Harmonization of the Preuniversity Programs of Information and Communication Technology, in compliance with EU market needs

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Abstract

This research paper is focused on the role of ICT and e-learning education/literacy as a key component on the Education System of the transition countries. It investigates the importance of ICT and e-learning literacy and their impact on: curriculum development and implementation, Student/Learner-centered teaching/learning, Competency-based approaches, Integrated teaching and learning, Flexibility and mobility, Transparency and accountability.

The research explores whether e-learning and ICT can enhance the competency-based curriculum in Kosovo within the new revised Curriculum Framework. The primary research is based on experiences and the level of inclusion of ICT education within the actual 2001 Curriculum Framework (White Discussion Paper), and on the result of intensive and dedicated 12 months work of Kosovo State Curriculum Council (KSCC) that is closely involved in the development of the 2010 version of the Kosovo Curriculum Framework.

The paper also looks at the effects of ICT literacy in all main features of the curriculum stages and their result with Student Personal development of key competencies such as: communication and expression, thinking and learning, Life-, work-, and environment-related competencies etc.

Finally, the research shows that the ICT and e-learning literacy of teach+ers needs to change and academics need to embrace new technology since Kosovo society is now reconnected to the most recent developments in science, technology and culture.

Keywords: ICT, literacy, Education, Curriculum

Introduction

ICT and e-learning literacy is one of the responses to the challenges that aims at providing a foundation to increase the quality and equity of education services for all students, and to reconnect the education system with trends and issues linked to recent education reforms in other progressive systems.

An earlier Curriculum Framework was developed in 2001 by the UNMIK Department of education and Science- Core Curriculum Team, with the support of UNICEF Kosovo (the then "lead agency for curriculum development") in the context of the UNMIK administration of Kosovo. The "*2001 Curriculum Framework*" was meant to set the basis for a coherent and quality functioning of our system in line with principles such as learner-centeredness, flexibility and inclusion. While defining a common "*core curriculum*" in terms of quality learning outcomes, it catered also for local needs and contexts through introducing a schoolbased part of the curriculum. Such changes, while in line with international effective education/curriculum policies

and practice may though have been too daring for those times. Despite a wide participatory process, the document was never made official.

Nevertheless, after 2001, although not formally implemented, it became a main reference document within the curriculum and education system and inspired processes of capacity building, syllabus development and teacher training. The 2005 evaluation by the London Institute of Education stressed the quality and value of the document for the overall enhancement of quality learning and learning outcomes in Kosovo. The evaluators urged the Kosovar education authorities to take appropriate actions for its revision and implementation in compliance with the new developments since 2001.

ICT literacy in Kosovo

The term ICT/digital literacy was popularized by Paul Gilster, who, in his book of the same name (Digital literacy) defined it as: the ability to understand and use information in multiple formats from a wide range of sources when it is presented via computers. The concept of literacy goes beyond simply being able to read; it has always meant the ability to read with meaning, and to understand. It is the fundamental act of cognition. ICT literacy likewise extends the boundaries of definition. It is cognition of what you see on the computer screen when you use the networked medium. It places demands upon you that were always present, though less visible, in the analog media of newspaper and TV. At the same time, it conjures

up a new set of challenges that require you to approach networked computers without preconceptions.

Not only must you acquire the skill of finding things, you must also acquire the ability to use these things in your life. (Gilster, 1997: 1-2)

Information and Communication Technologies (ICT) are part of our everyday life and permeate many activities, such as working environments, daily communications and relationships, handling of administrative affairs, etc.

They have become a basic priority and a key driver in politics, economics and -more significantly for this issueeducation. However, it is necessary to promote further digital equity in order to enhance social inclusion in/through this migrating process.

