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Editorial

The theme and the priorities of the IJREL reflect the conceptual principles underlying the modernization of education and the reform of the educational systems in European countries, as well as national development strategies for the 21st century. One of the European Union's key educational objectives is the provision of equal opportunities for all with regard to access to learning and knowledge, regardless of gender, financial and physical ability, and place of residence. That is why distance learning has now been granted a status of high priority. If introduced on a wide scale, distance learning and teaching may make significant contribution towards the achievement of educational goals in member states.

The present volume includes nine articles gathered in five chapters. Chapter one “Conceptual Aspect of Preparing B-Teacher in the 21st Century”, prepared by Professor António dos Reis, a researcher from the Graal Institute, Portugal, expert in the area of multimedia and virtual classroom technology, teacher training in the area of ICT. Dos Reis's article entitled “Be a (Blended) B-Teacher in the 21st Century – Some Reflections” discusses the issue of what it means to be a teacher in the 21st century, which occurs to be a great challenge and requires considerable thought. The author points to an evolution which has happened over the last 70 years. As a result, e-learning has evolved to a new form, that is, b-learning, where students will never be alone and where interactivity becomes very important. B-learning has a different format now, as it is asynchronous (contents on demand and activities to be implemented in an interactive format with remote collaborative work) and synchronous in presence or virtual environment. This paper was presented as an opening keynote at the International Scientific Conference *Theoretical and Practical Aspects of Distance Learning* (DLCC 2015) which was held at the University of Silesia, Poland, 12–13 October 2015.

Chapter two, “Education Quality in Open E-environment Research,” begins with an article “Open E-environment – The Key Instrument of the Education Quality,” elaborated by researchers from the Borys Grinchenko Kyiv University, Ukraine, Nataliia Morze and Oksana Buinytska. The article focuses and presents studies on aspects related to the creation of an open e-environment which is one of the main tasks of universities as its use for educational purposes enhances the

quality of education of the modern university. An analysis was made of the publication activity of scientific and pedagogical staff using the Ukrainian information-analytical system “Bibliometric of Ukrainian Science” and a comparative study was performed to analyse the qualitative provision of masters by the teaching staff based on the newly-established and implemented in the BGKU rating system “E-portfolios.”

Chapter three “ICT and E-learning Research in Higher Education” comprises two papers. The first one, “ICT in Higher Education Teaching: Advantages, Problems and Motives,” prepared by Mykola Nakaznyi, Lyudmyla Sorokina, and Maryna Romaniukha from Dniprodzerzhinsk State Technical University in Ukraine, analyzes some results of a survey for university professors and university management, held by the international research team within the European IRNet Project: International Research Network for study and development of new tools and methods for advanced pedagogical science in the field of ICT instruments, e-learning, and intercultural competences. The survey researched motivation and aims of professors from Dniprodzerzhinsk State Technical University – official partner of the project. The article reveals professors’ beliefs and preferences about ICT-aided learning, as well as analyzes advantages, problems, and motives of the introduction of ICT in higher education teaching.

The second article “Assessment in VLE Supported Foreign Language Learning,” prepared by Ryszard Kalamarz from the Foreign Language Teaching Centre, University of Silesia in Katowice, focuses on the role of Virtual Learning Environments in the scope of different types of assessment in foreign language learning and teaching promoting learner autonomy and developing such key competences as learning to learn. Effective language education calls for a more learner-oriented approach to assessment and Learning Management Systems such as Moodle seem to respond to such needs in the computer-assisted teaching/learning process.

Chapter four “Research Results on Effective IT Tools” opens with the paper “Discussion Paper on More Adequate and Effective IT Tools. Some Previous Results Concerning More Adequate and Effective IT Tools in the Category: Tools for Making Presentations,” prepared by the international team: Eugenia Smyrnova-Trybulska, Ewa Ogrodzka-Mazur, and Anna Szafrńska-Gajdzica from University of Silesia, Poland; Martin Drlík, Martin Cápaj, Júlia Tomanová, and Peter Švec, researchers from Constantine the Philosopher University (Slovakia); Nataliia Morze and Rusudan Makhachashvili represent Borys Grinchenko Kyiv University (Ukraine); Maryna Romanyukha, Mykoła Nakazny, and Lyudmyla Sorokina from Dniprodzerzhinsk State Technical University (Ukraine); Tomayess Issa and Theodora Issa from Curtin University (Australia). The article describes some preliminary results of the implementation of WorkPackage 4 (WP4) “Selection and testing new IT tools” in the framework of the international research network IRNet and researchers from partner institutions. These results concern analysis and study of some categories of IT tools for making multimedia presentation. Authors

presented a ranking list based on quality and quantity assessment of chosen IT tools and proposed some recommendations of features considered indispensable for good presentation, as well as analysed some frequent mistakes made by users elaborating presentations.

Chapter five “Reports” includes two papers, that is, “Report on the Implementation of WorkPackage 2: ‘Analyses of Legal, Ethical, Human, Technical and Social factors of ICT and E-learning Development and Intercultural Competences State in Every Partner Country’ in the Framework of the IRNet Project,” prepared by international team of authors – researchers from different scientific areas, connected with ICT, e-learning, pedagogy, and other related disciplines team of authors from nine countries: Eugenia Smyrnova-Trybulska, Ewa Ogrodzka-Mazur, Anna Szafrńska-Gajdzica, and Ewelina Doluk, from the University of Silesia, Poland; Piet Kommers, from University of Twente, the Netherlands; Nataliia Morze and Borys Grinchenko, from Kyiv University, Ukraine; Tatiana Noskova, Tatiana Pavlova, and Olga Yakovleva, from Herzen State Pedagogical University of Russia, St. Petersburg, Russia; Paulo Pinto, from Lisbon Lusíada University, Portugal; Juan Arias Masa, Sixto Cubo Delgado, Gemma Delicado Puerto, from University of Extremadura, Spain; Martin Drlik, from Constantine the Philosopher University in Nitra, Slovakia; Josef Malach, from University of Ostrava, Czech Republic; Tomayess Issa, from Curtin University in Perth, Australia; as well as Maryna Romanyukha, from Dniprodzerzhinsk State Technical University, Ukraine. This article focuses on the objectives and some results of the international project IRNet. In particular, the article describes research tools, methods and some procedure of the WP2: Analyses of legal, ethical, human, technical and social factors of ICT and e-learning development, and the state of intercultural competences in partner countries: Objectives, Tasks, Deliverables, implementation of research trips. Researchers from Poland, the Netherlands, Spain, Slovakia, Portugal, Czech Republic, Australia, Ukraine, and Russia analysed results of WP2 in the context of the next stages and Work Packages of IRNet project – International Research Network.

The subsequent paper “FATIH Project in Turkey: A Case Analysis,” elaborated by Nuh Yavuzalp, Melih Derya Güner, Orhan Curaoğlu, Soner Durmuş, Sedat Akayoğlu, Mehmet Bahar, Fahri Kiliç, and Erkan Tekinarslan, from Abant İzzet Baysal University, Bolu, Turkey, describes selected results of the project FATIH (Increasing Opportunities and Improving Technology Movement) in Turkey, started in 2010. In order to achieve the aimed goals, FATIH project consists of five main components. These components are establishing hardware and software infrastructure, educational e-content preparing and managing, effective use of IT in the curriculum, in-service training of teachers, conscious, reliable, manageable and quantifiable IT use. This paper presents the first component of the FATIH project and proceeds to discuss the current situation and future goals of the ongoing project.

In conclusion, it can be stressed that articles gathered in this issue, prepared by an international team of authors from 11 countries of the Western, Central and

Eastern Europe, as well as Asia and notably Australia, present a comprehensive overview of various aspects of the development of ICT and e-learning: their educational, scientific, human, social, technological contexts, and show that the contemporary space with no frontiers, no boundaries, and in conditions of globalization and internationalization becomes small. Simultaneously, every step, made by each individual researcher or a team of researchers as part of international research network helps to improve the educational process, raise its quality and foster development of an effective and valuable level of regional and global e-environment and e-space.

Eugenia Smyrnova-Trybulska

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Conceptual Aspects of Preparing the B-Teacher in the 21st Century



António dos Reis

Portugal

To Be a (Blended) B-Teacher in the 21st Century – Some Reflections*

Abstract

Being a teacher in the 21st century is a great challenge and requires great thought. A big evolution has happened over the last 70 years. From a room computer (the Mark I in 1943) to tiny pocket computers, thousands of times smaller and thousands of times bigger in performance and capacity. E-learning 3.0 is based on synchronous interactivity and it was only possible after 2004 due to a considerable increase of Internet bandwidth available, evolution in video compression, stream video, and sophistication of virtual classroom platforms. This was another revolution. As a result, e-learning has evolved to a new form: b-learning – where students will never be alone and interactivity becomes very important. B-learning has a different format now: from now on it is asynchronous (content on demand and activities to be implemented in an interactive format with remote collaborative work) and synchronous in presence or virtual environment. Teachers need to evolve from teacher to (blended) b-teacher or b-tutor, offering a mixed teaching expertise.

Key words: blended teacher, b-learning, synchronous interactivity, virtual environment, e-learning

* To Be a B-teacher in the 21st Century – Opening Keynote at the University of Silesia, International Education Science Conference 2015, by Prof. António dos Reis. Video available (20 min.), <http://areis-en-bteacher.blogspot.pt/>. Subtitles available in the following languages: English, Greek, Polish, Portuguese, Russian, Spanish, Swedish, Turkish, and Ukrainian.

Introduction

Today we are living in exponential times marked by the evolution of new technologies and new methodologies. Our students are digital learners spending long hours in front of the TV, using mobile phones or playing video games, and thus they are interested in distance learning. They are asking for new methods and new techniques to be used in the school of the future and they certainly expect adjustments to the teacher skills.

As a result of the fantastic evolution in respect to the methods and techniques teachers have at their disposal the “e techniques” as e-learning. But the “e” will just disappear, and, as Rosenberg said in 2001: “In the future it will evolve just to learning.” In the same way, (blended) b-learning will not exist anymore as presence and online learning, but asynchronous and synchronous in presence or online in a virtual classroom.

Today students are different, they need new methods and new learning techniques, so they can be more competitive in a global world. The main challenge of acquiring new skills rests on the teacher’s shoulders. Therefore, we need a plan “B.”

Requirements Concerning Blended Teacher Skills

Teachers need to evolve in their role from a teacher to a (blended) b-teacher or b-tutor, offering a mixed teaching experience. Our conclusions are the following:

We need to use methodologies and technologies, but the question is: what type of tools, methodologies and technologies should we use to be a good teacher?

1. It is necessary to be an expert in your area of study.
2. You should know how to prepare and present content in the presence or video format.
3. You should know how to do the tutoring in the presence or distance mode.
4. You should be able to conduct formative continuous assessment.
5. You need to know how to use an LMS.
6. If working at a distance the teacher should know how to use a virtual classroom.

Teachers should also be experts in:

1. Teaching with new methodologies and ICT tools.
2. Teaching how to learn.
3. Teaching how to manage huge quantities of information.

The final conclusions turn into the question: Are we teachers prepared to be “b-teachers” in the school of the future?

Research Problem

Being a teacher in the 21st century is a great challenge and requires great thought.

If we look back at the evolution since Socratic and Aristotelian period, 2,500 years ago, we can say that during the period of about 2,000 years, approximately, the evolution of methods and technology was almost non-existent. Only the black-board appeared in the last centuries. However, over the last 70 years a rapid technological change has happened, that is, from a room computer (the Mark I in 1943) to a tiny pocket computer, thousands of times smaller and thousands of times bigger in its capacities. Also projectors, video projectors, mobile phones, tablets and fantastic software to support us in every aspect have occurred over that period of time. Yet, in parallel with such changes, since the 18th century there has been an enormous evolution from distance learning to presence learning. During the Second World War an enormous change happened in distance teaching and learning with Skinner, who challenged us with the “Teaching machine.” In the last fifty years we have evolved from open universities to TV schools and cassette videos. In the 1990s, a new challenge appeared, it was e-learning.

E-learning was very confusing in the beginning as it entailed a mixture of terms: web-based learning, distributed learning, distance learning, Internet-based learning, online learning, and finally b-learning. In the last decade of the previous century the two terms e-learning and b-learning seemed to mean two different ideas. E-learning consisted in learning and teaching at a distance supported by Internet technology and b-learning was a mixture of presence and distance teaching and learning. In fact, we have to say that we have spanned three generations in e-learning. E-learning 1.0 in the year 2000 was only delivering content in a written format, and the students had to learn by studying alone.

The year 2004 saw the second generation of e-learning ensue. Stephen Downs and Tim O’Reilly introduced the idea of Web 2.0. However, it was characterized mainly by asynchronous interactivity, which boiled down to designing interactive but not face-to-face forms of instruction. Although the educational process was not meant to be in presence or simultaneous, interactivity was considered very important. It was the beginning of forums, chats, wikis, and other similar tools.

The evolution was in progress when another generation of e-learning ensued: e-learning 3.0 and synchronous interactivity was a step forward, with George Siemens and the idea of connectivism.

Research Focus

Synchronous interactivity was possible after 2004 owing to increasing bandwidth, availability of the Internet, an enormous evolution in video compression, stream video and the evolution of virtual classroom platforms. This was another revolution that made some dreams come true. It was a real important step forward. This way of learning introduces a new form of learning: b-learning.

Research Methodology

This step forward shows that students should never be left alone in the process of learning/studying. Interactivity becomes very important, whereas synchronous interactivity is now a must.

It must be emphasized that from now on, b-learning is now in a different format: asynchronous (with content on demand and activities to be implemented in an interactive none synchronous format with remote collaborative work), and synchronous in presence or virtual environment (distance).

This is an enormous challenge to update and apply techniques and methods to our teaching today, not only in terms of technological aspects, but also in reference to pedagogical methodologies which have gone through an enormous evolution. This progress is spectacular in temporal terms: from behaviorism to constructivism in about one century. The development was supported by the theory of multiple-intelligence and learning styles, with Kolb, Gardner, and Flaming as well as the seminal work on emotional intelligence by Daniel Goleman. In addition, the contemporary teaching emphasizes interactivity in learning drawing from the thorough identification of the neuro-physiological process, and exposes social collaborative learning as inspired by George Siemens. This evolution was fantastic, taking no more than one century, involving not only the above-mentioned scientists but also many others with important contributions in methodological and pedagogical aspects.

What about today? In fact, in 2001, Rosenberg said: “In the future we will have a more radical revolution than e-learning. It will be the disappearance of “e” and what will remain will be just learning.”

As teachers, we have a mission of presenting, guiding, and formative assessment. These are the three main aspects of our mission as teachers in the 21st century. Another important question that arises is: How do we learn?

General Background of the Research

Only by identifying and characterizing the learning process to our students can we identify how the teaching process should be implemented in order to increase the quality of the learning process. Today the scientific community has identified the learning process and let me present an overview.

These things started to be investigated in the 18th century, but technology was too young and it was not possible to go very deep. Now we know that we do receive all information in the working memory, without reflection in the beginning, which is a behaviorist attitude. From this reception we transfer the information to the long-term memory, where thinking and reflecting is held. Now it is constructivism! It is possible to construct and build your own knowledge, which happens in two steps. It is important that we understand how we do this.

Today, we must teach our students how to learn, because content and all methodologies are available. It is important to know how to do it. There are rules

that show how to be a good learner and absorb the information. When we receive information for the first time, we register only up to 10% of what we read, 20% of what we see, and 20% of what we hear. So we catch only a small part of the information that is being offered to us. This is why we have to review it and to reflect upon it in order to absorb and to build our own knowledge in long-term memory. Normally, we used to say “you should study.” But what is studying?

