increased greatly in the past years. The share of academic professionals still not using ICT within their teaching activities is insignificant, respectively 1.5%.

The students questioned were asked for their opinion on the importance given to certain topics in their initial training as future teachers, among which we have also considered the development of new technologies usage skills, offering them the following options: subject they teach; teaching – learning – assessment methodology; training activities for special needs children; school / education management; school – family – community cooperation; social and cultural aspects of education, ethics, etc.; inter-cultural education, human rights education; learning / thorough studying a foreign language; developing skills to use new technologies; developing communication skills;

In table 4 the results of student responses are presented.

Table 4. The results of student responses presented percentage.

	Topics related to	Very important	Important	Average importance	Less important	Barely important	NA	Average
	Score	5	4	3	2	1	0	
1	Subject they teach	67,3%	15,6%	10,9%	1,1%	1,4%	3,7%	4,353
2	Teaching – learning – assessment methodology	56,8%	30,1%	4,4%	1,8%	2,1%	4,9%	4,228
3	Training activities for special needs children	44,5%	27,4%	16,2%	3,2%	1,8%	7,0%	3,886
4	School / education management	32,5%	32,9%	23,0%	3,2%	1,4%	7,0%	3,708
5	School – family – community cooperation	49,9%	23,4%	15,6%	2,8%	1,8%	6,5%	3,974
6	Social and cultural aspects of education, ethics, etc.	35,0%	33,0%	19,0%	4,9%	1,4%	6,7%	3,752
7	Inter-cultural education, human rights education	33,9%	31,6%	20,7%	5,3%	2,1%	6,3%	3,710
8	Learning / thorough studying a foreign language	51,3%	29,3%	6,5%	4,2%	2,3%	6,3%	4,042
9	Developing skills to use new technologies	43,2%	31,6%	13,5%	2,6%	1,1%	7,9%	3,896
10	Developing communication skills	63,6%	22,7%	3,9%	1,9%	1,4%	6,5%	4,257

From the analysis of students' responses it results that almost half (43.2%) of them consider the development of skills to use new technologies as for being very important for their development as teachers, compared to the following group representing over 30% (31.6%) who consider it important.

The share of students who consider developing skills to use new technologies as for being less important or barely important is very small, respectively 2.6% and 1.1%.

Amongst topics such as: subject they teach, teaching – learning – assessment methodology, training activities for special needs children, school / education management, school – family – community cooperation, social and cultural aspects of education, ethics, etc., inter-cultural education, human rights education, learning / thorough studying a foreign language, developing communication skills, in the opinion of the students surveyed, the development of skills to use new technologies, on a scale of ten points is given the importance of six points, with an average of 3,896, number located between a maximum of 4,353 and a minimum of 3,708.

V. CONCLUSIONS

The research shows that most teachers (80%) of the higher education system, who train future teachers, use ICT in their teaching activities. The percentage of those using ICT less (about 20%) or not using it at all (1.5%) is small and, by correlation with data from literature review, the clarification is given not by the lack of skills in the field, but by the poor technical equipment of some **DTPT**.

Moreover, the majority of students attending **DTPT** courses (70%) consider of great importance the development of skills to use new technologies in correlation with their training for teaching careers.

The answers to questions may be correlated with the data from the literature review, presently showing that under the initial training for the teaching profession a high importance is given to ICT field, assertion strengthened by the introduction in 2008 of the *Computer assisted learning* subject in the curriculum for initial teacher training, as mandatory, with 14 hours of lecture and 14 hours of seminars. By this measure teachers and pupils by default are ensured access to information and communication technology to a level close to the contemporary developments.

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