In 2007, the Ministry of Education, Science and Technology of Kosovo (MEST) issued its "*Strategy for Development of Pre-university Education in Kosovo 2007-2017*". Objective 4.2 of the strategy "*Fully functional system for ensuring quality learning built on standards comparable to those in developed countries*" refers to the revision of the Kosovo Curriculum Framework of 2001 as one of priorities of the MEST by 2010.
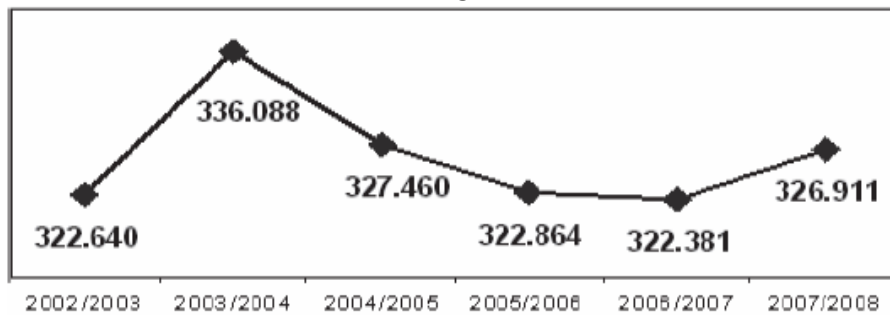
The 2010 Curriculum Framework constitutes the main reference document for the new cycle of reforms in the education system in Kosovo aimed at addressing these and other contemporary and future challenges. These challenges require that young people develop the capacity to use knowledge, skills and attitudes in the context of real world problem solving.

The Republic of Kosovo is the newest country in Europe, located in the middle of South-Eastern Europe. It declared its independence on 17 February 2008, after nearly ten years of United Nations (UN) administration and three years of internationally-mediated status talks.

Kosovo's population is estimated to be around 2 millions living in a territory of 10,908.1 km² (Statistical Office of Kosovo). The right to education is guaranteed for every citizen by Kosovo's Constitution and other applicable laws, where public institutions ensure equal opportunities for everyone in accordance with their abilities and needs.
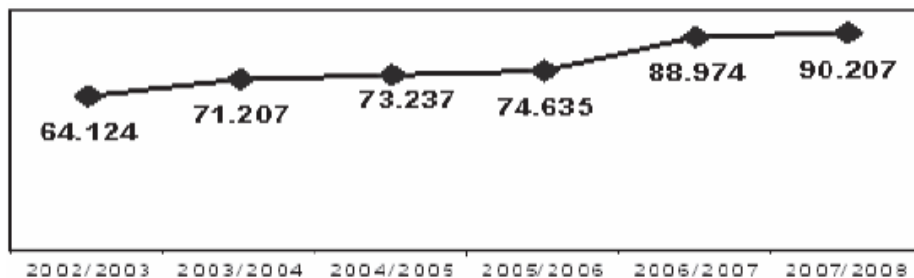
Kosovo is a young dynamic multi-ethnic society with almost one fourth of the population attending one level of formal education in any given year. To illustrate this, the two tables below indicate the number of students/learners in primary, lower high school and upper high school in Kosovo during 2002-2008.

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Figure 1. Number of students in primary and lower High School (secondary) in Kosovo during 2002-2008

336.088

327.460

326.911

322.640

322.864 **322.381**

2002/2003   2003/2004   2004/2005   2005/2006   2006/2007   2007/2008

Source: Statistical Office of Kosovo

Figure 2. Number of students in upper High School (secondary) education in Kosovo during 2002-2008

88.974   **90.207**

73.237   **74.635**

71.207

64.124

2002/2003   2003/2004   2004/2005   2005/2006   2006/2007   2007/2008

Source: Statistical Office of Kosovo

One of the most important achievements of the last few years is represented by the start of a real democratic process in Kosovo, as it pertains to the emergence of a new democratic power structure and democratic institutions. This relates to the revival of a civil society and the feeling of collective and individual dignity. Therefore, one of the main aims of education in Kosovo is the development of knowledge, attitudes and skills required by the exercise of a democratic citizenry. This will enable young people to engage competently in public affairs, and to be active and responsible citizens in a pluralistic and democratic society. Education for democratic citizenship will be provided with specific attention to the multi-ethnic and multi-cultural character of Kosovo society, so as to enable students to deal constructively and positively with issues of difference; and to cultivate and respect their own rights and the rights of others.