Studying is exactly what has just been mentioned. Now we know that we should build our own knowledge in a constructivist approach. There are rules and good, recommended practices illustrating how to be a good student. But that is not all, we have to repeat, we have to magnify our bases to understand what is available, what we receive and we have to understand.

A Sample of Research

The student’s studying steps are selecting a learning model, repeating, reflecting, and repeating. As a result, he or she will have constructed his/her own learning process. This poses a question: Why to teach how to learn? A huge amount of content is available today. Part of it is in a video format. You can go to numerous platforms where you can find videos about anything. Or you can just as well find them in a text format. You can find everything you want! You just need to know how to study.

Another important question today is: What is the profile of the student of the future? According to neuroscience, we are multimodal learners. We listen, we visualize and we read.

Instrument and Procedures

We have different channels to understand and we learn by stages receiving the information in our working memory and convert it to the long-term memory. But we have different learning styles. We are active, reflective, experimental, and theoretical learners. These profiles can be adjusted according to Piaget’s profiles. It is very important for us teachers to identify our students’ learning styles, in order to adjust and optimize our teaching process. We can be submitted to different models like: Behaviorist and Constructivist; Collaborative and PLB (Problem-Based Learning models).

In fact, our students today are digital learners, they spend many hours in front of TV, using mobile phones or playing video games. But in fact they use less than 2% of their time reading content. So it seems essential to adjust our method to reach it. Listening to an interview with a student of the future¹ we can find out that:

- students are digital multi-modal learners;
- they have different learning styles;
- they ask for multimedia content and distance learning.

¹ Ana Maria, 6 years old, born in London, an interview with a student of the future. Video available <https://youtu.be/Dn13kKd9w9U>.

Data Analysis

On the other hand, in the last two decades we have tried to build a knowledge and information society, connecting cultures, countries, and civilizations in real time. But in fact what happened? We have created a confusion society with too much unclassified information only connecting cultures, countries, and civilizations in real time. We have too much information available today and no one knows how to use it properly.

Research Results

Today we have other challenges. For students starting a 4-year technical degree it means that half of what they learn in the first year of study will be outdated by the third year. What is more, we are currently preparing students for jobs that do not exist yet. And what for? The purpose of this is to be able to use technologies that have not been invented and to solve problems when we do not even know if there are problems yet. Strange though it may seem we must be prepared for this and must prepare our students too as we are living in really exponential times. The only conclusions we can draw is that a course of 4 years today is an introduction to 40 years of lifelong learning. Nothing more than this.

Discussion

Therefore, what all this leads to is a question: How should we teach in the 21st century? Considering all we have been reflecting about, we have to say that we are living according to a couple of scenarios:

- presence and distance teaching,
- traditional and MOOC courses,
- formal and informal learning,
- grades, long life learning and increasing CV,
- but mainly teaching how to self-learn.

That is why teaching how to learn is so important. This means that the teacher's skills are very important today. Some of the teacher's skills are absolutely necessary and some other are just recommended.

Conclusions

Our conclusions are: there is no doubt that we need technologies and tools, but all of them need to be used with proper methodologies. Otherwise, it will be no more than a technological noise. This is what we should be prepared to avoid. We need to use methodologies, and technologies, but the question is: What type of tools, methodologies, and technologies should we use to be a good teacher?

- it is necessary that a teacher should be an expert in one area of study;
 - besides, they should know how to prepare and present content in a presence or video format;
 - they should know how to do the tutoring in a presence or distance mode;
 - the teacher should also use formative continuous assessment;
 - they should know how to use an LMS;
 - and if they work at distance they should know how to use a virtual classroom.
- But teachers should also be experts in:
- teaching with new methodologies and ICT tools;
 - teaching how to learn;
 - teaching how to manage huge quantities of information.

They should be mainly prepared to be a (blended) b-teacher, able to use asynchronous and synchronous methods and tools in presence or online.

The author of the article is an experienced researcher and coordinator of WP4 of the IRNet project (www.irnet.us.edu.pl). Studies on the main skills to teach in the 21st century are continued and in progress. Further results and conclusions will be discussed in presentations and published on the Internet websites and printed in articles, prepared by the author and IRNet Consortium.

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References

- American Center For The Study Of Distance Education (1997). *Distance Education Symposium 3: Course Design*. University Park, PA: Ellen D. W. and Margaret A. K.
- Ballantyne, D. (2000). *Subject: None*. Discussion forum: OtiS – Tutor Roles. Accessed 12 February 2001. Retrieved from <http://vls.scotcit.ac.uk/>.
- Barnard, C., & Chris, B. (2004). *I can't understand why I didn't pass: Scaffolding student activities*. Consulted at 26 Jul 2005 da World Wide W.
- Bauer-Ramazoni, C., Sihombing, S. (2001). *Interaction, assessment and collaboration in online courses*. Accessed 24 July 2004. Retrieved from <http://www.peakpeak.com/~barbs/biblio.html>.

- Blom, D. (2000). The students educational experiences. Discussion forum: OTiS – Best Practice for Effective Tutoring 9. Accessed 12 February 2001. Retrieved from <http://vls.scotcit.ac.uk/>.
- Bloom, B. S., Krathwohl, D. R., Furst, E. J., Engelhart, M. D., & Hill, W. H. (1989). *Taxonomy of educational objectives, Book 1: Cognitive domain*. New York: Longman Publishing.
- Briner, M. (1999). Behaviourism. University 01 Colorado. Accessed 10 March 2002. Retrieved from <http://curriculum.calstatela.edu/faculty/psparks/theorists/501behav.htm>.
- Briner, M. (1999). *Behaviorism*. University 01 Colorado. Accessed 10 March 2002. Retrieved from <http://curriculum.calstatela.edu/faculty/psparks/theorists/501behav.htm>.
- Briner, M. (1999). *Constructivism*. University 01 Colorado. Accessed 10 March 2002. Retrieved from <http://curriculum.calstatela.edu/faculty/psparks/theorists/501const.html>.
- Briner, M. (1999). *Theory Jean Piaget*. University 01 Colorado. Retrieved from <http://curriculum.calstatela.edu/faculty/psparks/theorists/501const.htm>. Accessed 10 March 2002.
- Briner, M. (1999). *Theory Lev Vygotsky*. University 01 Colorado. Accessed 10 March 2002. Retrieved from <http://curriculum.calstatela.edu/faculty/psparks/theorists/501vygot.htm>.
- Cambridge IITT (2000). Competencies for online tutors. Accessed 14 February 2001. Retrieved from <http://www.iitt.org.uk/c-onltutor.htm>.
- Chaloupka, M., & Koppi, T. (1998). *A vignette model for distributed teaching and learning*. Association for Learning Technology Journal (ALTJ). UK: University 01 Wales.
- Coffield, F., Moseley, D., Hall, E., & Ecclestone, K. (2004). *Learning styles and pedagogy in post-16 learning: A systematic and critical review*. Learning and Skills Research Centre.
- Collis, B. (1998). Does more technology mean more choice for the learner? Experiences from the Tele Scopia Project. Vocational Training No. 7. Accessed 6 March 2001. Retrieved from http://www.firn.edu/~face/about/dec95/mult_int.html.
- Cornelius, S., Higgison, C. (2001). *The tutor's role*. Accessed 10 October 2004. Retrieved from <http://otis.scotcit.ac.uk/onlinebook/otis-t2.htm>.
- Darling-Hammond, L. (2010). *Performance counts: Assessment systems that support high-quality learning*. Washington, DC: Council of Chief State School Officers.
- Downes, S. (2007). E-learning 2.0. in development. Accessed 10 January 2008. Retrieved from <http://www.slideshare.net/Downes/elearning-20-in-development>.
- Downes, S. (2005). E-learning 2.0. Accessed 8 December 2007. Retrieved from <http://www.downes.ca/post/3174>.
- Downes, S. (2007). E-learning 2.0. Accessed 10 January 2008. Retrieved from <http://www.elearnmag.org/subpage.cfm?section=articles&article=29-1>.
- Downes, S. (2007). Free learning and control learning. Accessed 8 December 2007. Retrieved from <http://www.downes.ca/>.
- Downes, S. (2007). Web 3.0 and learning. Accessed 10 December 2007. Retrieved from <http://www.downes.ca/cgi-bin/page.cgi?post=36700>.
- Dunkin, R. (2000). *The institutional support perspective*. Keynote presentation to OTiS workshop Developing online tutors. Accessed 29 March 2002. Retrieved from <http://itlearningspace-scot.ac.uk/courses/keynotes/module5/main.cfm>.
- Fleming Neil, D. (2014). The VARK modalities. Archived from the original on 14 March 2015. Accessed 9 August 2015. Retrieved from vark-learn.com.
- Gagné, R. M. (1985). *The conditions of learning*. 4th ed. New York: Holt, Rinehart and Winston.
- Gagné, R. M., Briggs, L. J., & Wagner, W. W. (1992). *Principles of instructional Design*. 4th ed. Holt, Reinhart and Winston Inc.
- Gagné, R. M., Briggs, L. J., & Wagner, W. W. (1992). *Principles of instructional design*. 4th ed. Florida State University: Harcourt Brace Jovanovich.
- Goldman, S. (2000). Internet: e-Learning. Goldman Sachs Global Equity Research. Accessed 10 July 2005. Retrieved from <http://www.gs.com>.

- Hattie, J. (2011). *Visible learning for teachers: Maximizing impact on learning*. New York, NY: Routledge.
- Higgison, C. (2000). Subject: Determining learning styles. Discussion Room: OTiS – Tutor and Learner Styles 4. Accessed 18 February 2001. Retrieved from <http://vls.scotcit.ac.uk/>.
- Hird, A. (2000). Subject: Pedagogy and roles. Discussion Room: OTiS – Tutor Roles 2. Accessed 12 February 2001. Retrieved from <http://vls.scotcit.ac.uk/>.
- IITT (2000). Competence frameworks – Online tutors. Competencies for online tutors. Accessed 14 February 2001. Retrieved from <http://www.iitt.org.uk/c-onltutor.htm>.
- Janes, D. (2000) Discussion room: OTiS – Models of online learning and tutoring 8. Accessed 12 February 2001. Retrieved from <http://vls.scotcit.ac.uk/>.
- Janes, D. (2000). Subject: Tutor and student skills. Discussion Room: OTiS – Best Practice for Effective Tutoring 9. Accessed 12 February 2001. Retrieved from <http://vls.scotcit.ac.uk/>.
- Jean Piaget Society (1995). *The Jean Piaget Society*. Toronto, Canada. Accessed 10 March 2005. Retrieved from <http://www.piaget.org>.
- Kogan, P. Z., Harris, R., & Muirhead, B. (2000). *Building and online learning community*. In C. Higgison (Ed.), *Online tutoring*. Heriot-Watt University and The Robert Gordon University. Accessed 12 February 2001. Retrieved from <http://otis.scotcit.ac.uk/e-book>.
- Kolb, D. A. (1981). Learning styles and disciplinary differences. In A. Chickering (Ed.), *The modern American college* (pp. 232–255). San Francisco, CA: Jossey-Bass.
- Mackie, J. (2000). Learning styles and motivation. Discussion room – Motivation and learning online. Accessed 12 February 2001. Retrieved from <http://otis.scotcit.ac.uk/e-book>.
- McAlpine, M., & Higgison, C. (2001). New assessment methods. In C. Higgison (Ed.), *Online tutoring*. Heriot-Watt University and The Robert Gordon University. Accessed 2 April 2001. Retrieved from <http://otis.scotcit.ac.uk/e-book>.
- McLeod, S. A. (2013). Kolb – Learning Styles. Retrieved from www.simplypsychology.org/learning-kolb.html.
- Melsa, J. L. (1997). Trends in engineering education in the USA. *Engineering Science and Education Journal*. EUA: IEEE.
- Mergel, B. (1998). Instructional Design & Learning Theory. University of Saskatchewan. Accessed 10 May 2005. Retrieved from <http://www.usask.ca/education/coursework/802papers/mergel/brenda.htm>.
- Missão Para A Sociedade Da Informação (1997). *Livro Verde para a Sociedade da Informação*. Lisboa: Missão para a Sociedade da Informação.
- Mortimer, L. (2002). Learning objects of desire: Promise and partiality. EUA: Learning Circuits. Accessed 12 July 2005. Retrieved from <http://www.learningcircuits.org/2002/apr2002/mortimer.html>.
- Muirhead, B. (2000). Subject: Good online class discussions. Discussion Room: OTiS – Best Practice for Effective Tutoring 9. Accessed 2 March 2001. Retrieved from <http://vls.scotcit.ac.uk/>.
- Muirhead, B. (2000). Subject: Tutor questioning. Discussion Room: OTiS – Best Practice for Effective Tutoring 9. Accessed 4 March 2001. Retrieved from <http://vls.scotcit.ac.uk/>.
- Muirhead, B. (2000). Subject: Tutor skills. OTiS – Tutor Role, 2. Accessed 2 March 2001. Retrieved from <http://vls.scotcit.ac.uk/>.
- NETg. (2002). The learning object structural component. EUA: NETg. Accessed 10 June 2002. Retrieved from <http://www.netg.com/research/whitepapers/losc.htm>.
- Northrup, P. (2002). A framework for designing interactivity into web-based instruction. In A. Rossett, *The ASTD E-Learning handbook: Best practices, strategies and cases studies for an emerging field*. New York: McGraw-Hill.

- O'Reilly, T. (2005). What is web 2.0: Design patterns and business models for the next generation of software. Accessed 28 August 2008. Retrieved from <http://www.oreillynet.com/pub/a/oreilly/tim/news/2005/09/30/what-is-web-20.html>.
- Palloff, M., & Pratt, K. (2000). *Effective strategies for the online classroom. Keynote presentation to OtiS workshop "Developing online tutors."* Accessed 27 March 2001. Retrieved from <http://itlearningspace-scot.ac.uk/courses/keynotes/module1/main.cfm>.
- Phillips, J., Phillips, P., & Zuniga, L. (2000). *Evaluating the effectiveness and the return on investment of e-Learning*. EUA: American Society for Training & Development (ASTD). Accessed 15 October 2002. Retrieved from http://www.astd.org/virtualcommunity/research/What_Works/e-learning/e-learning_main.html.
- Randon, H. (2002). *Six steps to developing a successful e-learning initiative: Excerpts from the ELearning Guidebook*. In A. Rossett, *The ASTO e-learning handbook: Best practices, strategies and cases studies for an emerging field*. New York: McGraw-Hill.
- Reis, A. (2011). From "connectivism" to "ethicism." In Gonçalo Jorge Morais da Costa (Ed.), *Ethical issues social dilemmas in knowledge management. Organizational innovation* (pp. 113–130). ISLA Leiria, Portugal. DOI: 10.4018/978-1-61520-873-9.ch00.
- Reis, A. (2013). Teachers' skills for the school of the future. Research project. Conclusions presentation and debate. Retrieved from <http://areis-en-teachers-skills.blogspot.pt/>.
- Reis, A. (2013). How should we teach in the school of the future? Distance Learning Conference at the University of Silesia, Poland. Retrieved from <http://areis-en-dlcc-selection.blogspot.pt/>.
- Reis, A. (2013). How should we teach in the school of the future? Presented at Distance Learning Conference at the University of Silesia, Poland. Retrieved from <http://areis-en-learn-teach.blogspot.pt/>.
- Reis, A. (2013). *How should we teach in the school of the future?* In E. Smyrnova-Trybulska (Ed.), *E-learning & Lifelong Learning* (pp. 13–38). Katowice–Cieszyn: STUDIO NOA.
- Reis, A. (2014). La escuela del futuro hoy. Presented at University John F. Kennedy. Buenos Aires. Retrieved from <http://areis-es-escuela-del-futuro.blogspot.pt/>.
- Reis, A. (2014). Las TIC en Educación – MOOC. Con Universidad Central de Mexico. Retrieved from <http://areis-es-tic-edu.blogspot.pt/>.
- Reis, A. (2014) MOOC Case study. Presented at Herzen Pedagogic University of Russia at St. Petersburg, Russia. Retrieved from https://youtu.be/oRpBZz_oljk.
- Reis, A. (2014). MOOC Cooredinación – Métodos y herramientas para la Escuela del Futuro – MOOC. Retrieved from <http://areis-es-mooc.blogspot.pt/>.
- Reis, A. (2014). Reflections to teach in the school of the future. Presented at Herzen conference Pedagogic University of Russia at St. Petersburg, Russia. Retrieved from <http://areis-en-herzen2014.blogspot.pt/>.
- Reis, A. (2014). Learn and teach in the school of the future. Methodological and technological aspects. Presented at Udmurt State University in Izhevsk, Russia. Retrieved from https://youtube/_U04rKuVFao.
- Reis, A. (2015). La escuela del futuro contribución a una profunda reflexión. Presented at University John F. Kennedy. Buenos Aires. Retrieved from <http://youtu.be/8tFEoVGswvg>.
- Reis, A. (2015). Presenting IRNET WP4. Retrieved from <https://youtu.be/CUkep7PbTis>.
- Reis, A. (2015). Reinventing the University. IRNet Seminar in Lisbon University. Retrieved from http://youtu.be/TVDqUM_RxeA.
- Reis, A. (2015) Ser professor no século XXI, contributo para uma reflexão. Conferencia na Escola Superior de Educação, Porto. Retrieved from <http://youtu.be/-RW4MeaEdo8>.
- Reis, A. (2015). To be a teacher in the XXIst century. Presented at the University of Silesia, Poland. Education Science Conference opening keynote. Retrieved from <https://youtube/z-vKnZ4Lmoc>.

