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PEDAGOGICAL ASPECTS OF TEACHING WITH MODERN TECHNOLOGIES IN SCHOOL

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Abstract**:** The study presents practical and theoretical research in the field of the ICT pedagogy. Previous studies do not provide a conclusive answer to the question of how ICT fits into pedagogical concept of teaching.

For the purpose of the study, a survey and interviews were applied. The participants were the lecturers in the field of educational sciences at the Albanian universities. The authors emphasize the necessary shift that needs to be made out of the "traditional" pedagogy toward its adaptation to the conditions of the modern, ICT-based teaching. The authors propose the idea of including a special module for future teachers that would teach them how to integrate ICT in classrooms.

Certain recommendations are given that could serve as guidelines for improvements in teacher ICT competences.

Keywords**:** teaching, ICT, pedagogy, e-pedagogy.

Historical overview of education in Albania

Education in Albanian language dates from March 7, 1887 with the creation of the "first Albanian school" and continues with the contribution of the National Renaissance. After Albanian Declaration of Independence , there were changes in education system in order to make it more similar to those in other European countries. Different pedagogical theories were applied at different times: Herbart's works, behaviourist theories, pragmatic, constructivist and developmental ones.

The required schooling period for pedagogues was prolonged after the Second World War to last 2, and later 3, years at the State University of Tirana. In the field of pedagogy this period is characterized by the dominant influence

of Soviet pedagogy that put the emphasis on the works of Pavlov or Makarenko, without mentioning Vygotsky prior to the nineties.
In the seventies the first computing centre was established as a part of the Faculty of Science at the State University of Tirana[1]. At the same time, Math teachers were educated in the Computer Science courses and afterwards employed by the University to teach Computer Science. The influence of Math teachers was much more intense then the influence of the pedagogical ideas at the time.

The nineties represent an era of Albanian opening in political, economic and social sense, which effected the education as well. New pedagogic ideas started to be imported from the West. Some of the important projects are definitely the project called e Schools[2] and the one named World Bank for Education in Albania (Excellence and Equity in Education). These projects focused on the training of teachers and principals, preparation of virtual labs, a CD (Full set for ll cycles 1, 2, 3) with the instructions for computer-–based learning, as well as the ongoing projects in the relevant infrastructure (PC, smart board, networks, Internet) and associated training in schools at all levels.

In the academic year 2008/2009, the Education Technology in Curricula of Pre-School and Elementary Education for Bachelor's degree was introduced at the Faculty of Education (University of Shkodra "Luigj Gurakuqi"). It involves courses such as Information and Communication Technology in teaching and learning, as well as Professional Master Program (in all the branches that prepare teachers for a job in education). We emphasize that the syllabus of these courses is also valid for the Scientific Master Program for Teaching.

Some reflections on e-pedagogy

The importance of ICT is evident at all levels of education. Since the development of ICT is not accompanied by the appropriate pedagogy, there is a need to adjust ICT teaching and learning to the requirements of the pedagogical science in order to make it more effective. Since there is also a lack of a pedagogy in line with special features of ICT, the so called e-pedagogy, as a branch of education science could provide some guidelines.

According to Sourmeli-Skotinou (2008), the term “e-pedagogy” refers to a recent human endeavour representing an embryonic situation which is not yet an established scientific field unlike the more traditional disciplines. Hence, it is still premature to consider it an established discipline. Yet, if we consider various issues involved and the practices that have emerged during the last few

[1]Faculty of Natural Sciences of State University of Tirana (http://www.fshn.edu.al)
[2]http://www.mash.gov.al

years, it is indeed a challenging opportunity to investigate is the current situation. Furthermore, it is worth presenting some thoughts in an effort to set the basis for discussion and reflection of how to move forward, aiming at effectiveness in utilising the power of the new technologies in the area of education. The same author defines e-pedagogy as the pedagogy which is based on the use of ICT as a means for learning**.**

Since ICT was introduced in schools, teachers' role has significantly changed. They are perceived as coaches and facilitators in the new learning environment with tendencies to be more collaborative. Jones (1999) adds that the collaborative group work needs to be carefully set up and orchestrated to achieve desired results and despite this may still end up as a rather quiet collaborative exercise not comparable with direct face-to-face equivalent group work. Also, a recent report (Britain and Liber, 2004) concludes that amongst the factors that are slowing the uptake is the lack of a coherent framework within which to evaluate both the pedagogical benefits and the organisational changes required to effectively implement it.