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The year 2010 has been declared the European Year against Poverty and Social Exclusion. This paper aims to contribute by presenting some advantages and opportunities afforded by Technology Enhanced Learning for social inclusion.

Kosovo society is now reconnected to the most recent developments in science, technology and culture. The way for a new dialogue between the Kosovo education system and other progressive education systems of the world now has a new chance. In this respect, another important aim of Kosovo education is to equip learners with valuable updated knowledge and instrumental skills which will help them cope with the challenges of a learning society, and of lifelong learning perspectives in an interdependent world.

Information and Communication Technologies (ICT) and e-learning literacy in Kosovo includes new tools and processes of accessing and processing information, as well as communicate it based on electronic means, such as computers, TV, Internet and other digital means [Virginia Steiner, 2004]. On the other hand, distance Education is instructional delivery that does not constrain the student to be physically present in the same location as the instructor. Historically, Distance Education meant correspondence study. Today, audio, video, and computer technologies are more common delivery

modes. Distance education is not simply the addition of technology to instruction; instead, it uses technology to make possible new approaches to the teaching/learning process.

Today all agree that most conceptions of digital inequity or the so-called digital divide need to be reassessed, as the sole provision of hardware, software and Internet access is not a guarantee of enhanced social inclusion.

In fact, we need to make sure that they are effectively integrated into communities, institutions and societies, and used by citizens in order to engage in meaningful social practices (Warschauer, 2003).

Information Age and the need for curriculum revision

When taking into consideration the Information and Communication Technologies development, professional analyses of Kosovar and international bodies, professional opinions of leading educators, as well as the opinions of students, parents, and other stakeholders, several reasons for a comprehensive curriculum reform in Kosovo were found:

The aims and objectives of educating young people through the Kosovo education system have to be clearly defined, in terms of serving as a basis for further curriculum development and as a reference for assessing and evaluating students' learning achievements.

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General orientations for teaching and learning in a formal education system have to be provided for teachers, parents, learners, developers of teaching and learning materials, evaluators and other stakeholders based on common framework.

  Students have to be equipped with knowledge and skills from the perspective of lifelong learning and of a learning society (especially through ICT). Due to the complexity of today's world, learning cannot be reduced only to the period of formal schooling, but has to be emphasized as a permanent dimension in a person's life.

There is a need to avoid learners being overloaded with irrelevant or outdated information/data and stimulated only with regard to the development of lower level intellectual skills. The new curriculum fosters a balanced approach in teaching and learning with regard to providing students with valuable and updated knowledge, while also helping them develop valuable skills and positive attitudes towards themselves, others, learning and life.

Schools and teachers should be encouraged to introduce and use new learning strategies, from the perspective of a learner-centered approach and of an interactive methodology.

The democratic changes in Kosovo society and its pluralistic character have to be reflected through the new curriculum.

The principle of school autonomy has to be cultivated through the new curriculum as well. The interdependencies of today's world, as well as new developments in the labor market, in terms of ensuring the pre-conditions for mobility and for enabling students to compete successfully in the local and international labor market have to be taken into consideration for the design of the new curriculum.

How to strengthen ict literacy in Kosovo?

ICT Literacy has become one of the main competences in this century. Without being able to use Information and Communication Technology effectively and responsibly the chances on the global market are very low. Nowadays more than 250 million Europeans are regular visitors to the Internet. Yet despite this encouraging figure, large sections of the population continue to be barred from the multiple new opportunities. But even those who are using the new ICT media regularly are not imperatively ICT literate. Information and Communication Technology literacy does not only mean that the people possess the technical infrastructure, it also means that they are able to maximize the possibilities these new technologies offer to them.ICT literacy can be seen as conceivable on three levels, we may approach ICT/digital literacy in the same vein, seeing it as operative first at the level of technique, of the mastery of digital competences, secondly at the level of thoughtful usage, of the contextually-appropriate application of digital

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tools, and thirdly, at the level of critical reflection, of the understanding of the transformative human and social impact of digital actions (Fig. 3).