- Reis, A. (2015) To be a teacher in the XXI century. Presented at Boris Grinchenko Kyev University Education Conference 2015. Retrieved from <http://youtube.com/ox1YIz5BILk>.
- Reis, A. (Director) (2011). "Teacher's skills for the school of the future." Conferencia internacional de la universidad de Izhevsk, Russia. Retrieved from http://olcw.thegraal.org/TSSF/Presenting_at_izhevsk.htm.
- Reis, A., Basogain, X., Olabe, M., Espinosa, K. (2009e). *Supporting the education with 3D environments and MUVes*. INTERACCIÓN 2009. X Congreso Internacional de Persona-Ordenador. III Jornadas sobre Realidad Virtual y Entornos Virtuales, Jorevir 2009. Septiembre 2009, Barcelona, Spain.
- Reis, A., Basogain, X., Olabe, M., Espinosa, K., Cubo, S., Blázquez, F., & Pinto, P. (2009i). *Sesiones online con grupos reducidos: tutoría y trabajo colaborativo*. III Jornadas de Intercambio de Experiencias de Moodle, Moodle Moot Euskadi '2009. 15 May 2009, Bilbao, Spain.
- Reis, A. (2008). *From e-learning 1.0 to e-learning 3.0 (e-learning generations)*. Izhevsk University, International Conference, Russia.
- Reis, A. (2008). *New technologies and didactics in new methodologies environment*. Innsbruck University Press.
- Reis, A. (2010). *E-learning the evolution*. In E. Smyrnova-Trybulska (Ed.), *Use of E-learning in the training of professionals in the knowledge society* (pp. 13–32). Katowice–Cieszyn: University of Silesia, STUDIO NOA.
- Reis, A. (Director) (2009). Creative Learning Conference "New skills for new jobs." Retrieved from <http://olcw.thegraal.org/clc091016-01/clc091016.html>.
- Reis, A. (Director) (2010). Las generaciones de e-learning – en Rede Tebas – Universidad Central de Caracas, Venezuela. Retrieved from <http://www.wetoku.com/redtebas/2xd>.
- Reis, A. (Director) (2010). Virtual World Best Practices in Education Conference. Retrieved from http://olcw.thegraal.org/SL/SL_asVLE/Seminario_uh090205f2/Seminario_uh090205f2.html.
- Reis, A. (Director) (2010). About my experience as a teacher and trainer. Halmestad University Conference. Sweden. Retrieved from <http://olcw.thegraal.org/diversos/1001halmestad/100126-Halmestad/100126-Halmestad.html>.
- Reis, A. (Director) (2010). Del e-learning al Learning – Edutec 2010 Keynote – Universidad de País Vasco. Retrieved from <http://uex.emea.acrobat.com/p53522716/>.
- Reis, A. (Director) (2010). Implementing virtual classrooms – Uppsala University Conference, Sweden. Retrieved from <http://uex.emea.acrobat.com/p53522716/>.
- Reis, A. (Director) (2010). Presentación en Universidad de Rouen sobre uso de aulas virtuales para enseñanza de sordos. Retrieved from <http://olcw.thegraal.org/diversos/rouen-100114/rouen-100114.html>.
- Reis, A., Basogain, X., Blázquez, F., Cubo, S., & Olabe, M. (2009g). *To be or not to be M-learning (that it is the question)*. 3rd WLE Mobile Learning Symposium, Mobile Learning Cultures across Education, Work and Leisure, WLE Centre, IOE London, UK, 27 March 2009. Book of abstracts, pp. 75–80 (pdf).
- Reis, A., Basogain, X., Olabe, M., Espinosa, K., Cubo, S., Blázquez, F., & Pinto, P. (2009c). *Sesiones online con grupos reducidos: tutoría y trabajo colaborativo*. II Jornadas de buenas prácticas de e-learning. 25, June 2009, Bilbao, Spain. Campus Virtual EHU. Retrieved from http://campusvirtual.ehu.es/eventos/buenas_practicas_2009/xabier.htm.
- Reis, A., Basogain, X., Olabe, M., Espinosa, K., & Pinto, P. (2009d). *Interactividad 3.0 en la e-educación*. V Jornada del Campus Virtual Universidad Complutense de Madrid, Buenas Prácticas e Indicios de Calidad. Madrid February 2009, pp. 154–161.
- Ryneveld, V. (date not available). *What is Constructivism?*. Accessed 10 March 2005. Retrieved from <http://hagar.up.ac.za/catts/learner/lindavr/lindapgl.htm>.

- Savery, J., & Duffy, T. (1996). *Problem-based learning: An instructional model and its constructivist framework*. In WILSON, Bent G. *Constructivist learning environments: Case Studies in Instructional Design*. Englewood Cliffs, NJ: Educational Technology Publications.
- Sherron, G. T., & Boettcher, J. V. (1997). *Distance learning: The shift to interactivity*. Washington: Educause Professional Paper Series NQ 17. Accessed 7 December 2001. Retrieved from <http://www.educause.edu/pub/profess.html>.
- Siemens, G. (2005). *Connectivism: A learning theory for the digital age*. Accessed 14 September 2008. Retrieved from <http://www.elearnspace.org/Articles/connectivism.htm>.
- Sitharam, T. (2000). *Subject: Tutor and learner styles. Discussion Room: OTiS – Tutor and Learner Styles 4*. Accessed 28 February 2001. Retrieved from <http://vls.scotcit.ac.uk/>.
- Southwest Educational Development Laboratory (SEDL) (1998). *Constructivism... what's that?*. SEDL. Accessed 5 May 2002. Retrieved from <http://www.sedl.oigtap/newsletters/winter98/what.html>.
- Stalder, F., & Castells, M. (2006). *The Theory of the Network Society*. Oxford: Polity Press.
- Stiles, J. (2006). Cognitive brain development. Accessed 5 October 2006. Retrieved from <http://www.youtube.com/watch?v=FugrcVhi2tg>.
- Stiles, J., Moses, P., & Paul, B. (2005). Cognitive development following early brain injury: Evidence for neural adaptation. *Trends in Cognitive Science*, 9 (3), pp. 136–143. Accessed 12 February 2006. PDF: Retrieved from <http://www.cogsci.ucsd.edu/DCNL/pdf/stiles.2005.TICS.pdf>.
- Taylor, L. Cert Perioperative Nursing, Grad Dip Nursing. Accessed 30 September 2008. Retrieved from <http://www.siaa.asn.au/get/2396672209.pdf>.
- Tinker, R. (n.d.). Modelo de Concord para aprendizaje a distancia, Concord org. Accessed 5 July 2010. Retrieved from <http://www.eduteka.org/pdfdir/ModeloConcord.pdf>.
- Tomlinson, C. A. (2014). *The Differentiated Classroom: Responding to the Needs of All Learners*. Alexandria, VA: ASCD.
- Untiedt, H. (2001). *Behaviorist Theory*. Accessed 2 August 2005. Retrieved from http://hagar.up.ac.za/catts/learner/2001/untiedt_jsh/projects/loo/web_page/behaviorism.html.
- Vygotsky, L. S., & John-Steiner, V. (1978). *Mind in Society: The Development of Higher Psychological Processes*. MA: Harvard University Press.

Antonio dos Reis

Być nauczycielem w blended learningu w XXI wieku – refleksje

Streszczenie

Być nauczycielem w XXI wieku to ogromne wyzwanie, wymagające poważnego namysłu. Przez ostatnie siedemdziesiąt lat byliśmy świadkami wielkiej ewolucji. Od zajmującego całe pomieszczenie stacjonarnego komputera (pierwszy komputer Mark I powstał w 1943 roku) do niewielkich komputerów kieszonkowych, o wymiarach kilka tysięcy razy mniejszych, a zarazem o wydajności i pojemności kilka tysięcy razy większej. E-learning 3.0 opiera się na synchronicznej interaktywności, która stała się możliwa dopiero po 2004 roku, dzięki znacznemu zwiększeniu pasma internetowego, ewolucji w kompresji obrazu wideo, technice streamingowej i rozwojowi platform wspierających klasy wirtualne. To jeszcze jedna rewolucja. W konsekwencji e-learning ewoluował i przybrał nową formę – b-learningu, dzięki któremu studenci nie będą nigdy pozostawieni sami sobie, a interaktywność nabierze dużego znaczenia. B-learning ma obecnie inny format, tzn. jest formą asynchroniczną

(aktywności są realizowane w trybie interaktywnym z udziałem zdalnej pracy opartej na współpracy, również treści pojawiają się na żądanie) oraz synchroniczną, polegającą na rzeczywistej obecności uczących się lub na wykorzystaniu wirtualnego środowiska.

Słowa kluczowe: nauczyciel w blended learningu, b-learning, interaktywność synchroniczna, środowisko wirtualne.

Antonio dos Reis

Размышления о преподавании в смешанной форме (b-learning)

Резюме

Быть учителем 21 века – это сложная и интересная задача, требующая серьезных размышлений. За последние 70 лет произошли значительные эволюционные изменения: от компьютера, занимающего целую комнату (первый компьютер Mark I был создан в 1943 году) до миниатюрных карманных компьютеров, которые в тысячи раз меньше и в тысячи раз мощнее по производительности и емкости. Электронное обучение 3.0 базируется на синхронной интерактивности, что стало возможным только после 2004 года благодаря значительному увеличению доступности и широкополосности интернета, развитию видеокompresии, точного видео и совершенствованию платформ для реализации виртуальных классов. Это были революционные изменения. В результате электронное обучение превратилось в новую самостоятельную форму – смешанное обучение (b-learning), при котором студенты никогда не остаются в одиночестве, а и интерактивность приобретает особое значение. Смешанное обучение реализуется сегодня в различных форматах: от асинхронных форм (контент по запросу, дополняемый интерактивными формами дистанционного сотрудничества) до синхронного взаимодействия в виртуальной среде.

Ключевые слова: преподаватель смешанного обучения, смешанное обучение (b-learning), синхронная интерактивность, виртуальная среда.

Antonio dos Reis

Convertirse en un b-profesor (enseñanza dual) en el siglo XXI – algunas reflexiones

Resumen

Ser un maestro en el siglo XXI es un gran desafío y requiere de grandes pensamientos. Ha habido una gran evolución en los últimos 70 años. Desde un ordenador de sala (el Mark I en 1943) a los pequeños ordenadores de bolsillo, miles de veces más pequeños y miles de veces más grandes en el rendimiento y la capacidad. El E-learning 3.0 se basa en la interactividad sincrónica y solo fue posible después de 2004 debido a un aumento considerable en el ancho de banda de Internet, la evolución en la compresión de vídeo, vídeo arroyo y la sofisticación de las plataformas del aula virtual. Esta ha sido otra revolución. Como resultado, el e-learning ha evolucionado en una nueva forma de aprendizaje: el b-learning, en el que los estudiantes no están solos y la interactividad se vuelve muy importante.

El b-learning tiene un formato diferente ahora: es asíncrono (contenidos en demanda y actividades que se ejecutan en un formato interactivo con trabajo colaborativo a distancia) y sincrónico en un formato presencial o en un entorno virtual.

Palabras clave: profesor Blended, b-learning, interactividad sincrónica, entorno virtual



Education Quality
in Open E-environment Research



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Open E-environment – The Key Instrument of the Education Quality

Abstract

Creation of an open e-environment is one of the main tasks of universities as its use for educational purposes enhances the quality of education of the modern university. A checking tool of the quality and transparency of e-environment in the world is the use of rating systems. The article describes the main global educational ratings and the impact of their indicators on the university work, the development of internal ratings of university structural divisions based on indicators of the Webometrics rating. An analysis was made of the publication activity of scientific and pedagogical staff using the Ukrainian information-analytical system “Bibliometric of Ukrainian Science” and a comparative study was performed to analyse the qualitative provision of masters by the teaching staff based on the newly-established and implemented in the BGKU rating system “E-portfolios.”

Key words: open e-environment, rating, quality of the educational process, publication activity, e-portfolio

Introduction

The main task of the modern university is to improve the quality of education, ensuring its compliance with national, European, and international professional standards and activation in the international and European educational space. The modern labor market requires the transfer of emphasis from the educational

process to its ultimate qualitative results. To ensure the quality of the educational process one must comply with the standards and recommendations, developed by the European Association for Quality Assurance in Higher Education (ENQA). The Quality Assurance System in Higher Education (QASHE) consists of a quality assurance system for educational process and quality assurance (internal quality assurance system) and an external quality assurance system of educational activity at the university (Kremen, 2014).

The system of external quality assurance of educational activity at the university suggests maintenance of the efficiency of processes and procedures for internal quality assurance, ensuring availability of a system for procedures implementation of the external quality assurance process, publishing the criteria for decision making, accessible and understandable reporting, periodic audits of quality systems functioning and of mechanisms of work with received recommendations. Internal quality assurance of educational activity involves determining the policy of the university and procedures for quality assurance, monitoring and review of educational programs, evaluation of students and teaching staff, including publication the results, ensuring quality of teaching staff and of educational resources, the availability of electronic informational systems and ensuring publicity of information.

The experience of the Borys Grinchenko Kyiv University shows that to ensure qualitative educational activity, a strategy and plans of the university along with section “Assurance of Educational Quality” should be adopted; indicators for assurance of internal quality standards should be developed; corporate standards of a university should be developed and a qualitative open electronic informational and educational environment should be created (Morze, Buinytska, & Kocharyan, 2015).

Open Electronic Environment of the University

Creation of an Electronic Informational-Educational Environment of the University

Development of corporate standards, creation of a personal learning environment of a student and a teacher are ways to create an electronic informational-educational university environment.

The university’s electronic informational-educational environment consists of e-content and technology of e-influence and e-collaboration. Within the e-content we highlight text, graphics, multimedia, and links to resources. The e-environment content includes open e-resources and limited access. Open e-resources are characterized by free, fast, permanent, full-text access in real time to scientific and

educational materials that are available to any user in the global informational network (Ogneviuk, 2014). Work with e-resources with restricted access authorization is necessary. More information can be found on the e-content of BGKU on the official portal <http://kubg.edu.ua/> in the menu Resources – E-environment (Figure 1).