The above mentioned issues have contributed to formulation of Lisbon Agenda in 2005, which also proscribes obligations for the European countries. Sourmeli-Skotinou (2008) points out that the adapted agenda calls for a strong and fundamental effort to equip the European citizens at all levels with the right knowledge, skills and attitudes, and society at large with a full understanding why this is needed. It is recognised that the present education and training systems are not completely equipped to face this challenge through conventional learning methods. A substantial amount of learning innovation will be required for which the knowledge base is only fragmentary now.

In a similar reflection, Torstein Rekkedal and Svein Qvist-Eriksen (as cited in Sourmeli-Skotinou, 2008) observe that terms such as ‘e-learning’ are dominating the educational scene. But they stress that learning is an activity or process of a change in person’s perceptions, attitudes or cognitive, physical skills. It cannot be ‘electronic’ (if that is what e-learning is supposed to stand for). E-pedagogy might broadly be defined as ‘learning design that incorporates educational quality, values and effectiveness of teaching, learning and assessment activities supported by technology’. On the one hand, one might argue against a separation of e-pedagogy from any other pedagogy. On the other, research and evaluation literature suggests that new modes of teaching and learning are emerging through the use of online networks, access to remote experts and, more recently, mobile technologies.

The terms e-learning and e-pedagogy deserve to be analysed. For instance, the term e-learning seems to be used to convince users that some supernatural things happen with your brain when you place yourself in front of a computer screen. However, in the real world this miracle is very unlikely to

happen, as learning is mainly hard work. Most examples of e-learning programmes seem to be extremely costly to develop and most often cover low-level knowledge and facts based on a simplistic view of what learning is (Dichanz, 2001).

We are used to talk about e-commerce, e-health, e-government, e-learning, etc. They are nothing but a trade, health, governance, which is realized in the digital environment with electronic tools. Accordingly, the authors feel the difficulty of implementing modern technologies in teaching ICT. It can be made easier by" e-pedagogy", understood as a pedagogy being realized in the digital area with the tools of this area; or as a pedagogy of e-learning that is used in different forms (Bushati 2010).

The link between e-pedagogy and e-learning is very close and their existence depends on mutual development. Lewis and Whitlock (2003) conclude that e-learning is playing an increasing part in the lives of learners, learning and training organizations and Knight (2003) describes e-learning as the catalyst that is changing the whole model of learning in this century.

Methodology

The aim of the study is firstly to determine the current level of training in the area of Pedagogy and Information and Communication Technology of teachers/lecturers. Secondly, we want to collect some suggestions from the respondents on how to make future improvements in education by using ICT in teaching and learning. Thirdly, some conclusions are drawn and recommendations suggested.

Research techniques applied are written questionnaires and additional oral interviews with some participants of the study. Participants of the study were teachers/lecturers (including leadership of schools) in Shkodra Regional Directorate of Education, and other institutions related to education.

The study focuses on education of the Shkodra District with a population of 250 000 inhabitants. There are various types of schools: pre-school, elementary school, 9-year education, general secondary schools (grammar schools) and vocational educational training schools, both public and private and the University of Shkodra "Luigj Gurakuqi[3]", as the only public university in northern part of Albania (population of over 1.5 million inhabitants).The following table shows how the number of teachers and students is distributed in the Shkodra Region, according to Shkodra Education Office[4].

[3]University of Shkodra "LuigjGurakuqi "http://www.unishk.edu.al
[4]Sourse: Shkodra Regional Directorate of Education: http://www.darshkoder.com

	Public Pre-School	Private Pre-school	Public El. school	Private El. school	Public 9-year school	Private 9-year school	Public Grammar school	Private Grammar school	Public Voc.ed.school	Private Voc.ed.school
Students	2923	433	11352	1357	611	167	4885	1638	1678	147
Teachers	151	24	611	167	862	65	244	155	213	29

Table 1: Students, teachers in Shkodra Region (ShkodraEducationOffice)

Our study is based on these groups of participants:

- Teachers/educators of pre-schools.
- Teachers of elementary schools (low cycle of education).
- Teachers of 9-year schools.
- Teachers of secondary schools (general education/gymnasium + and vocational educational training).
- Students of Branches of Education at Faculty of Education in two cycles Bachelor and Master Professional/Scientific.
- Academic staff of university.