Figure 3. Levels of ICT/Digital Literacy
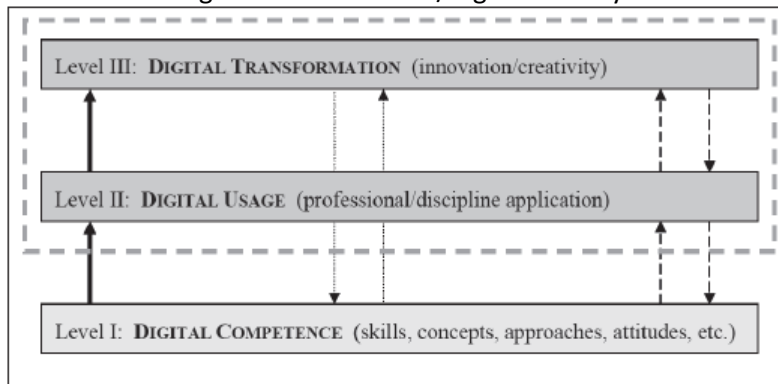
ICT competence is a requirement for and precursor of ICT literacy, but it cannot be described as ICT literacy.

4.1. ICT and e-learning Literacy for Teaching Staff

With the "*2001 Curriculum Framework*" much of the work on ICT and e-learning literacy has concentrated on skills and education for students or learner, however, a crucial area must be the ICT literacy levels of teaching staff that are responsible for the development and implementation of e-learning. Following on Project of Curriculum Framework, Kosovo State Council for Curriculum authorized the 6 month Research in 2009/2010. This research organized by the author of this paper, carried out a survey of teaching, managerial, administrative and technical staff, to establish how staff access and use ICT within their work environment. The research found there were a general lack of staff awareness about ICT skills and a lack of training for staff, in particular non-teaching staff. Where training existed it focused primarily on the basic courses of ICT skills and where staff had received training in the development of ICT skills, this was mainly in the form of a one-off training session to support the introduction of a new service or resource.

When taking into consideration the ICT competencies professional analyses of Kosovar and international bodies, professional opinions of leading educators, as well as the opinions of students, parents, and other stakeholders, several reasons for a comprehensive curriculum reform in Kosovo were found:

  The aims and objectives of educating young people through the Kosovo education system have to be clearly defined, in terms of serving as a basis for further curriculum development and as a reference for assessing and evaluating students'

learning achievements.

General orientations for teaching and learning in a formal education system have to be provided for teachers, parents, learners, developers of teaching and learning materials, evaluators and other stakeholders based on common framework.

Students have to be equipped with knowledge and skills from the perspective of lifelong learning and of a learning society. Due to the complexity of today's world, learning cannot be reduced only to the period of formal schooling, but has to be emphasized as a permanent dimension in a person's life.

There is a need to avoid learners being overloaded with irrelevant or outdated information/data and stimulated only with regard to the development of lower level intellectual skills. The new curriculum fosters a balanced approach in teaching and learning with regard to providing students with valuable and updated knowledge, while also helping them develop valuable skills and positive attitudes towards themselves, others, learning and life.

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the design of the new curriculum.

Developing ICT literacy skills, or e-literacy skills, is essential for teaching and other support staff to be able to fully engage and exploit teaching resources in the elearning system. Engaging with academic staff to develop their own skills also makes them more likely to see the value of building these skills into their courses for students. Building on ICT literacy programmes offered to students, teaching staff will need to play an important role in delivering this type of ICT-literacy education to student. ICT-literacy skills for staff might include knowledge of the range of resources available in the digital world, such as which teaching titles are available in electronic format. But it would also include teaching a member of staff to build an online teaching material and add stable links to electronic education materials. ICTliteracy also involves knowledge about copyright and licensing arrangements for electronic resources, what Martin (2003) terms, moral issues. So

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teaching staff would receive guidance and support about issues such as which resources are licensed to allow downloading for use in the virtual learning environment, and which must be linked to.