Figure 1. Electronic informational-educational environment of BGKU.

Development of Electronic Informational-Educational Environment of the University

An important condition for the effective functioning of electronic informational-educational environment is its transformation into an open system thanks to interaction with the labor market, providing students with more control over the educational process by participating in its planning and evaluation of quality, ensuring self-control and self-assessment. Functioning of an open e-environment in this case will be the basis for academic and scientific mobility of all participants in the educational process, as well as a means of strengthening of the subjective position of students during the teaching process. The main requirements for the development and usage of e-environment is understanding its purpose, creation of qualitative content, and effectiveness of interaction technologies used by participants in the educational process. During the course of usage of qualitative open e-environment teaching, assessment, curriculum, informational-training platforms, science, management, and reporting will be open accordingly. This, in turn, will enable the exchange of ideas, cooperation between institutions, teachers and students, and will have a positive impact on the quality of the educational activity of the university.

Quality Monitoring of Educational Activity at the University

University Ratings during the Monitoring Process of the Educational Activity

Determining the level of educational services and the effectiveness of the scientific work at the university helps to rank higher education institutions (RHEI) – the process and mechanism of performance of higher education institutions or educational programs based on certain criteria and also determine the appropriate ratings (Kremen, 2014).

In many Western countries, the rating is one of the tools for evaluation of university activity. The term “rating” – from the Latin *ratio* (noun), *reor*, *veri* (verb) – means ‘score’, belonging to the class level, group, category (Zimenkovsky, 2010). Recently, there is a growing interest in the global rankings of universities that take into account indicators of qualitative education. Definition of the integral index for quality of the university activity is due to the need of mutual recognition of curriculums in combination with the needs of the modern labor market.

The aim of universities ratings is:

- to provide information to applicants, students and their parents, investors, employers, university administration;
- to stimulate universities to self-assessment and thus identify the strengths and weaknesses of their activities, and, therefore, enhance their competitiveness through modernization and flexibility of educational programs;
- to form a single unified system of indicators to evaluate the quality of universities.

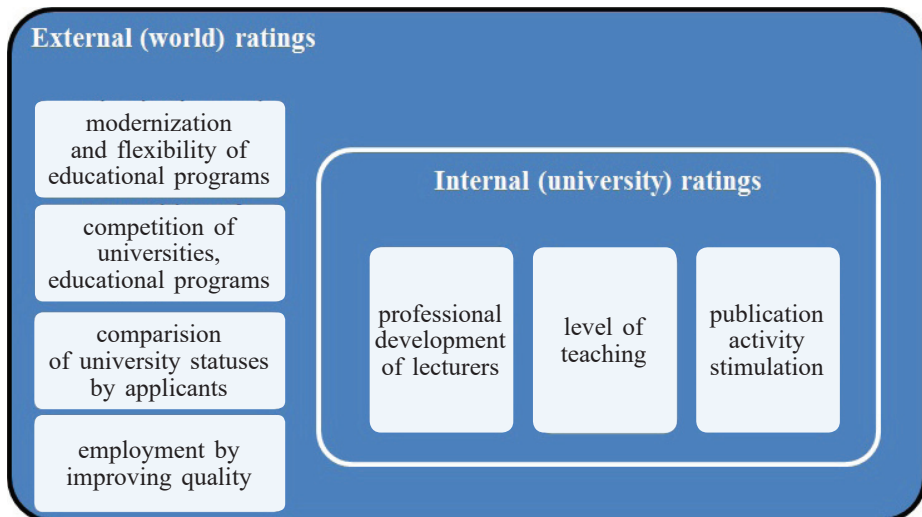


Figure 2. The main objectives of the use of ratings.

The advantage of the rating system is its independence from official state structures that undermine their influence on the assessment of the quality of education.

The key indicators of the quality of educational activity of the university (<http://www.euroosvita.net>) can serve as indicators of external (world) and internal (university) ratings, objectives of which are reflected in Figure 2.

Quality of Educational Activities by World University Rankings

The leaders among authoritative world rankings are Shanghai (ARWU), THES-QS, and Webometrics. The Shanghai (Academic Ranking of World Universities – ARWU) ranking of universities is focused solely on the research activities of the university. When the ranking is made, selected are only those universities whose staff academic or graduates have a Nobel Prize or Fields Medal. In the methodological aspect when forming the Shanghai ranking the stress is put on easily accessible data sources, including publicly available data on the number of publications, citation indexes, etc. Among the main indicators one can underline: quoting of professors' scientific work listed on the basis of 21 major scientific disciplines according to ISI Highly Cited, number of articles published in *Nature* and *Science* for the last 5 years, the number of links to articles in other scientific studies (counting based on SCIE – Science Citation Index Expanded, SSCI – Social Sciences Citation Index, and AHCI – Arts and Humanities Citation Index). To get into it, it is necessary to “publish a significant number of works included in the Expanded scientific citation index (SCIE), citation index in Social Sciences (SSCI), citation index in arts and humanities (AHCI)” (<http://www.shanghairanking.com/>).

During ranking formation of the version of “The Times” (THES-QS) (<http://www.topuniversities.com>) the quality of research, competitiveness of alumni, international recognition, the quality of teaching are taken into account. Particular attention is paid to the scientific community feedback and citation index of works. Only 27 Ukrainian universities are listed in this ranking, six of which came in the top 1,000.

One of the most important indicators of the quality in both rankings is quality of the teaching staff, which is determined by level of citation of professors and faculty members in international scientific literature.

In terms of science-metrics database Scopus (<http://jsi.net.ua/scopus>) as of July 2015, 124 from Ukrainian universities got into it, the leader among them is the Taras Shevchenko National University of Kyiv (the number of publications in Scopus 12,416, the number of citations – 49,991).

Database developers not only count the number of publications, but also assess effectiveness of research and quality of the scientific publications in order to create the ranking of scientists of Ukraine. It is believed that: “If your papers are not in the databases of ISI – the most famous US scientific database – then you, as a scientist, do not exist [...]” (Rozhen, 1999). On the basis of this ranking scientists are rated

in the Hirsch index (researcher's h-index equals to N if he or she is the author of at least N items, each of which was cited at least N times, the remaining articles were cited less than N times), and within it by the number of citations. These are the figures excluding self-citation of all co-authors.

A significant disadvantage for Ukrainian universities is that in the world's most influential science-metrics databases Web of Science and Scopus mainly English-language publications are taken into account, and those that meet international requirements to scientific publications (publication cost starts at \$500). Access to the review and studies of scientific publications, listed in databases requires a paid subscription. All this led to relatively low rates of Ukrainian universities in these science-metrics databases.

Today, for Ukrainian universities the most effective tool for comparative assessment of educational quality in accordance with generally accepted international criteria is the Webometrics ranking, because the perspectives of appearance in the ARWU ranking significantly depend on the hard solving subjective factors (final grades are dependent in 40% on the opinions of English speaking experts who graduated from leading Western universities) and on more complex objective factors related to financing (it is believed that the annual budget of the university which is a part of the ARWU and THES rankings should be about a billion dollars, which is 10–100 times more than the leading Ukrainian universities have, for example) and other factors (e.g., in the universities of the United States and Canada top managers receive bonuses of \$10–20 for upgrading the level of the university in the list, which is not yet possible for Ukrainian universities).

Generally, the conception of the Webometrics ranking of the world's universities can be explained by Bill Gates's words: "If you are not on the Internet, then – you do not exist." The university cannot attract talented students and teachers at the global level (and hence to prepare high-quality professionals) without being effectively presented on the Internet. Accordingly, an assessment of Internet presence is one possible measure of the university's activity worldwide that is defined by a special methodology, developed in accordance with Berlin Principles on Ranking of Higher Education Institutions, defined by UNESCO.

The Webometrics rating (<http://www.webometrics.info>) is based on the analysis of official websites of educational institutions, so it includes only those universities that have their own independent web domain. The analysis takes into account various indicators that characterize the scope, presence, and importance of online presence of the universities. The purpose of the rating is not to evaluate websites, their design, convenience, popularity, or their content which is based on the number of visits and visitors. Web indicators used in the world for an independent, detailed rating of global university performance, taking account of its activities and results, their significance and impact.

The basis of the rating depends on two main criteria that take into account your university domain data (each criterion has a certain weight corresponding to its importance):

- Visibility, 50%.

Impact, 1/1 evaluates by the “virtual referendum,” counting all the external links that the University receives from third parties (quoting website pages). It is calculated from the number of feedbacks and number of domains from which place feedbacks. So the variety of links is important, not their “popularity.”

- Activity, 50%.
- Presence, 1/3 is determined by the total number of webpages located on the main web domain (including all subdomains and directories) of the university, indexed by the major commercial search engines, such as Google.
- Openness, 1/3 counts the total number of files and records with the correct name of the file (pdf, doc, docx, ppt), published on specialized websites (including institutional repositories), according to the web academic search engine Google Scholar.
- High quality (Excellence, 1/3) calculates the number of scholarly papers published in influential international journals. Indicator is limited by counting publications among the top 10 percent most cited in their respective fields. Information is provided by research laboratory SCImago.

It is important to say that Webometrics, existing since 2004 integrated rating system of university activity, accounts for Scientific Publication activity of university scientists exclusively on the basis of Google Scholar. Currently, Google Scholar covers almost all sources of ISI database and additionally includes a large number of collections of scholarly publications on various types of webdocuments, including the post-Soviet information space. This is important given the fact that, for example, the database ISI indexes cover only one-third of the 25-thousand peer-reviewed journals, and only 15% of the annual volume of indexed publications presented in an open access.

The Webometrics Ranking of World’s Universities as of July 2015 saw 295 Ukrainian universities outside the list. Unfortunately, the first thousand did not include any of the Ukrainian universities (National Technical University of Ukraine, Kyiv Polytechnic Institute – 1,544, the Taras Shevchenko National University of Kyiv came 1,590, National Aviation University – 1,967). The Borys Grinchenko Kyiv University (hereinafter – BGKU) took 6,051 position in the world ranking (with 23,717 universities), 407 among the countries of Central and Eastern Europe and 29 among Ukrainian universities.

Analysis of Public Educational Activities at Webometrics Rating of BGKU

Now we will proceed to analyse the main criteria for Webometrics rating of BGKU (<http://kubg.edu.ua/resursi/webometrics.html>) and explore their impact on the quality of educational activities.

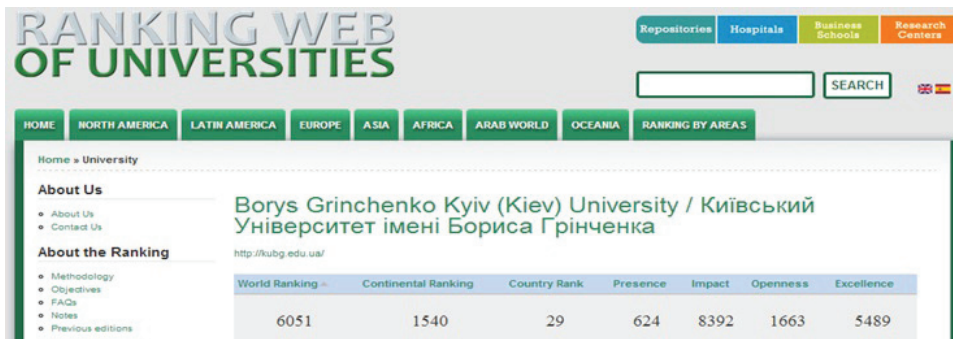


Figure 3. Criteria of BGKU in the Webometrics ranking (July, 2015).

Comparing the criteria rating for the past three periods (Table 1) we can see the growth of two indicators – the presence and impact. Figure 4 shows the improvement of the impact indicator which went up compared to July 2014 by 36%. LED indicator is the product of the square root of the number of feedbacks and the number of domains that come from feedbacks. Therefore, it is important not only to link popularity, but also their variety. Index indicates the institutional prestige, success, value, and usefulness of data services that are on web pages according to the criteria of millions of web editors around the world. The data from the visible links are collected from two major suppliers of information: Majestic HYPERLINK (<http://www.majesticseo.com/> SEO) and Ahrefs.

In order to improve significantly the most influential figure links to the university should be placed on domain kubg.edu.ua at all possible external resources (websites, blogs, and social networks); when placing articles on the websites of departments and institutions rely on the main portal of the university; duplicate information in social networks, sharing posts, etc.

If criteria of the first component visibility (impact) improved, the second – activity in general deteriorated, except the indicator of presence.

Table 1.
Criteria of BGKU in the Webometrics ranking

Period	World criteria	Rating in the country	Presence	Impact	Openness	Excellence
July 2015	6051	29	624 ↑	8392 ↑	1663 ↓	5489 ↓
February 2015	5336	48	953 ↑	11719 ↑	1257 ↑	5414 ↑
July 2014	6345	61	990 ↑	13018 ↓	1499 ↑	5442 ↓

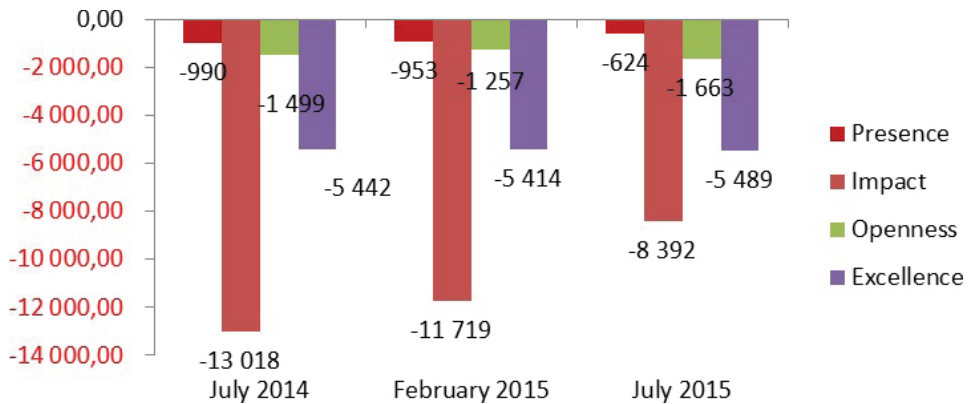


Figure 4. Comparison chart of rating changes.

Compared with July 2014 the presence indicator improved by 37%, the impact – 35%. Rating presence (number of indexed web pages most commercial search engine Google) of the university has increased due to the large number of sites and pages on them. Today the university maintains more than 70 sites in the domain kubg.edu.ua.

For the year BGKU has lost its position in key indicators of openness and excellence, which directly reflects the scientific achievements of universities in the world information space. The score of excellence substantially remained unchanged (even though it fell by 75 positions in comparison with February 2015), which proves that when we place articles in famous international journals authors do not indicate their current job (BGKU) and the account of the BGKU is absent in authoritative international science-metrics databases (Web of Science, Scopus). If, for example, in the first semester of the academic year the teaching staff of the BGKU will activate by placing their research portfolio in the public domain (an indicator of openness rose by 16%), but at the end of the school year this rating fell to 25%, indicating either a decrease in publication activity of teaching staff of the BGKU, or fear of placing their works in the public domain for the global scientific community (and this is excellence!).

With the publication of articles in famous international journals heads of higher education institutions have to evaluate research activities of each employee, departments, laboratories, as well as the number of publications and citations. Moreover, they analyze the results of research to get objective information about scholarly activity not only within the university but also with respect to the leading Ukrainian and international institutions to be competitive in the educational market.