Based on the age criterion, participants are divided in four categories: younger than 30, 31-40, 41 – 50, older than 51.

Results and discussion

The results suggest that the teacher training in ICT is not unified; some teachers acquire their qualifications through the projects such as "e-schools project", "World BankProject", "Albania in the age of the Internet", etc. while others do it in different ways.

The previous study of SHIS Albania (2007) [5] shows that only 12% of ICT teachers come from the field of pedagogy or psychology of education i.e. teaching/learning. The findings implicate the need to combine ICT and pedagogy in a more systematic way, Shkodra DAR[6]. The lack of thorough studies in this area is a problem that needs to be overcome by Albanian research institutions.

[5]SHIS Albania: http://www.shis.org
[6]DAR Shkoder, Shkodra Regional Directorat of Education: http://www.darshkoder.com/

When it comes to the university level, there are two major scientific fields in which teachers are educated: pedagogy and ICT. The first one includes courses such as:

- Teaching interactive learning, methods for developing critical thinking
- Teaching with minimum objectives (OMDN)[7]
- Pupils with difficulties in pre-schools
- Roma pupils-integration in the primary education
- Environmental education
- Training for meaning of reliable school
- Lesson planning for the organization of a class, the methods, materials, additional instruction, organization and use of laboratory tools, etc.

From the second area, some of the courses are:

- Integrating information and communication technology in the learning process
- Standards for head teachers for ICT integration in teaching and management of school
- Standards of teacher for ICT integration in teaching
- Teacher training for basic concepts of ICT in secondary education and for capacity building in ICT, the use and integration within the curriculum
- Training teachers on the platform LCDS for digital content development of the teaching
- Creation of digital libraries for elementary and secondary education "under the agreement "Pil Agreement[8]" and the World Bank for Education in Albania (Excellence and Equity in Education), the MoES & MICROSOFT
- Support for the introduction and implementation of ICT training in vocational schools
- Training related ECDL[9], where teachers are accredited after testing in Tirana a European Certificate (seven modules: Windows, Word, Excel, Power Point, Access, Outlook and Internet)
- Training the basic knowledge of using Windows and Office package, Internet
- For maintenance of computer and computer networking & Internet
- Training for smart boards, and etc.

Apart from information about training, publications the in the area of ICT education are important, produced by ISSETI[10], Irisoft[11], AlbVET[12] etc.

[7]OMDN (Necessarily Minimum Targets Necessary)
[8]http://www.pilef2012.com
[9] ECDL: http://www.ecdl.com/
[10] ISSETI:http://www.isseti.org
[11] Irisoft: http://www.irisoft.info
[12] AlbVET: http://www.albvet.al

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They state that Albanian education is currently in the process of meeting the requirements regarding the necessary infrastructure.

There is a significant difference between private and public schools. Central institutions responsible for education and training, do not feel the same responsibility for both parties, by not being seen as complementary forms of education. Although private education is still in its initial phase (it covers about 12-15 % of students), it provides various forms of training for their employees and students. The positive experiences may originate from the fact that some of those schools close ties with foreign European counterparts. Some private secondary schools (Austrian School „Private Vocational High School for Information Technology")[13], Hasan Riza Pasha College[14], Jesuit Grammar school in Shkodra" At Pjetër Meshkalla", have done numerous trainings with their staff: Pedagogical quality management, Module 2 and Module 3 training for teachers of Information Technology, Teacher Training in Informatics, Seminar of pedagogical quality management.[15]

Table 2 suggests that there is the smallest percentage of pre-school teachers that have completed training in Pedagogy, or ICT. The biggest percentage of teacher is found in vocational training schools for ICT as well as Pedagogy. The smallest difference (4%) in respect to ICT versus Pedagogy is found in elementary schools, whereas the biggest difference (31%) is detected in vocational schools.

There has been an increase in the teacher training manly in ICT after the year 2000, and significant progress was made after realization of the e-school project.