Teaching staff will need increasingly to be called upon to offer guidance in this area, through a variety of means such as:

- One to one training and support for guidance on specific issues
- Group training sessions for more routine problems such as setting up an online teaching material, or learning to use the online education materials
- Documentation (printed and web based) that teacher can consult on a need to know basis

ICT and e-learning Literacy for Students/learners

ICT and e-learning literacy and education will help students/learners cultivate their local, ethnic and national identity, as well as enabling them to be open to the enrichment of personal identity, through the interdependencies of today's world. Learners will be supported to understand that identity is not only what differentiates people, but that it also comprises what makes them part of a wider world. They will be supported in understanding and valuing the fact that people hold a local ethnic identity, but also that it is important to promote a wider identity. This is possible on the basis of common interests and of sharing a wider sense of belonging.

ICT education will also help learners to know about and value the traditions of their family and their community, as well as to make them able to be open to the history and culture of other communities, and of other countries and people. Children will be also encouraged in cultivating their traditions and in contributing to the enrichment of their cultural heritage.

With ICT and e-learning literacy:

- Learners will be educated in order to make creative use of their knowledge and skills in different situations and new contexts; to engage individually and in co-operation with others in problem identification and creative problem solving, and to cultivate motivation and skills for independent and critical thinking.
- Learners will be supported to develop responsibility for themselves, for others, for society, and for the environment. The development of responsibility implies the awareness of the consequences of personal action, as well as the awareness and understanding of the responsibility of taking the initiative.
- Learners should be able to link theoretical knowledge to practical activities, develop a positive attitude towards learning, have the ability to apply

acquired knowledge and skills to further studies in work, and in public and private life.

- Learners will be supported to develop selfconfidence and positive motivation, as well as to make proper use of their rights. They will be supported to cultivate their curiosity and inquisitiveness, as well as to demonstrate a positive attitude towards difference, in terms of ideas, phenomena, persons, cultures, etc.

- Education has to enable young people to contribute, with all of their potential, to the reconstruction and welfare of Kosovo society, while developing autonomy as individuals who are able to pursue a life of personal accomplishment.

The concept of "competencies" as learning outcomes

Given the increased complexity of a rapidly changing world, there is currently a widespread interest in competency-based curriculum development as a way of fostering productive and relevant learning. The KCF embraces a *competency-based perspective* in order to address the diverse learner needs which will meet the relevant present and foreseeable challenges for the Kosovo society and the wider world.

Fig. 4 The "system" of competencies: what do competencies include?
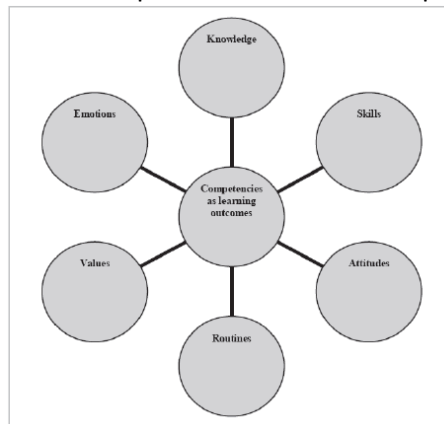
An emphasis on "Competencies" does not imply the neglect of knowledge ; however, a competency-based approach, when defining curriculum and learning outcomes, requires the selection and organization of learning experiences that integrate relevant knowledge with values, attitudes and skills. Competency-based approaches are different from approaches which promote excessive and irrelevant rote learning, based solely on memorizing and reproducing pre-fabricated

knowledge.

The figure below presents that the system of competencies include: knowledge, skills, attitudes,

values, emotions and routines.

Key competencies in the new Kosovo education system

The *key competencies* envisaged with the KCF define the main learning outcomes that learners will achieve in a progressive and consistent way throughout the education system.