Evaluation of Scientific Publication activity of universities ranged by individual rating Webometrics exclusively in Google Scholar – rated institutional repositories (Ranking of Repositories). Its main criteria are the size (Size) – 10%; Visibility (Visibility) – 25%, and 25% is allocated to the following sources: Academia,

Facebook, LinkedIn, Mendeley, ResearchGate, Slideshare, Twitter, Wikipedia (all editions), Wikipedia (English version), YouTube, and Skribd; rich files (Rich files) – 10%; indexed Academy (Scholar) – 30%.

According to the ranking (Table 2) as of July 2015, BGKU rose from 28th to 15th place for the period of 2014/2015 among 46 Ukrainian universities presented in the ranking. Among institutional repositories in the world, institutional repository of BGKU took 895th place (rising 383 positions) from 2,239 of those listed in the ranking.

To improve indicators of webometrics ranking an internal ranking was developed at KUBG structural units, based on Webometrics. The results of internal ranking are calculated monthly that allows the heads of departments to see to which indicators should be paid special attention. Internal ranking is published on the official portal of BGKU (Figure 5).

For a better perception of the internal ranking indicators visualization according to indicators and periods is realized (Figure 6).

As it is crucial for BGKU to improve the indicators related to scientific and publishing activity of teaching staff the filling of the institutional repository is constantly monitored.

Table 2.

Indicators of Institutional Repository ranking by Webometrics for BGKU

Period	World ranking	Ranking in the country	Size	Visibility	Rich files	Google Academy
July 2015	895	15	1172 ↓	1396 ↑	487 ↑	496 ↑
February 2015	1278	26	1014 ↓	1736 ↑	680 ↑	767 ↓
July 2014	979	28	1014 ↓	1754 ↓	763 ↑	277 ↑

Department	Department webpage	Visibility		Activity			Ranking	Place in the rating of the University Departments	
		Referring Domains	External Backlinks	Visits last month	Google PR	Bing Index			Yandex Citation Index
Institute of In-Service Training	ippo.kubg.edu.ua	41	45 005	5 002	5	1880	30	10205	1
University College	uk.kubg.edu.ua	16	55	6 813	4	773	30	1459	2
Humanitarian Institute	gi.kubg.edu.ua	14	49	6 878	4	553	20	1447	3
Institute of Society	is.kubg.edu.ua	18	149	4 519	4	473	40	991	4
Pedagogical Institute	pi.kubg.edu.ua	12	69	4 127	4	586	10	903	5
Institute of Human Sciences	il.kubg.edu.ua	13	1 490	2 677	0	579	10	896	6
Institute of Arts	im.kubg.edu.ua	10	115	2 273	0	665	10	548	7

Figure 5. Internal ranking of BGKU departments based on Webometrics indicators (July 15, 2015).

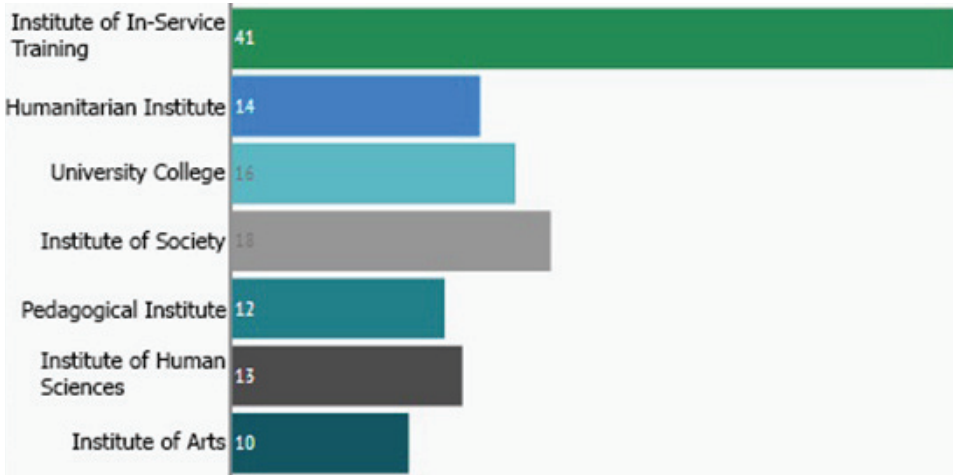


Figure 6. Visualization of internal ranking criteria (July 15, 2015).

For the academic year 2014/2015, the number of publications in the IP increased in 3,896 positions and counts today 7,055 scientific works of scientific-pedagogical staff. The number of scientific papers (articles, books) submitted to the institutional repository with the unit division is shown in Figure 7.

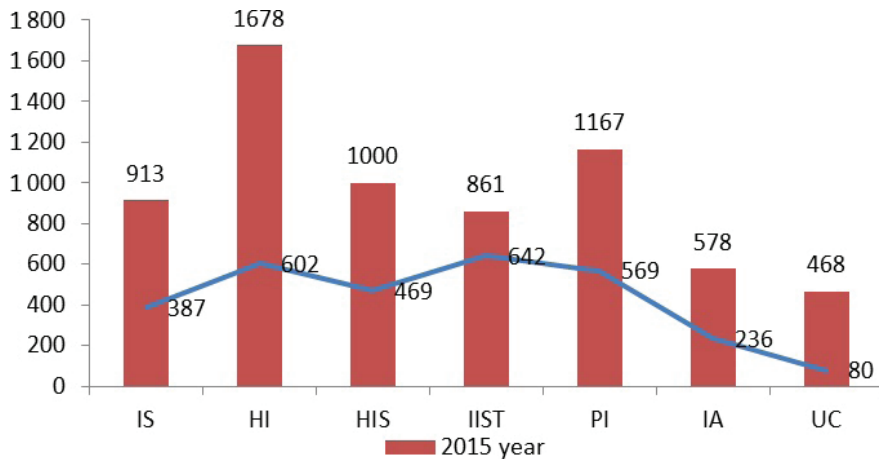


Figure 7. Comparison of the total number of scientific works of scientific-pedagogical staff submitted to the institutional repository (division by institutes).

Despite the fact that the number of scientific works of scientific-pedagogical staff deployed in the institutional repository exceeds 7,000, the amount of works per one employee of the university is critically low, besides the fact that it has risen from 3 to 7 publications.

Low quantitative indicators of the publications placed in the institutional repository indicate that not all scientific-pedagogical employees of BGKU submitted to the system filed in their own scientific work, or the university has a rather low level of publishing activity, and, respectively, and the low indicator of ranking by Webometrics.

Taking into account low ranking indicators of scientific and publishing activity in the global informational space it is not possible to expect scientific-pedagogical staff of BGKU to appear in international rankings of scientists.

Evaluation Results of Educational Activities by Information – Analytical System “Bibliometrics of Ukrainian Science”

National system of evaluation of the effectiveness of complex scientific component in the university environment is information-analytical system “Bibliometrics of Ukrainian science.” It is intended to provide a coherent picture of the society of national scientific environment.

Information resources information-analytical system “Bibliometrics of Ukrainian Science” is formed by processing:

- created by scientists on the platform Google Scholar bibliometric profiles containing verified information on the results of publication (this platform has the largest amount of indexed scientific papers and is publicly available);
- bibliometric indicators of Scopus, Web of Science, Ranking Web of Research Centers, Russian scientific citation index.

Information-analytical system “Bibliometrics of Ukrainian Science” is a scientometric add-on in Google Scholar bibliometric profiles of subjects and objects of national documentary communications. It shows research results in the form of profiles submitted as a report on the results of public research activities of the university. That is why the Internet activity of scientific-pedagogical university employees should be considered as an integral part of their professional activities. The system is a source base for the independent expert evaluation of the results of educational, scientific activities including local universities and educators.

In the rankings this system is an opportunity to familiarise with indicators of scientific activity of the scientific-pedagogical staff of the university as Google Scholar and Scopus, as well as analyze criteria ranking based on their scientific and professional activities. The maximum h-index of Ukrainian scientists in Google Scholar is 57, in Scopus – 40.

The main problem for BGKU is an open scientific e-content and its placement in leading scientific journals that are indexed in science-metrics databases. For this reason, BGKU is not displayed even in the ranking of Ukrainian universities (only two scientific-pedagogical staff of BGKU in Scopus Hirsch index is 1, the other – indexed publications available). However, information-analytical system “Bibliometrics of Ukrainian Science” (<http://www.nbuviap.gov.ua>) displays 230 scientific-pedagogical staff of BGKU in which Hirsch index (h-index) on

Google Scholar greater than zero (2 scientific-pedagogical staff with 18–20, 176 PNP – 1–8).

According to the rating researchers in the public domain only indexed works of 230 scientific-pedagogical staff of BGKU of the 698 are working at the university. Among them there are 280 Doctors of Philosophy and 59 Doctors of Science. Therefore, the task of the university employees is to create and update their own profiles in bibliometric Google Scholar, which will help the university to improve rating quality indicators of educational activities.

“E-Portfolio” as an Internal Tool of BGKU Educational Activities

To understand the whole picture quality of scientific-pedagogical staff of the university, we have to implement the Law on higher education, where quality and presence of the openness of universities is a priority, and develop a system of internal ratings BGKU staff – E portfolio (<http://e-portfolio.kubg.edu.ua>). The system displays the activities of scientific and pedagogical staff, which affects the performance of quality assurance of university education in line with European standards. Relationship between indicators of “e-portfolio” with e-environment and quality standards of education is shown in Figure 8 (Morze, & Varchenko-Trotsenko, 2014).

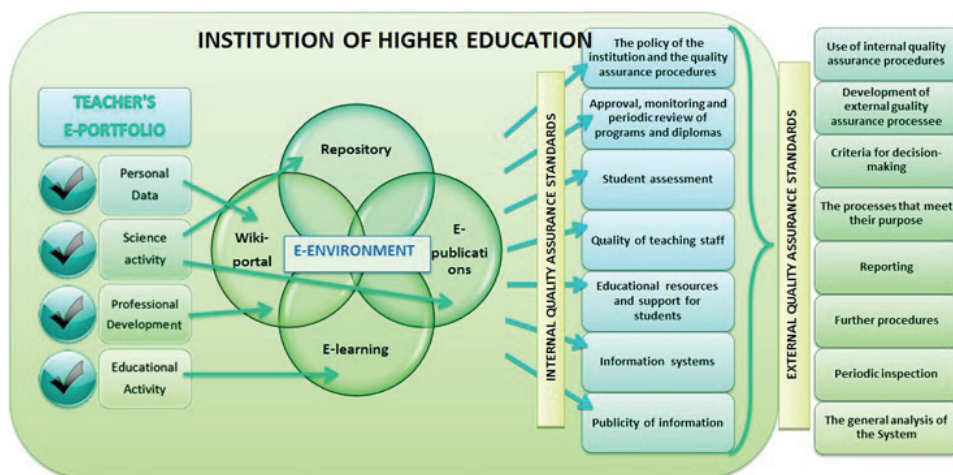


Figure 8. Relationship between e-portfolio, e-environment and quality standards of education.

S o u r c e: Morze, Varchenko-Trotsenko 2014.

The key indicators of the system “e-portfolio” from which an internal rating of scientific-pedagogical staff of BGKU calculated, is scientific research activity (40%) containing profile data scientist at Google Scholar, the number of publications in international journals, monographs, textbooks, participation in

international and national research projects; teaching activity (40%) – developed and certified electronic training courses, participation in international, national games and competitions; professional development (20%) – training, grants, scholarships, copyright, etc.

Due to the developed form of the user profile in “e-portfolio” there is provided a functionality of filing data manually and automatically by the BGKU academic staff:

- upload photo;
- filling data tables, which are introduced by scientific-pedagogical staff;
- update of tables with data on the implementation of research activities that are loaded from the database of Institutional Repository of BGKU;
- update data tables for a list of teaching disciplines and designed and certified electronic courses on database workload systems and e-learning;
- a code generator for e-portfolio for Wiki portal;
- calculating points regarding the current system of weighting coefficients assessment guidance and training activities of scientific-pedagogical staff.

As approved by the Academic Council of BGKU, weighting coefficients automated system is operated counting points of each employee. The system provides the ability to update points over a period of such year.

The system allows scientific-pedagogical staff to rank for institutions, units, departments, positions, academic titles, which, in our opinion, will promote competition between the scientific-pedagogical staff of BGKU and enhance a number of all types of employees.

Quality Assurance for BGKU Masters

In order to analyze the quality of education provided by the BGKU, let us analyze the quality of the provision of one of Master’s specialization that is social pedagogy. Training for students is provided by 24 full-time BGKU lecturers from ten departments of three institutes. Among the teachers involved in the learning process there are Sc.Ds. – 12%, Ph.Ds. – 71%, and lecturers – 7% (Figure 9):

- Social pedagogy and social work: Doctors of Science – 1; Doctors of Philosophy – 5; lecturers – 2
- Universal age and educational psychology, Doctors of Philosophy– 3; lecturer – 1
- English: teacher – 1
- Public administration and management education: Doctors of Philosophy – 1
- Informatics: Doctors of Philosophy – 1
- Philosophy: Doctors of Philosophy – 1
- Theory and History of Education: Doctors of Science – 1, Doctors of Philosophy – 1
- Social psychology, correctional and inclusive Education: Doctors of Philosophy – 3
- Anatomy and physiology, Doctors of Philosophy – 1
- Law: Doctors of Philosophy – 1.

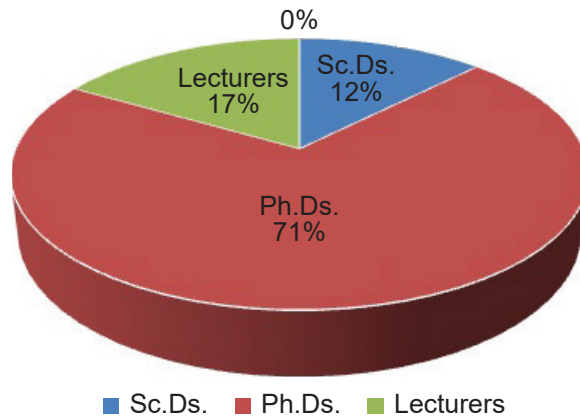


Figure 9. Qualitative assurance of social pedagogy, master level.

Since we chose to analyze the MA level, the scientific-pedagogical staff involved in the learning process should be highly skilled and recognized in scientific circles of Ukraine.

As a result of internal university ranking of departments, average value of scientific-pedagogical staff's ratings was calculated (Table 3). Also consider to allocate the average value of scientific-pedagogical staff ranking to the department exclusively for the research activity, since this is a key indicator that correlates with the world.

Table 3.
Average rating criteria involved scientific-pedagogical staff in terms of BGKU departments

Institute	Chair	Position in the department's ranking	Position in the Institute's ranking	Position in the BGKU ranking	BGKU ranking for research activities
Institute of Human Science	Social work and social education	5	21	128	91
	General, age and pedagogical psychology	7	25	182	153
	Special psychology, corrective and inclusive education	4	16	66	66
	Anatomy and physiology	5	17	78	222
	In general	5	20	114	133

Institute of Society	Public administration and education management	5	42	283	286
	History	5	9	65	10
	Philosophy	6	43	362	427
	Law	7	80	702	702
	In general	6	44	353	356
Humanitarian Institute	English language	6	112	385	442
	Theory and history of pedagogy	6	33	92	102
	In general	6	73	239	272

Institute of Human Sciences advisedly made distribution of workload among employees of departments, where the specialty is opened.