It seems to us that the ICT training is becoming more connected with pedagogical principles of teaching and learning, i.e. e-pedagogy. The contemporary trainings are already working on virtual labs[16], a virtual learning CD[17] and a full set

[13]http://www.htl-shkoder.com/al/startseite/weblogs/
[13]http://sq.wikipedia.org/wiki/Ish-kolegji_saverian,_Gjimnazi_%22At_Pjet%C3%ABr_Meshkalla%22
[14]http://www.gulistan.edu.al
[15]http://www.htl-shkoder.com/al/startseite/weblogs/
[16]http://www.fshn.edu.al/projekte/lab-virtual
[17] Infosoft Software Developer http://www.isd.com.al

of three CDs that correspond to Elementary Education, 9-year Education and Secondary Education.[18]

	Pre-school	Elementary school	9-year schools	General secondary schools (grammar schools)	Vocational educational training schools
% of trainings for Pedagogy	9	12	18	20	21
% of training for ICT	14	16	32	50	52

Table 2: Percentage of teacher training in Shkodra Region.

The participants of the study were asked to fill in a questionnaire containing questions about the following topics:

- Trainings that are done in the area of Pedagogy during last decade
- Trainings that are done in the area of ICT during last decade
- How do you consider your knowledge in the field of pedagogy to help you to treat topics and disciplines, explanation of which relates with ICT.
- What are your needs in the field of training related to pedagogy?
- What are your needs in the field of training related to ICT?

Next to the first three questions participants were offered a five-point Likert scale to mark their estimates as very little /little/ some/good/ very good.

The younger generation of teachers (younger than 40) make up 38% of the academic staff of the State University in Tirana and they do not see the need for additional training in ICT but they state that they lack teaching experience. The average age of academic staff is 50, and there are 66 % of women. The age group of 51 and older, claim that they need ICT training. Those who are older than 60 lack the ICT the most, but have very rich pedagogic experience.

The first generation of students who finished classes at the Faculty of Educational Sciences, the course Education Technology (ICT in teaching and learning was integrated in their Curricula) in particular, have not yet graduated on the Bachelor level or the Masters Professional Programs and Scientific.

[18] Infosoft Software Developer http://www.isd.com.al

Conclusions and recommendations

From the results of our research we draw certain conclusions referring to two stages of education: Pre-university Education and University Education. The pre-school and elementary education (K1-K5) is the least involved in both trainings (ICT and Pedagogy) and it lacks modern infrastructure. The new regulation wants to include grade six (K6) in it and to include ICT in the second grade (K2). The future is to incorporate ICT in the ABC classes for the first-graders by using multimedia ABC materials alongside print textbooks.

The recommendations for improvements include the following points. The existing infrastructure and staff competence (in pre-school and elementary education) in ICT should be evaluated. Teachers should be offered more ICT trainings that incorporate the principles of e-pedagogy. The trainings should be organised for all teachers to suit their professional needs. More investments should be distributed to pre-school and elementary education. The same applies to nine-year education (K6 – K12).

When it comes to university education, lecturer's competence in their own subject is not always accompanied by the pedagogic knowledge of how to teach. In order to change that, we recommend several steps. The first is the integration of module "Education and Contemporariness" into university curricula. Secondly, e-pedagogy is to be added as a new discipline to modern pedagogy. It will result in a combined module "ICT and Education". It should be a part of third or fourth year, after students have acquired knowledge of educational psychology and theory of education. The changes at the university level are needed because of the Bologna process and the involvement of ICT in the sixth grade.

Challenges for the future

E-pedagogy should be incorporated in ICT training for the teaching staff. In order to change the current situation in Albania, not only governmental efforts but also the efforts of NGOs as well as local and foreign foundations, Regional Education Directorates to the Ministry of Education and Science[19], Institute of Education Development (IZHA)[20] should be made.

[19]Ministry of Education And Science/Ministria e Arsimit dhe e Shkences (MASH): http://www.mash.gov.al

[20]Institute of Education Development/Instituti i Zhvillimit te Arsimit (IZHA): http://www.izha.edu.al IZHA's mission is to provide to the Ministry of Education and Science, and educational institutions of all levels, expertise and advice with high professional level, based on results of research work-study and practice of education

The imperative now is to introduce the state exam for regulated professions[21]. The state exam for teachers is monitored by the National Examination Agency[22], and ICT tests should be incorporated in it. ICT develops rapidly but its pedagogical aspects have still not been researched enough [23] and e-pedagogy is still not anticipating the future progress of ICT. In the end, we would like to conclude with the following words:
Let`s turn our eyes to the students of education:

They are the future of our teachers,they will prepare generations of tomorrow,they hold in their hands the destiny of our future[24].

