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### USING INFORMATION AND COMMUNICATION TECHNOLOGIES IN PRIMARY TEACHER TRAINING IN THE UK

#### ABSTRACT

*This study aims to develop insights into how courses of primary teacher training prepare future teachers to use information and communication technologies (further – ICT) effectively in their teaching. The usage of information technology in the training of primary school teachers in the UK has been considered. The way ICT is currently used in primary teacher training courses in the UK has been analyzed and opportunities for enhancing and extending its use have been researched. It has been examined how the course, in both university and school-based settings, is able to support trainees in the use of ICT. Through literature review, perspectives of the British ICT courses for primary teacher training have been examined. Usage of different ICTs for supporting necessary ICT competencies and skills for primary teachers has been considered. It has been determined that the research process was designed and implemented so as to be informative and supportive, encouraging all involved parties to reflect on and develop current practice rather than to make judgments. Governmental attempts to make ICT an integral part of the ITT National Curriculum and to improve students' competencies in the usage of ICT in their teaching have been revealed. It has been also determined that the biggest issue in terms of how to improve student-teachers' ability to use ICT skillfully and effectively is how to most effectively share and disseminate the good practice that undoubtedly exists in some departments, schools and ITT institutions.*

**Key words:** *information and communication technology, primary teacher education, educational route, higher education, distance education, policy, ICT skills, e-maturity.*

#### INTRODUCTION

The main directions of educational policy of Great Britain in the use of ICT in primary teacher education depend on external and internal factors of social development. We have to assign the external processes to globalization, internationalization and European integration in all spheres of society, including education.

Analysis of scientific and pedagogical sources demonstrates the importance of the mentioned issue about development of new educational programs for teachers' training in accordance with the requirements of the new information society in the European Union and the UK in particular. British scientists have devoted a lot of scientific and methodological literature to this and many other related issues. However, only a part of them describes the problem of ICT in training primary school teachers. In particular, B. Robinson, an editor of the British international Journal of Information Technology for Teacher Education (since 1992), defined a lot of problems in this area, in particular, the lack of scientific works on the introduction of ICT and condition of their use in schools, where, according to the national strategy, ICT is a compulsory subject for students, however, most teachers are incompetent in this area (Robinson, 1992).



On request of the government the Department of Education and Skills together with British Educational Communications and Technology Agency (BECTA) and Training and Development Agency for Schools (TDA) conducted a lot of surveys of ICT use in the school sector, including the primary level. They published a number of projects, brochures about national strategies of ICT use in primary education, which clearly outline the priorities of the national strategies regarding teaching and learning using ICT in primary schools. These priorities are relevant today to ensure the use of ICT in the independent work of children and to ensure further training of teachers for effective use of ICT; to introduce or develop ICT approaches in structural upgrade of literacy and numeracy and determine specific methods for teaching reading, writing and mathematics, where the use of ICT can facilitate positive impact. This can ensure efficient use of resources within the proposed development strategy for primary education, promote the development of knowledge and understanding of the progress of the use of ICT skills in the main age range of primary level (School improvement through ICT, 2007).

#### **THE AIM OF THE STUDY**

The central focus of this study is on the state of using ICT in higher education of primary school teachers.

#### **THEORETICAL FRAMEWORK AND RESEARCH METHODS**

The study of possible ways of introducing information technologies in primary teacher training is revealed in special government and non-government documents, research and many works of British scholars such as A. Backhouse, S. Cousins, T. Haydn, D. Mackley, N. Pachler, B. Robinson, J. Smith, E. Tombs, I. Wilson, and others. We will consider some of the multilevel modules of training courses for primary school teachers on the current use of ICT in teacher education within ICT preparation and its use as didactic means in educational institutions of aforementioned rating scale.

Having studied information on the best higher educational institutions that train primary school teachers in the UK (The Times Good University Guide, 2012), we have found out that much attention in educational institutions is given to the study of information and communication technologies as a separate discipline and not only. It is caused by the desire to improve students' education as future teachers. It is important to find out how ICT skills are formed at each level of a program module and which way gives the greatest potential for efficient formation of ICT competence.