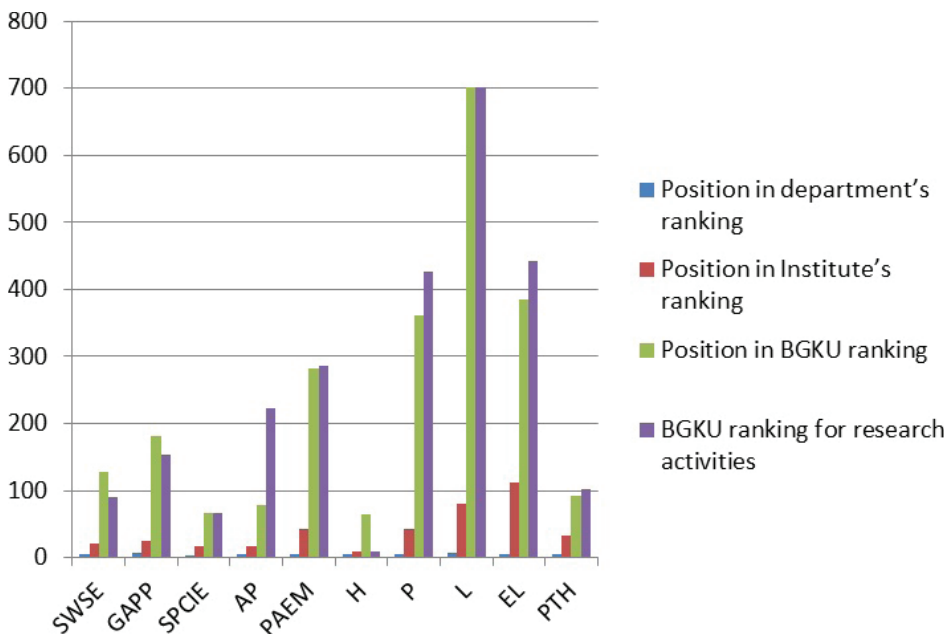


Figure 10. Rating criteria of scientific-pedagogical staff of departments providing specialty training.

Given the low ranking of the world's main performance indicators of the quality of education departments, providing training in social pedagogy, see the need for substantial improvement of Scientific Publication activity of BGKU's academic staff, including adherence to corporate standard of scientific staff. After

all, only in this way can a much larger number of students (MA students/graduate students in the group of 8–10 people) be attracted to BGKU training, and pay attention to the quality of education employers.

Conclusion

The open information and education e-environment of the university contributes to the efficiency and quality of the learning process, intensification of the process of scientific research, an increase in efficiency and effectiveness of university administration and the education system as a whole, integration of national educational information systems in the global network that facilitates access to international information resources in education, science, and culture. An obligatory condition for its use and development is openness and transparency.

To ensure the quality of the educational activities of the university it is necessary to adhere to standards and guidelines developed by the European Association for Quality Assurance. Key quality indicators are used in the most authoritative world rankings of universities. The analysis of world rankings and using them to implement internal rating systems makes it possible to identify weaknesses of activities that would guarantee further development, and work out strategies to improve management decisions as well as the intensification of structural units and employees to raise the quality of educational services at the university. The improvement of the issue of quality indicators of educational activities is a necessary condition for the development and compliance with the education policy of the university and its corporate standards.

Internal ratings system enables to determine teachers' affiliation and their contribution to creating a positive vector of activity for development of academic staff of the university influences the formation and development of e-environment, which is essential to ensure the quality of educational activity.

References

- Academic Ranking of World Universities (2015). Accessed 24 August 2015. Retrieved from <http://www.shanghairanking.com/ru/ARWU2014.html>.
- Bibliometrics of Ukrainian Science: Project. Accessed 24 August 2015. Retrieved from http://www.nbuv.gov.ua/bpnu/index.php?page_sites=pro_proect.

- Conception of development of BGKU. Accessed 24 August 2015. Retrieved from <http://kubg.edu.ua/resursi/dokumenti.html>.
- E-portfolio of BGKU. Retrieved from <http://e-portfolio.kubg.edu.ua/>. Accessed 24 August 2015.
- Kabakova, E. A. (2015). Webometrics rating as a tool for the evaluation of universities. *Questions of territorial development*, 22 (2), pp. 1–16. Accessed 24 August 2015. Retrieved from <http://cyberleninka.ru/article/n/webometricheskiy-reyting-kak-instrument-otsenki-deyatelnosti-vuzov>.
- Karpenko, O. M. (2014). The international ranking of universities Webometrics: The dynamics of the network activity of Russian universities. In F. E. Sheregi, & A.L. Arefeva (Eds.), *Measurement of ratings of universities: International and Russian experience* (pp. 66–82). Ministry of Education and Science. Moscow: Center for Sociological Research.
- Morze, N. V., Buinytska, O. P., Kocharyan, A. B. (2015). Competency-oriented education: Quality assurance. In Ogneviuk, V. O., Khoruzhaya, L. L., et al. (Eds.), *IC-competence of teachers and students as a way to formation of information educational environment of the university* (pp. 151–196). Section II. Collective monograph. Kyiv: Borys Grinchenko Kyiv University.
- Morze, N. V., Varchenko-Trotsenko, L. O. (2014). Electronic portfolio as a tool for measuring the performance of a teacher of modern universities. *Information sciences and technology in education* (53), 36–41.
- Ogneviuk, V. A., Zhylytsov, O. B., Karaman, S. O., et al. (2014). I'm a student: Quiddance. *Section V. Creation of a smart university is our strategic objectives* (pp. 143–213). In Ogneviuk, V.A. (Eds.), 4th edition with changes. Kyiv: Borys Grinchenko Kyiv University.
- QS World University Rankings® 2014/15. Accessed 24 August 2015. Retrieved from <http://www.topuniversities.com/universities/region/140/country/207>.
- Ranking Web of Universities. Accessed 24 August 2015. Retrieved from <http://www.webometrics.info>.
- Rating of higher educational institutions of Ukraine. Accessed 24 August 2015. Retrieved from http://jsi.net.ua/scopus/ratings_uni/index.html.
- Rozhen, A. (1999). Tell the citation index of your articles, and I'll tell you what kind of scientist you are. *Mirror of a week*, 266 (45).
- Tretyakova, O. V. (2014). The possibility of using Webometrics analysis in the evaluation of the website of the Research Institute. *Questions of territorial development*, 12(3). Accessed 24 August 2015. Retrieved from <http://goo.gl/x0zt8k>.
- What is meant by the assessment of the quality of educational services? Accessed 24 August 2015. Retrieved from <http://www.eurosvita.net/?category=21&id=229>.
- Zakharchenko, V. N., Kalashnikova, S. A., Lugovy, V. I., & Kremen, V. G. (Eds.). (2014). *National Education Glossary: higher education*. 2nd edition. Kyiv: LLC Pleiades Publishing House.
- Zimenzovsky, B. S. (Eds.). (2010). *Methodology and ranking multidisciplinary principles of structural units LNMU named Danylo Halytsky: guidelines*. Lvov.

Nataliia Morze, Oksana Buinytska

Otwarte e-środowisko – kluczowy instrument jakości kształcenia

Streszczenie

Jednym z głównych zadań uczelni jest stworzenie otwartego środowiska elektronicznego, ponieważ jego wykorzystanie do celów edukacyjnych podnosi jakość kształcenia współczesnego

uniwersytetu. Z kolei narzędziem kontroli jakości i transparentności e-środowiska na świecie jest stosowanie systemów ocen. Artykuł opisuje główne ogólnoświatowe rankingi edukacyjne oraz wpływ ich wskaźników na funkcjonowanie uczelni, a także rozwój wewnętrznych systemów oceny jej poszczególnych jednostek na podstawie wskaźników Webometrics. Analizie została poddana działalność wydawnicza kadry naukowo-dydaktycznej, do czego wykorzystano ukraiński system informacyjno-analityczny „Bibliometria ukraińskiej nauki”. Opracowana została analiza porównawcza jakości kształcenia młodej kadry akademickiej, oparta na nowo powstałym i wdrożonym w Kijowskim Uniwersytecie im. Borysa Grinczenki systemie oceny „E-portfolio”.

S ł o w a k l u c z o w e: otwarte e-środowisko, ranking, jakość procesu kształcenia, działalność publikacyjna, e-portfolio

Наталія Морзе, Оксана Бюницка

Открытая электронная среда – ключевое средство обеспечения качества образования

Р е з ю м е

Создание открытой электронной среды является одной из основных задач университетов, поскольку ее использование в образовательных целях повышает качество образования в современном университете. Рейтинговые системы являются инструментом контроля качества и открытости электронной среды в мировом масштабе. В статье описаны основные глобальные образовательные рейтинги и влияние их на показатели работы университета, а также представлено развитие внутренних рейтингов университетских структурных подразделений на основе показателей рейтинга Webometrics. Проанализирована публикационная активность научно-педагогических кадров с использованием украинской информационно-аналитической системы «Библиометрия украинской науки»; произведен сравнительный анализ качества работ магистров с использованием новой, реализованной в БГУ рейтинговой системы «Е-портфолио».

К л ю ч е в ы е с л о в а: открытая электронная среда, рейтинг, качество образовательного процесса, публикационная активность, электронное портфолио

Nataliia Morze, Oksana Buinytska

Entornos abiertos – los instrumentos clave para una educación de calidad

R e s u m e n

La creación de un entorno abierto virtual es una de las principales tareas de las universidades, de la misma manera que su uso con fines educativos mejora la calidad de la educación de la universidad moderna. Una herramienta de verificación de la calidad y la transparencia de e-entornos en el mundo es el uso de sistemas de clasificación. El artículo describe las principales calificaciones educativas globales y el impacto de sus indicadores en el trabajo universitario, el desarrollo de las calificaciones internas de las divisiones estructurales universitarias basadas en indicadores de la calificación

Webometrics. La actividad de publicación de personal científico y pedagógico se realizó utilizando el sistema de información analítica de Ucrania el sistema “bibliométrico de la ciencia de Ucrania”, y un análisis comparativo de la oferta cualitativa del personal docente según a los “e-portfolios recién establecidos e implementados en el sistema de calificación BGKU”.

Palabras clave: abierto e-medioambiente, de calificación, de calidad del proceso educativo, actividad, publicación, e-portfolio



ICT and E-learning Research
in Higher Education



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ICT in Higher Education Teaching: Advantages, Problems, and Motives

Abstract

This paper analyzes some results of a survey for university professors and university management, held by the international research team within the European IRNet Project: International Research Network for study and development of new tools and methods for advanced pedagogical science in the field of ICT instruments, e-learning, and intercultural competences. The survey researched motivation and aims of professors from the Dniprodzerzhinsk State Technical University – official partner of the project. The article reveals professors’ beliefs and preferences about ICT-aided learning as well as it analyzes advantages, problems, and motives of the introduction of ICT in higher education teaching.

Key words: e-learning, higher education, IRNet project, survey, academic staff

Introduction

The article reveals the benefits of electronic educational and scientific space, the problems that hinder the introduction of innovative technologies in teaching activity in higher educational institutions and motives that are important for the teacher when implementing information and communication technologies.

Nowadays educational space of higher education institutions is in the state of significant modernization, which is embodied in the growing differentiation

of educational opportunities, using more flexible educational communicational mechanisms, increasing complexity of technological, organizational, and cross-cultural relations under the influence of globalization. According to modern standards, teachers' activities should be based on a combination of achievements of pedagogical and information technologies. To improve the quality of educational services teachers of higher educational institutions should develop and use in their teaching activities a variety of electronic educational resources: presentations, video lectures, video conferences, electronic textbooks, multimedia courses, educational portals, educational resources with remote access and others. Each of them has its advantages and improves the efficiency of the educational process.

We should mention that the theoretical development and practical actions for the implementation of information and communication technologies in the educational process in Ukraine have been under way for more than one year, but there is not much efficiency nor important educational results. According to researchers (Zenkina, 2007), the main reason for this is that the development and application of electronic educational resources is aimed at improving teachers' and students' activities in the field of traditional presence education, its goals and content. This approach to the use of electronic educational resources within the traditional educational system cannot effectively realize educational activities and significant didactic potential of these resources. The problem of quality of education aimed at achieving new outcomes can actually be solved when didactic potential of e-learning resources will be realized on the basis of a new model of educational process.

It is obvious that the development and introduction of electronic educational resources, educational web resources, and e-learning in the educational process in general should increase the efficiency of learning only if they are applied based on the examination and analysis of their didactic possibilities, namely: visualization of educational material, enhancing the interactivity of learning, access to knowledge, prompt control.

An important component of informatization of the educational process is the accumulation of experience of ICT use in the educational process of higher educational institutions. Today, it is necessary for every teacher in any discipline to be able to prepare and deliver a lecture with the use of ICT because an ICT-enhanced lecture is clear, colorful, informative, interactive; moreover, it saves both the teacher's and the student's time, allows the student to work at their own pace, allows the teacher to work differentially and individually with students, gives the opportunity to monitor and evaluate the learning outcomes. In our opinion, the formation of informational and educational environment of the university through the application of information and communication technologies is crucial for the development and self-development of teachers, as well as the improvement of their educational activities, pedagogical creativity, and ICT competence.

However, this does not mean that the presence in a higher educational institution of modern means of ICT will lead to the growth of professional skills of teachers and quality of education. The involvement of teachers in the process of informatization of the educational space cannot catch up with the tightening of requirements for professional competence and skills of academic staff. In this context, it is impossible to ignore the so-called “internal,” or the psychological, aspect of the use of ICT by teachers in their educational activity. We should pay attention to the importance of values and motivation of the use of electronic educational resources by teachers. The basis of human behavior is “a reflex of purpose” – the wish to achieve the desired result. This requires permanent psychological aim: not to stop, not to be afraid of difficulties, to respect, to assess the acquired knowledge and skills from the standpoint of achieving the goal.

Research Problem

Consequently, it is necessary to find answers to a number of existing problems:

- why is the process of introduction of modern information technologies so difficult and slow;
- what is the motivation of desire or unwillingness of teachers to use ICT in their professional activities;
- what problems should be solved to enhance teachers’ effectiveness in the use of ICTs (Shevtsova, 2005).

We believe that all the activities of the teacher of higher educational institutions, including the use of electronic educational resources, are primarily determined by the teacher’s personality and his or her motives rather than the type and amount of computer equipment. That reveals the main thesis of our article: in order to improve motivation of ICT use by teachers it is necessary to create such working conditions at universities for the teachers to be willing and able to apply computer literacy to their teaching.

General Background of Research

To confirm this thesis we carried out a questionnaire to find out if teachers understand the importance and their personal participation in the processes of informatization of educational and scientific space, as well as their motivations, which are important for the implementation of ICT in teaching activities. This study constituted the second phase of the IRNet project – International Research Network for study and development of new tools and methods for advanced pedagogical science in the field of ICT instruments, e-learning, and intercultural competences. The project is financed by the European Commission under the 7th Framework

Programme, within the Marie Curie Actions International Research Staff Exchange Scheme. The participants of the project are higher educational institutions in Australia, Poland, Czech Republic, Portugal, Spain, the Netherlands, Russia, and Ukraine. One of the representatives of Ukraine in this project is Dniprodzerzhinsk State Technical University (hereinafter DSTU). The project's main objectives are defined in the following way:

- to set up a thematic multidisciplinary joint exchange program dedicated to development of new tools for advanced pedagogical science in the field of ICT instruments, distance learning and intercultural competences in the EU, Australia, Ukraine, and Russia.
- to strengthen collaboration between the EU and third country institutions through mutual secondments of researchers.

Instrument and Procedures

For such sociological research a special questionnaire has been developed and uploaded onto the website of the University of Silesia in Katowice, which is the coordinator university for the IRNet project (The IRNet WP3 questionnaire), the English version can be found here: <https://e12.us.edu.pl/ankiety/index.php/494253/lang-en>. Below is a screenshot, representing the general view of the questionnaire (Figure 1).