Specific learning areas/subjects may, however, is used as the main 'carriers' for the development of particular competencies. In relation to subject areas/subjects, the key competencies are translated into more specific content- and subject-bound competencies (and subcompetencies).

In compliance with the Kosovo education vision and policies underpinning the Curriculum Framework, the following are the key competencies envisaged for the Kosovo education system:

- Communication and expression competencies - **Effective communicator**
- Thinking competencies - **Creative thinker**
- Learning competencies - **Successful learner**
- Life- , work-, and environment-related competencies - **Productive contributor**
- Personal competencies - **Healthy individual**
- Civic competencies - **Responsible citizen**

Key competencies such as *communication and expression*, *thinking* and *learning* are of an instrumental nature: they are basic to competencies that are more context- and content-linked, such as competencies needed in private, public and professional life.

While each category of generic competencies addresses and integrates specific learning outcomes, the key competencies share overlapping elements and aspects – for instance, emotions are integral to communication and expression, as they are to personal development, thinking and life- and work-related actions and situations.

Key competencies are also inter-connected and interdependent by the way they influence and reinforce one another from the perspective of a "whole-person". The figure below presents the interconnectedness of key competencies.

Fig. 5. The interconnectedness of key competencies
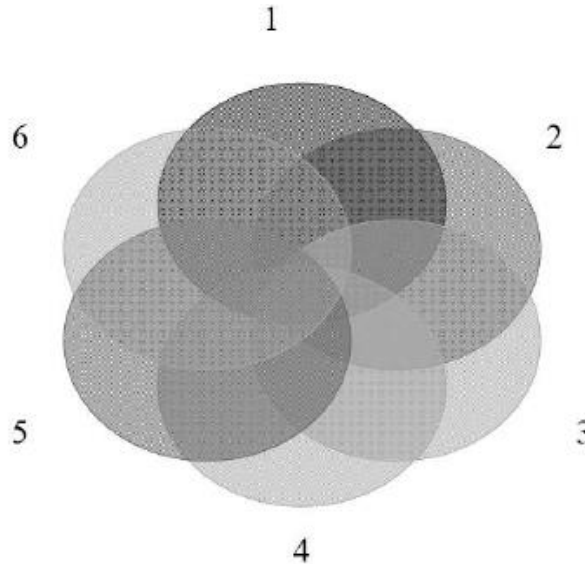
Conclusion

The Competency-based approach in the new Kosovo Education Framework has important implications for curriculum design, as well as for classroom practices (for instance, integration of cross-cutting issues, such as life skills; integrated learning; interactive teaching and learning; a focus on formative and progress assessment). Through the delivery of ICT literacy programmes, which are both timely and integrated, partnerships with teaching and learning support staff can be strengthened. Teachers need to work with new groups of professionals, they need to develop new skills, in particular teaching skills, which enable them to deliver these programmes where appropriate, using technology.

E-learning is offering exciting and new possibilities which the teacher need to reach out and seize. The key to success is to get out of the school, build partnerships with teachers and learning technologists and infiltrate their networks. As shown in this paper the definition of ICT literacy is very broad and cannot only be focused on the use of the Internet or computers in general. Besides the technological ability to use a computer, the user also has to be capable to deal with all the information gained in the Internet and to continue to use this information in an effective and responsible way. To remain ICT literate is thus an ongoing process which means to learn and to use new technologies continuously and to adopt all these processes in everyday life.

This also implies that the need for support to strengthen ICT literacy competences

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of all Kosovo citizens will continue to exist. If the fast development of new technologies does not decrease the demand to receive additional support to strengthen ICT literacy will not decline, and the need to develop more large-scaled ICT literacy initiatives will thus continue.

The school in Kosovo is no longer simply a physical building; it is a vast collection of digital resources, many accessible from the desktop, anywhere at any time.

Teachers need to ensure their place in the virtual world of learning is as central as it was in the physical world.

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