#### **RESULTS**

The way information and communication technology (ICT) is taught in schools is changing. The report of Terry Haydn that is part of an OECD comparative study "ICT in Initial Teacher Training" aims to develop insights into how courses of initial teacher training prepare student teachers to use ICT effectively in their teaching (Haydn, 2011). The author researched five different routes into teaching profession in England:

- The four year Bachelor of Education degree, which now accounts for 19 % of English student teachers;
- The Graduate Teacher Programme (GTP). People who are already in possession of a degree can be paid a salary to work almost exclusively in a particular school, as a form of "apprenticeship model" of entering teaching profession. This route does not require the involvement of higher education institutions. This route now accounts for 11 % of entrants to the profession;
- "School Centred" initial teacher trainings (SCITTs), which involve consortia of schools collaborating to provide a programme of training. As with the GTP Programme, students spend all or nearly all of their time in schools;



– The Postgraduate General Certificate of Education (PGCE) course, consisting of partnerships between schools and university departments of education. This is a one year course where student teachers typically spend 60 days at the university and 120 days based in partnership schools. This is still the most common route into teaching profession in England;

– The “Teach First” Programme, which recruits between 500–600 outstanding graduates to commit two years of working in challenging schools. This route accounts for approximately 1 % of student teachers.

Thus, the same data can be found in the brochure “Becoming a teacher” (Becoming a teacher, 2013). As for the aim of our study we briefly look into the four- or three-year programs of parallel training primary school teachers at universities that train Bachelors of Arts (BA in Primary Education, BA QTS Primary or Early Years, distance form of education) or Bachelors of Education (Bachelor of Education (BEd), that offers students ICT-modules along with professional modules directly from the first to the third year of study). Meaningful contest for each year programme consists of two main components: academic and professional. Academic component enhances the knowledge and better understanding of the National curriculum, its core and foundation subjects: English, Mathematics, Science, Design and Technology, Information and Communication Technology, Physical Education, History, Geography, Art and Design, Music. Professional component focuses on basic modules and module objects practice. Methods of teaching, learning, assessment and performance of the module also draws attention – basic facts described in lectures are processed during the practice. Exploring concepts of research and other literature are presented in lectures and fixed in seminars. Independent study contributes to the students’ preparation for lectures, seminars, and work in small groups, creating presentations submitted to other students and then analyzed, discussed and demonstrated in writing assignments. Individual training assists students in a methodically correct and efficient package that demonstrates their knowledge and skills.

Learning outcomes are associated with the use of ICT and regulatory requirements for the following ICT skills: to investigate ICT resources for teaching and learning, to evaluate the use of a number of devices in classrooms such as interactive whiteboards, presentations, spreadsheets and database software, web software development and web resources, digital photography and scanners, to consider health and safety issues training in ICT (UCET, 2013–2014). However, not all universities offer the same curriculum module loading. For example, York, Manchester, Kingston universities offer more professional modules: Advanced Professional Focus (APF); Modern Foreign languages; Creativity and Communication; Values Education; Special Educational Needs and others.

Analyzing university programs similar in structure the following conclusion can be made: modules are based on the development and improvement of ICT skills and knowledge gained gradually (from the first to the third year of study).

Knowledge of educational effects of the use of information and communication technologies to introduce students to the consequences of the use of information and communication technologies in the professional context of elementary school is implemented today according to the Bologna requirements.

Through these programs students work with a number of research and other relevant literature, developing understanding of the consequences of the use of information and communication technologies to control, change management and training programs and methods.

Graduates demonstrate their skills and understanding of:

– key elements of the management and analysis of learning process using ICT with appropriate purposes;



- a range of contemporary issues relating to ICT and primary education;
- the role of ICT in the initial training environment;
- detailed knowledge of the spectrum of related software and its application;
- critical analysis of the literature on various topical issues of education related to ICT in primary schools;
- the critical role of ICT coordinators in primary schools;
- analysis of plans for community development practitioners in the field of ICT and technology in school;
- critical analysis of human resource development and implementation of strategies in ICT and learning technologies in schools;
- different effective ideas, principles and theories;
- using information and communication technologies in a variety of ways;
- managing time and work to tight deadlines;
- evaluation and use of information from a variety of primary and secondary sources.