In April and May 2015 the university management and professors involved in the project IRNet in general, and DSTU in particular were anonymously questioned, which was intended to analyze the existing situation, as well as to reveal the opinions and suggestions of teachers in the following areas: benefits of e-learning and research space; problems that hinder the implementation of e-learning technologies in teaching activity of teachers of higher educational institutions; motives that are important for the teacher of the higher educational institutions in the implementation of ICTs in their teaching activities.

The questionnaire contained 19 questions, which were devoted into four main thematic units:

- the use of ICTs in educational activity;
- the use of ICTs in scientific research;
- further education, professional growth;
- the understanding of ICTs in education, computer literacy.

Most of the questions are multiple choice questions, the rest of them demand gradable answers.

In this paper the authors aim to explore the prospects and challenges towards the creation, implementation, and operation of electronic educational resources in DSTU (for other aspects of the surveyed topics see Nakaznyi et al., 2015). The quantitative results of the research and analysis will enable us to define the most actual problems of electronic educational space and identify the motives of teachers in using ICT, which will influence the creation, implementation, and

operation of e-learning system in DSTU in the future. The choice of academic staff of DSTU as object of study is due to the fact that this educational institution is an average university in Ukraine, which allows to extrapolate the results of the analysis on a wide range of universities of Ukraine.

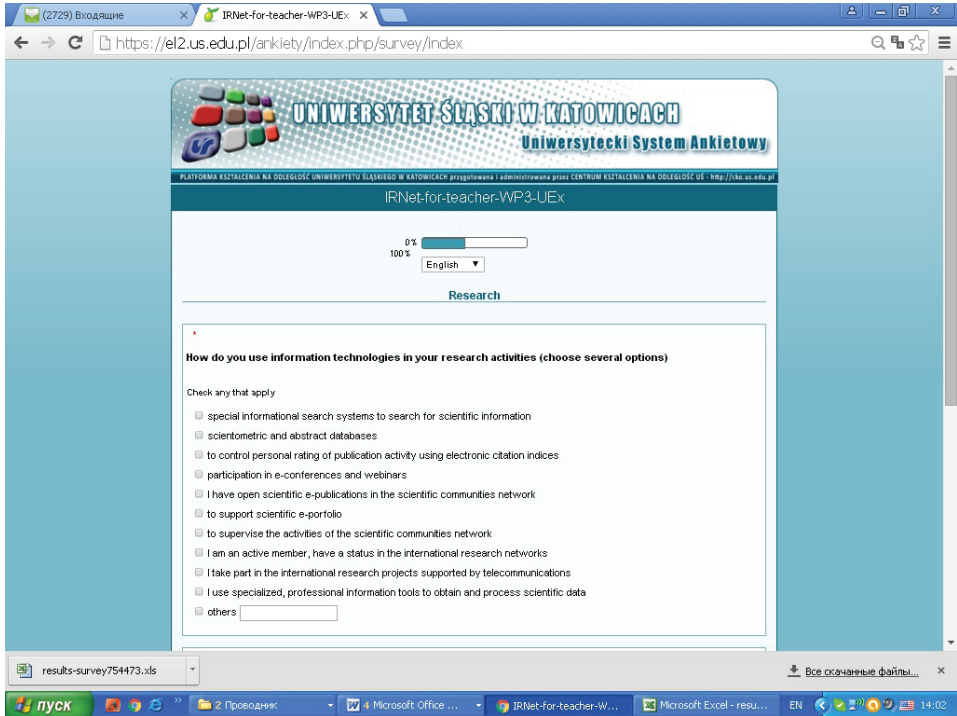


Figure 1. General view of the IRNet academic staff online questionnaire.

Source: IRNet team research

Research Results

Evaluating the Benefits of Electronic Educational Environment for Academic Staff

The study involved 51 members of scientific and academic university staff, among them 58.8% of associate professors, 25.5% of the teachers, 11.8% – heads of structural divisions of the university and 3.9% are professors.

In this article we tried to see the trends in one section of the questionnaire, which is devoted to the understanding of ICTs in education, that is, computer literacy.

We analyzed the benefits of electronic educational and scientific space by the following indicators: access to professional information; information processing and communication in digital form using computer tools of general nature (office applications, email, and so on); the use of specialized electronic tools in the professional sphere; searching for ways to use new tools for solving professional tasks; participation in professional network entities and access to their resources, as well as participation in network projects, organization of professional associations network, management; easy access to information related to the management; constant analysis of professional information space for personal development; active contribution to the formation of strategic directions of development of higher educational institutions (see Table 1).

Table 1.

Opinion on the benefits of electronic educational and scientific space

Options	Percentage of positive answers
The access to professional information	17.3
Processing of information and communication in digital form using general computer tools	16.0
The use of specialized electronic instrumentation in the professional field	13.6
Friendly access to the information connected with managing	12.3
The search for ways to use new tools to solve professional tasks	11.5
Constant analysis of professional information space for personal development	10.7
Active contribution to the formation of strategic directions of development of higher educational institutions	7.0
Participation in professional network communities, access to their resources	5.3
Participation in professional network communities and in network events	3.7
Organization of professional networks, their managing	2.1
Other	0.5
Total	100.0

Source: The authors' own work.

The analysis showed that 17.3% of respondents indicate that the main benefit offered by electronic educational and scientific space is access to professional information; 16% of respondents have noted that information processing and communication in digital form using computer tools in general as the main advantages; on this list of advantages 13.6% of respondents identify the use of specialized electronic instrumentation in the professional field. It should be noted that recent indicators are gaining good results from the above-mentioned list of

advantages, namely: easy access to information related to the management – 12.3%; the search for ways to use new tools to solve professional tasks – 11.5%; constant analysis of professional information space for personal development – 10.7%. Other indicators have significantly lower number of positive answers – 7.0%, 5.3%, 3.7%, 2.1%, 0.5%. This could be explained by the fact that participation in professional network entities, gaining access to their resources, active contribution to the formation of strategic directions of development of higher educational institutions depends not only on pedagogical staff of higher educational institutions.

Revealing the Problems Hindering the Implementation of E-learning Technologies in University Teaching

We attempted to analyze the problems that hinder the implementation of e-learning technologies in the teaching activity of teachers of higher educational institutions in the mode of a multiple-choice question. These problems include: the intensity and complexity of work associated with the development of electronic educational resources; lack of training in the field of educational technology, which is connected with the potential of the electronic environment; lack of training in the field of information technology; insufficiently developed regulations for the use of electronic tools in higher education; insufficiently formed e-environment of higher educational establishments, lack of Wi-Fi, and a unified system of electronic courses (LMS), databases, electronic library, and so on; insufficiently developed system of incentives for implementation of e-learning in higher education, and so on (see Table 2).

It is evident that among the problems that hinder the implementation of e-learning technologies in teaching, the first problem is insufficient degree of incentives' system for the introduction of ICTs in higher education, namely 23.9%, which is not surprising. The following issues attracted rather little attention: the lack of regulations for using electronic tools in higher educational institution (18.3%) and problems of insufficient degree of electronic space development in higher educational institutions, the lack of Wi-Fi, a unified system of electronic courses (LMS), databases, electronic library (18.3%). Not much attention is paid to the problem connected with tension, complexity of work associated with the development of electronic educational resources (13.4%) and a lack of training in the field of information technology (13.4%). And, of course, the last problem is the lack of training in the field of educational technology, which is connected with the potential of the electronic environment (11.3% of the respondents' votes), and the problem of access to electronic resources, which scored 1.4% of the respondents' votes.

Table 2.
Problems that hinder the implementation of e-learning technologies in teaching activity of university professors

Options	Percentage of positive answers
Insufficiently developed system of incentives for implementation of information	23.9
Insufficiently developed regulations for the use of electronic tools	18.3
Insufficiently formed electronic space of higher educational establishments	18.3
The intensity and complexity of work	13.4
Lack of training in the field of information technology	13.4
Lack of training in the field of educational technology	11.3
No access to the resources	1.4
Total	100.0

Source: The authors' own work.

Analyzing the above, we can conclude that the list of these problems confirms that the main factor of effectiveness of implementation of e-learning technologies is the interest of students in educational material and attracting a lot of attention to it. We should note that this approach does not only develop individual abilities of students, but also reveals personal skills and abilities of university teachers.

Uncovering the Motives of University Teachers during the Introduction of ICTs in Their Teaching

As a conclusion, we can analyze what motives are more important for a university teacher in the implementation of ICTs. This was also a multiple choice question. For this purpose we analyze the following indicators: the desire to make their professional activity more comfortable; the teacher's desire to meet the requirements; the desire to expand educational opportunities for students in terms of comfortable interaction and satisfaction in the process of educational activity; the desire to prepare students for life-long learning, continuous professional growth; improving the quality of students' education (including the development of information society competences); higher personal status for university teachers, professional self-realization of the teacher; the desire to use modern models of information behaviour, including the models you can address to the students and so on (see Table 3).

Table 3.
Important motives for university teachers during the introduction of ICTs in their teaching activities

Options	Percentage of positive answers
The desire to expand educational opportunities for students	17.2
Improving the quality of students' education	16.7
The desire to meet the requirements	14.1
The desire to make professional activity more comfortable	13.2
The desire to prepare students for lifelong learning	12.8
Improving personal status of a teacher	12.8
The desire to use modern models of information behavior	12.8
Other motives	0.4
Total	100.0

Source: The authors' own work.

We can observe that among the list of significant motives 17.2% of respondents emphasize the need to expand educational opportunities for students in terms of comfortable interaction and satisfaction in the process of educational activity. Slightly smaller group of respondents (16.7%) prefer to improve the quality of students' education (including the development of information society competences). An even smaller group (14.1%) focuses on the desire to conform to the requirements for the university teacher and the desire to make their professional duties more comfortable (13.2%). It should be emphasized that the number of respondents' votes is distributed equally to other three questions: the need to prepare students for lifelong learning, continuous professional development (12.8%); higher personal status as a university teacher, professional self-realization of the teacher (12.8%); the need to use modern models of information behavior, including such models that you can address to the students (12.8%). We should note almost imperceptible fluctuations from 12.8% to 14.1%. This suggests that all the motives are very important for the university teacher in the implementation of e-learning.

Thus, noting the benefits of electronic educational and scientific space, we conclude that respondents preferred access to professional information processing and communication in digital form using computer tools in general (office applications, email, and the like).

Among the problems that hinder the implementation of e-learning technologies by university teaching staff the respondents stressed the fact that the system of remuneration for the implementation of ICTs in the university educational process is not developed in much detail. Along with this problem the following issues were emphasized:

- insufficiently developed regulations for the use of electronic tools in higher education;
- insufficiently formed e-learning university environment, poor Wi-Fi, and the lack of a unified system of electronic courses (LMS), electronic library, etc.

Among the motives that are important for a university teacher in the introduction of ICTs the respondents identified the following: the desire to expand educational opportunities for students in terms of comfortable interaction and satisfaction in the process of learning, as well as the desire to improve the quality of education for students (including building up competences of the information society), and the desire to conform to the requirements for a university teacher.

Conclusions

From the above results we can draw a general conclusion that for the development, implementation, and practical use of e-learning system in Ukrainian universities there should be identified the following main directions for further development.

Returning to the questions, let us stress that according to the opinion of academic staff of the university the main problems hindering the implementation of e-learning technologies in university teaching were stated as follows: insufficiently developed system of incentives for implementation of information, insufficiently formulated regulations for the use of electronic tools, insufficiently formed electronic space of higher educational establishments with quite significant number of positive results – 23.9, 18.3, and 18.3% respectively. Importantly, these reasons are stated as more important than the lack of training in the field concerned.

Let us sum up and present the main directions of improvements for the ICT development in higher education to run smoothly:

- a systemic vision of the role of ICT in the context of informatization of education;
- designing and monitoring the development of information and educational environment of higher educational institutions at all levels of the educational process;
- upgrading academic staff's computer literacy to use new information technologies in the educational process as part of supporting learning;
- the development of facilities of higher educational institutions;
- use telecommunications and types of technologies;
- the development of information resources for educational purposes.

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References

- Keramati, A., Afshari-Mofrad, M., & Kamrani, A. (2011). The role of readiness factors in e-learning outcomes: An empirical study. *Computers & Education*, vol. 57, 1919–1929.
- Molnár, G., & Benedek, A. (2013). ICT related tasks and challenges in the new model of technical teacher training (pp. 40–44). In *ICCGI 2013, The Eighth International Multi-Conference on Computing in the Global Information Technology*.
- Mumtaz, S. (2000). Factors affecting teachers' use of information and communications technology: A review of the literature. *Journal of Information Technology for Teacher Education*, vol. 9 (3), 319–342.
- Nakaznyi, M., Romaniukha, M., Sorokina, L. (2015). Aspects of use of electronic educational resources by university professors. In Proceedings: *Information and Communication Technology in Education* (pp. 162–169). Ostrava: University of Ostrava.
- Podlinyayeva, O. O. (Ed.). (2013). Managing motivation of e-enhanced activities of lecturer in humanitarian subjects (pp. 306–315). In *Pedagogical sciences: Theory, history, innovative technologies*, 6. (In Ukrainian).
- Reading, C., & Doyle, H. (2013). Teacher educators as learners: Enabling learning while developing innovative practice in ICT-rich education. *Australian Educational Computing*, Special Edition: Teaching Teachers for the Future Project, 27, 109–116.
- Rye, S. A. (2009). Negotiating the symbolic power of information and communication technologies (ICT): The spread of Internet-supported distance education. *Information Technology for Development*, 15 (1), 17–31.
- Sorokina, L., Bogomaz, K., & Shelomovs'ka, O. (2014). Regulatory and legal aspects of distance learning in higher education of Ukraine. In International Conference Proceedings: *Innovations in higher education and dissemination of the initial results of the research on the law, ethical, human, technical, social factors of information-communication technology, e-learning and intercultural developments in deferent countries* (Dniprodzerzhynsk, June 25 2014). Collection of Scholarly papers of Dniprodzerzhynsk State Technical University (Technical Sciences), Dniprodzerzhynsk: DSTU, 1 (24) (Supplement, section «Education»), 30–36.
- Shevtsova, L. A. (2005). Формирование готовности учителей к использованию новых информационных технологий в профессиональной деятельности средствами системы поддерживающего обучения. Boosting teachers' readiness to the use of new ICTs in professional activities by means of the system of supportive education (Doctoral dissertation) (In Russian). N. Novgorod. 253p.

- The IRNet WP3 questionnaire for academic staff. Accessed 1 September 2015. Retrieved from <https://el2.us.edu.pl/ankiety/index.php/754473/lang-ru>.
- Zenkina, S. V. (2007). Педагогические основы ориентации информационно-коммуникационной среды на новые образовательные результаты. Pedagogical foundations of e-environment's orientation towards new educational outcomes (Doctoral dissertation) (In Russian). Moscow. 467p.
- Wozney, L., Venkatesh, V., & Abrami, P. (2006). Implementing computer technologies: teachers' perceptions and practices. *Journal of Technology and Teacher Education*, 14 (1), 173–207.

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ICT w szkolnictwie wyższym: zalety, problemy i motywy wprowadzania TIK

S t r e s z c z e n i e

Celem artykułu jest analiza wyników ankiety przeprowadzonej wśród kadry naukowej i administracji uczelni przez międzynarodowy zespół badawczy w ramach europejskiego projektu IRNet (International Research Network for study and development of new tools and methods for advanced pedagogical science in the field of ICT instruments, e-learning and intercultural competences). Ankieta badała motywację oraz cele edukacyjne i badawcze wykorzystania ICT przez wykładowców Państwowego Uniwersytetu Technicznego w Dnieprodzierżyńsku – oficjalnego partnera projektu. W artykule zostały przeanalizowane zalety, problemy i cele wprowadzenia TIK w kształceniu na poziomie akademickim.