References:

1. Britain, S. and Liber. O. (2004). ", **JISC-commissioned report. Available online:** http://www.jisc.ac.uk/index.cfm?name=elearning_pedagogy
2. Dichanz, H. (2001). E-learning, a linguistic, psychological and pedagogical analysis of a misleading term. Paper presented at the 20th ICDE World Conference in Düsseldorf 2001
3. Jones, C. (1999). 'From the sage on the stage to what exactly? Description and the place of the moderator in co-operative and collaborative learning', ALT-J, 7(2), 27-36.
4. Knight, J. (2003). "Why is E-learning so important?" Retrieved on 10th January 2012 from http://labsel.pesarosviluppo.it/docindexer/Uploads%5C207-Why%20is%20e.doc
5. Lewis, R. and Whitlock, Q. (2003). *How to Plan and Manage an E-Learning Programme*. Aldershot: Gower
6. Sourmeli - Skotinou, K. (2008). E-Pedagogy:The state of the Art Retrieved March 13, 2009,
7. from Cyprus Computer Society, Wikispaces: file:///E:/My%20Documents/
8. Active%20learning/E-pedagogy.htm.
9. Rekkedal, T. and Qvist-Eriksen, S. (2003) 'Internet Based E-learning, Pedagogy and Support Systems' Retrieved 24th February 2012 from http://learning.ericsson.net/socrates/doc/norway.doc

[21]National Examination Agency (KPA) is a special institution for the organization, oversee in educational reform is sues, quality assurance in the evaluation of their acceptance in higher education, and examinations and has a technical function, professional, supportive and recommending policies and organizational as sessment to the Graduation Examandthe State.
[22] National ExaminationAgencyhttp://www.akp.gov.al
[23]Mismatch in time of pedagogy as a discipline, is not related to her seniority, should not be required in its roots, but more with its traditional side and also that it are less predictive.
[24]From speech of Dean of Faculty of Education, University of Shkodra "Luigj Gurakuqi "http://www.unishk.edu.al

PEDAGOŠKI ASPEKTI PUČAVANJA POMOĆU SUVREMENE TEHNOLOGIJE U ŠKOLI

Sažetak**:** Rad predstavlja teorijsko i empirijsko istraživanje u didaktičkom području poučavanja uz upotrebu informacijskih i komunikacijskih tehnologija (ICT). Prijašnja istraživanja nisu ponudila jednoznačan odgovor na pitanje kako se ICT uklapa u pedagoški koncept nastave.

U istraživanju je primjenjeno anketiranje i intervjuiranje sveučilišnih nastavnika u Albaniji koji proučavaju odgoj i obrazovanje kako bi se istražila potreba za promjenama u tradicionalnoj pedagogiji u skladu sa suvremenim tehnologijama.

Radom se zagovara zamisao o uvođenju posebnog modula za poučavanje uz upotrebu ICT na pedagoškim fakultetima.

Daju se smjernice za ostvarivanje stjecanja nastavničkih kompetencija u području ICT.

Ključne riječi: poučavanje, ICT, pedagogija, e-pedagogija.

PÄDAGOGISCHE UNTERRICHTSASPEKTE MIT HILFE MODERNER TECHNOLOGIE IN SCHULEN

Zusammenfassung: Dieser Beitrag stellt die theoretische und empirische Forschung im Bereich des didaktischen Unterrichts mit Hilfe von Informations- und Kommunikationstechnologien (ICT). Frühere Studien haben keine klare Antwort auf die Frage gegeben, wie die ICT in denn pädagogischen Unterrichtskonzept passt. In der Studie wurden Umfragen und Interviews mit Hochschullehrern in Albanien angewendet, die die Erziehung und Bildung erforschen, um die Notwendigkeit für Veränderungen in der traditionellen Pädagogik im Übereinstimmung mit moderner Technik zu untersuchen. Der Beitrag befürwortet die Idee der Einführung eines separaten Unterrichtsmoduls mit dem Einsatz von ICT an pädagogischen Hochschulen.

Es werden Richtlinien für die Realisierung des Erwerb der Unterrichtskompetenzen im Bereich der ICT zur Verfügung gestellt.

Schlüsselbegriffe: Unterrichten, ICT, Pädagogik, e-Pädagogik.