Consistent level of primary school teacher education, which can be obtained on the basis of higher education through one-year training courses that offer such modules as Professional Development and Training, Curriculum Studies, Areas of Special Interest, includes a module on ICT skills which is based on the study of issues such as class management, the teacher and the law, working with children with special educational needs, and introductory modules to each of the non-core subjects of the curriculum: religious education, sanitary preparation and citizenship. At the same time distance education offers not only diplomas but postgraduate certificates in this educational area, e.g. Postgraduate Certificate in Integrated Practice in Childhood and Youth.

Distance education proposes to study the compulsory modules which include ICT as a basic module, and as a cross-cutting element of training, which students study along with core subjects and in planning and teaching, evaluation of the pupils progress, as well as a module of ICT, which provides students with the opportunity to develop the knowledge, skills and understanding of ICT and pedagogy to teach ICT confidently and effectively use their skills in ICT for planning, evaluation and professional activities related to their studies. Students also get an idea of using different evaluation methods: research projects, blogs, essays, group presentations and portfolio.

This level offers a Master's Degree, which reveals the level of ICT skills and knowledge necessary to become a qualified teacher. They include: the development of pedagogical skills, knowledge and understanding of the ICT teaching and learning process, disclosing the required understanding of the development of children and the learning process, the influence of scientific innovation and ICT on a trainee, critical evaluation of the chosen pedagogical direction and successful implementation of it, developing difficult concepts and knowledge about the process of ICT teaching and learning in relation to their own cognitive abilities and practices in schools, ensuring understanding of the current curriculum and modern teaching methods.

Having studied the abovementioned methods and programs of training primary school teachers in the UK, we conclude that the substantial investment which has been made to ITT and ICT school infrastructure over the past decade does seem to have brought about significant improvements in student teachers' ability to use ICT effectively in their subject teaching. Approximately two thirds of student teachers now feel that their preparation to use ICT has been either "very good" or "good" (TDA, 2009). The overwhelming majority of



trainers, mentors and students are now proficient in using ICT for personal use, in communication with tutors, mentors and peers, and in accessing online course documentation and resources. There is less evidence to suggest that all student teachers have reached the level that BECTa calls “e-maturity”, that is to say, the ability to use ICT in a way that positively impacts on the learning outcomes of pupils, and which fully exploits the potential of new technology to improve teaching and learning (BECTa, 2008). Three of the factors thought by student teachers to be most influential in determining their ability to become effective in the use of ICT were having trainers and mentors who could persuasively model the use of ICT in their teaching, having “dedicated time” to pursue ICT agendas, and having easy access to reliable ICT facilities.

Although there are now many ITT trainers, mentors and student teachers who are accomplished users of ICT and who are able to use new technology to enhance teaching and learning, there are still wide variations in the proportion of trainers, mentors and students who have reached “e-maturity”, both between and within training providers and schools involved in ITT. The biggest issue in terms of how to improve student-teachers’ ability to use ICT skilfully and effectively is how to most effectively share and disseminate the good practice that undoubtedly exists in some departments, schools and ITT institutions.

Some ICT teaching in schools is already excellent, as reported in the most recent Ofsted report on ICT education and last year’s Naace report “The Importance of Technology”.

Michael Gove told teachers at the National College annual conference: “By 2015 well over half of all training places will be delivered in schools whether through direct provision, Teach First, School Direct or our new employment-based route”.

### CONCLUSIONS

Some courses and modules appeared to have particularly good systems for getting students to work collaboratively to develop their ICT skills both during and outside their learning sessions. This helped to solve the problem of not having enough time in sessions to devote oneself to all the aspects of ICT which might be relevant to students (e.g. distance education). It was still thought to be important to have some time for “lead sessions” and introductions to aspects of ICT, so that the potential of the ICT applications could be powerfully and effectively modelled for students in order to enthuse and inspire them, and give them a starting point and resources to follow things up and develop them. However, many university tutors felt that taking into consideration the ICT accomplishments of some of their students and the fact that most ITT students are intelligent and capable graduates, mastering the technical details of an application could be sub-contracted to the students themselves, with the idea that if they really wanted to be able to do something with ICT, they could work it out for themselves.

By its very nature, new technology is a disruptive force. It innovates and invents, flattens hierarchies, encourages creativity and fresh thinking.

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