S ł o w a k l u c z o w e: e-learning, szkolnictwo wyższe, projekt IRNet, badanie, kadra akademicka

Микола Наказний, Людмила Сорокина, Марина Романюха

ИКТ в педагогической деятельности в вузе: преимущества, проблемы, мотивации

Р е з ю м е

В статье приведены некоторые результаты опроса профессорско-преподавательского состава и руководства университета, который проводился международной исследовательской группой в рамках европейского проекта IRNet: «Международная исследовательская сеть для изучения и развития передовых педагогических знаний в области ICT-инструментов, e-learning межкультурной компетенции». На основании опроса изучались мотивации и цели сотрудников Днепропетровского государственного технического университета, который является официальным партнером проекта. Статья отражает представления и предпочтения преподавателей университета на вопросам обучения, основанного на использовании ИКТ. В статье проанализированы преимущества, проблемы и мотивации, связанные с внедрением ИКТ в образовательный процесс высшей школы.

Ключевые слова: электронное обучение, высшее образование, проект IRNet, опрос, профессорско-преподавательский состав

Mykola Nakaznyi, Lyudmyla Sorokina, Maryna Romaniukha

Las TIC en la educación superior: ventajas, problemas y motivaciones

Resumen

Este artículo analiza algunos resultados de una encuesta realizada a profesores universitarios y gestores universitarios, recopilados por el equipo de investigación internacional Proyecto Europeo IRNet: Red de Investigación Internacional para el estudio y desarrollo de nuevas herramientas y métodos de la ciencia pedagógica avanzada en el campo de las TIC, es decir, en lo que se refiere a instrumentos, e-learning y competencias interculturales. La encuesta investigó la motivación y los objetivos de profesores de la Universidad Técnica del Estado Dneprodzerzhinsk, socio oficial del proyecto. El artículo revela las creencias y las preferencias de los profesores en el aprendizaje asistido por las TIC. El artículo analiza las ventajas, problemas y motivos de la introducción de las TIC en la enseñanza de la educación superior.

Palabras clave: e-learning, educación superior, proyecto IRNet, encuesta, personal académico



Ryszard Kalamarz

Assessment in VLE Supported Foreign Language Learning

Abstract

The paper focuses on the role of Virtual Learning Environments in the scope of different types of assessment in foreign language learning and teaching promoting learner autonomy and developing such key competences as learning to learn. Effective language education calls for a more learner-oriented approach to assessment and Learning Management Systems such as Moodle seem to respond to such needs in the computer assisted teaching/learning process.

Key words: foreign language learning, assessment, Moodle, virtual learning environment

Introduction

Assessment may not be at the heart of teaching but certainly plays a crucial role in the educational process. From the teacher's as well as the learner's perspective it is generally accepted that what is taught should be assessed. Also, teachers always say that they should test what they teach trying to do justice to students' efforts as much as they can.

In the document *Effective Assessment in a Digital Age* the Joint Information Systems Committee defines effective assessment and feedback as “practice that equips learners to study and perform to their best advantage in the complex disciplinary fields of their choice, and to progress with confidence and skill as life-long learners, without adding to the assessment burden on academic staff”

(Jisc, 2010, p. 10). In recent years, however, education has become overburdened with assessment, evaluation, and control. The apparent virtue of ensuring an objective, standardized measurement of the learner's achievements allowed to find the complacency in all sorts of figures, percentages, and calculations leading the teachers to be product-oriented in their assessment of students' work with less concern about the learner (Gajek, 2011, p. 296).

Approaches to Assessment

Towards Learner-Oriented Assessment

Within the framework of the basic distinction between diagnostic, formative, and summative assessment there are some theoretical approaches emphasizing the student and the learning process.

Democratic approach. Democratic assessment emphasizes respecting the student's individual preferences, hearing his or her voice and taking into consideration his or her point of view. Rather than seeking uniformed teaching solutions more time should be spent discussing learning objectives, negotiating ways of achieving them and working out methods of assessment. Assessors need to respect various ethical issues connected with possible consequences of assessment resulting for example from specific teaching contexts (e.g., multicultural groups, social differences, shared and collaborative learning) and seriously respond call for a recognition of test-takers rights (Shohamy, 1989).

Dynamic approach. In dynamic approach to assessment the student is assessed regularly while working on a task, solving a problem, preparing a presentation or studying to produce a given result. All these steps taken by the student within the zone of proximal development need to be supported by the teacher whose role as an assessor is "to influence performance and hence reveal students' 'potential for change'" (Campione, 1989, p. 151). The teacher's assessment leads to intervention, and this is effective when the student's responsiveness to such interventions is higher. Thus, this kind of assessment is of a formative character as it helps shape the student's abilities.

Assessment for learning. The other postulate, Assessment for Learning, is a widely recognized general approach to assessment very often contrasted with assessment of learning or assessment as learning. The Assessment Reform Group defines Assessment for Learning as "the process of seeking and interpreting evidence for use by learners and their teachers to decide where the learners are in their learning, where they need to go and how best to get there" (ARG, 2012, pp. 2–3).

In a review of at least 20 studies on classroom assessment, Black and Wiliam (2010, p. 83) found that the formative assessment experiments after 2.5 years of

implementation result in effect sizes of between 0.4 and 0.7, confirming that such significant learning gains call for more systematic focus on formative assessment practice. Summarizing the recent theoretical and empirical work Wiliam suggests that “integrating assessment with instruction may well have unprecedented power to increase student engagement and to improve learning outcomes” (Wiliam, 2011, p. 14). A number of classroom strategies have been identified as effective in realizing Assessment for Learning principles, including:

- questioning as a pedagogical tool and method of finding out about students’ prior knowledge and level of abilities;
- effective teacher feedback for emphasizing students’ achievements, areas to improve and specific suggestions on improvement;
- peer feedback for recognizing other students’ achievements and offering ideas for improvement on the basis of established success criteria;
- student self-assessment for building up learner’s independence and responsibility for what they learn;
- use of summative assessment for formative purposes both before and after the assessment event.

Wiliam notes that the strategies must be viewed within the formative assessment framework of three main processes (identifying where learners are in their learning, where they are going, how to get there) exercised by three categories of actors (teacher, learner, peers) (Wiliam, 2011, p. 13).

Favoring Learner Autonomy

These three learner-oriented approaches to assessment allow to empower the student and emphasize his or her potential, variety of skills and competences, ability to learn, responsibility, and rights (Gajek, 2011, p. 300). Assessment can thus support learner autonomy understood as “the ability to take charge of one’s own learning, that is, to have and to hold the responsibility for all the decisions concerning all aspects of this learning, including determining objectives, defining the contents and progressions, selecting methods and techniques to be used, monitoring the procedure of acquisition [...] evaluating of what has been acquired” (Holec, 1981, p. 3). What renders the student an autonomous learner making responsible decisions about his learning is his or her volition and choice (Little, 2011), which the teacher may support selecting a proper learning environment where assessment can play a special role. This role needs to be redefined bearing in mind that traditional assessment with grades can dishearten students, ruin their motivation, and provoke pedagogically unwanted rivalry between learners (Komorowska, 2007, p. 155).

Key Competences in the Background

Today’s learners look for more than a scope of knowledge and skills transmitted and measured according to some prearranged standards. The 21st-century school

is where students learn to become competent in various authentic real life situations and in different roles they are to play in society, possibly throughout their lives. In this sense, today's learner assessed for his or her progress might assess someone else's progress at a point in his or her career. Understanding the process of assessment, assessing others, discussing assessment outcomes as part of the educational process can help build up the learner's key competences for lifelong learning, such as learning to learn, interpersonal, intercultural, and social competences as well as digital competence. Teaching practice shows good effects of applying competence-oriented approach to foreign language instruction (see i.a. Kalamarz, 2014).

Assessment and Learning in VLE

ICT in Learner-Oriented Assessment

Experts in modern education agree that there is a need for alternative assessment approaches designed on new understandings of the impact of ICT on learning, assessment, and society. The ongoing debates have led to outline three aspects of assessment critical for 21st century:

- student involvement in assessment;
- digitally-enhanced assessment;
- assessment of the application of ICT skills acquired in formal and informal learning environments (Webb, Gibson, & Forkosh-Baruch, 2013, p. 451).

The generally agreed recommendation experts have made was that there should be a shift in assessment from the dominant high-stakes, test-based evaluation model to a balance of models.

Assessment in VLE

As a very effective and commonly used virtual learning environment the Moodle learning management system offers various affordances that enable implementing the learner-centred approaches to assessment, which in the case of foreign language learning appears to be particularly effective as this educational process needs time, consequence, and involvement. Survey research shows that most student teachers of foreign languages are aware of the effectiveness of e-learning assessment. As many as 75% of the survey respondents pointed to such arguments as immediate feedback (36%), the teacher's job being facilitated (24%), motivating learners (16%), and letting learners work at their own tempo, at the most convenient time and in the setting of their choice (12%). Other advantages included the fact that administering assessment takes less time, students can develop their ICT and online skills and the beneficial opportunity to include multimedia and online resources

(Marczak & Krajka, 2014, pp. 272–273). Virtual learning environment assistance offers the teacher various possibilities in the scope of monitoring students' course and activity progress and motivating students to achieve their goals. There are plenty of different assessment instruments in Moodle activities and functionalities that the teacher may consider employing in teaching (Smyrnova-Trybulska, 2012), the following examples highlight only a few.

Assessment Tools in Moodle

The teacher makes the most of Moodle functionalities in respect of checking students' grades and their progress in the course by monitoring activities completed (Gradebook), looking at individual student's grades in particular activities or looking at the results of a particular activity up and down the student list (Scrolling facility), viewing the grade history of students (Grade history), analyzing one single activity result with grades and feedbacks displayed or one single student with all his or her grades and feedbacks on screen (Single View). In addition, much information about students' activities online can be obtained by viewing highly detailed logs (Logs). Another useful functionality that lends itself to the student tracking their progress is Activity completion. Meeting certain criteria (viewing, receiving a certain score or marking as complete) makes it possible to have finished activities automatically ticked and displayed in appropriate boxes next to each task in a section. Worth noticing is the multi-purpose Moodle component that allows the teacher to record and grade students' attendance as well as note any important information related to the student's active participation (Attendance). This lends itself to the teacher's role of an assessor supporting the student's effort on a class-to-class basis (Figure 1).

The screenshot shows the Moodle Attendance tool interface. At the top, there are navigation buttons: Sesje, Dodaj, Raport, Eksport, and Ustawienia. Below that, there are filters for 'Osobne grupy' (Group nr 10 sb/nd) and a date range '28.09 - 4.10'. The main table has columns for 'Attendance record', 'Grade', and 'Notes'. The 'Attendance record' column has sub-columns O, S, U, N. The 'Grade' column is labeled 'Ocena'. The 'Notes' column is labeled 'uwagi'. The table lists five students: Zuzanna, ek Joanna, y Adam, uska Anna, and rwenk Monika. The 'Attendance record' column shows 'O' for Zuzanna, 'O' for ek Joanna, 'S' for y Adam, 'N' for uska Anna, and 'U' for rwenk Monika. The 'Grade' column shows '2 / 2' for Zuzanna and ek Joanna, '1 / 2' for y Adam and rwenk Monika, and '0 / 2' for uska Anna. The 'Notes' column shows 'Active participation' for Zuzanna, 'Extra homework' for ek Joanna, and 'L4' for rwenk Monika. There are checkboxes at the end of each row.

Nazwisko / Imię	Attendance record				Grade	Notes		
	O	S	U	N	Ocena	uwagi		
Zuzanna	O	1	0	0	0	2 / 2	Active participation	<input type="checkbox"/>
ek Joanna	O	1	0	0	0	2 / 2	Extra homework	<input type="checkbox"/>
y Adam	S	0	1	0	0	1 / 2		<input type="checkbox"/>
uska Anna	N	0	0	0	1	0 / 2		<input type="checkbox"/>
rwenk Monika	U	0	0	1	0	1 / 2	L4	<input type="checkbox"/>

Figure 1. Moodle Attendance: grading and assessing the student's participation or effort.

Source: The author's own work.

Motivating students. The significance of assessment does not consist in mere control and evaluation. It also covers important functions such as raising awareness, motivating, and encouraging students to fulfil their aims. At the teacher's disposal are various useful solutions. Students may be awarded badges for their achievements (Badges). It is possible to display ranked results from any graded activity in order to encourage improvement (Activity results block). Supportive in students' efforts prove to be restricted access to course sections or activities depending on fulfilling certain conditions (Restrict access). Support can be communicated by means of Notes (confidential notes seen by selected users including students), Comments block (information edited on the course page), Messages (exchange of private messages), Latest news block (notices and instructions to students), News feeds (an external news feed for instant access by students), Feedback or Questionnaire (obtaining reflective information from students). Additionally, Calendar enables to keep students up to date by entering events).

Ongoing assessment within activities. The teacher's monitoring role can be performed within particular activities, especially those involving production, interaction, and collaboration. It is possible to comment and check the history of wiki edits in order to assess students' contributions (Wiki). In a lesson the level of prior knowledge can be checked by analyzing students' answers (Lesson). How students grasped a problem or portion of knowledge can be judged on the basis of the analysis of the results. On the other hand, the learning content can be improved when a feedback form is analyzed (Quiz). Ungraded activities, like Blog can also involve the teacher's support in the form of comment on a blog entry made by a student (Blog).

Assessment potential of assignment. The Moodle activity that seems to be particularly tailored to the needs of language learning assessment is assignment. Assignment is a powerful Moodle activity as it opens up possibility for various didactic applications. Basically, the teacher may design oral or written production with some aspects of interaction. The student can submit an online text or in the form of a file or files. The student's submission(s) may also be oral (Audio recording) or can take an unconventional form the teacher can think of (Offline submission), including the possibility of collaborative work ("Group submission") or simulation or role plays ("Locally assigned roles"). Assessment starts even at an early stage when both the teacher and the student may leave a submission comment. Then the teacher may choose to write a feedback comment (editing it online or uploading it as a file or files), edit it within the text (feedback comment inline) or annotate critical parts of the submitted pdf text with useful annotation tools. Another possibility is that grades and feedback can be edited offline (offline grading worksheet). Feedback can also be oral (files). Both grade and feedback comments may be adapted at any time as the student corrects or improves his or her work. At the teacher's disposal are other instruments supporting the process of learning shaped by assessment: the word limit on an online text assignment which

There are also different methods of grading chosen between Simple direct grading (Grades and Scales) and Advanced grading (Marking guide or Rubric) (Figures 2, 3). The other two methods of grading need some preparation but once the grading method is designed the act of assessing students' work is easier. These advanced forms of grading differ slightly in that the Rubric contains particular boxes representing one level of criteria and a specific grade attached to it. The teacher only has to click on the box – the total grade is automatically aggregated – and, optionally edit a comment next to the criteria band. The Marking guide method of grading contains pre-defined elements of criteria leaving the teacher room for commenting and selecting the suitable grade for each element. Pre-edited frequently used comments can be selected by clicking. Both methods are supplemented by general feedback comment edited online or uploaded as files.

Ocena: Kryteria oceny. Ile punktów i za co? **Method of grading: Marking guide**

Criteria	Feedback	wynik	Grade
Content Does it match the instruction and purpose? Is the content OK?	Correct	3	3
Form Is the form appropriate in all respects (structure, style, register, punctuation, precision)? Is the form fully acceptable?	Well done, almost. Mind the spelling of -ing forms.	4	4
Grammar Is the work grammatically correct? Difficult to understand? Largely correct but with mistakes? Correct with minor mistakes? Almost correct?	Some minor mistakes, but largely OK	4	4
Lexis Does the work present a wide range of lexis, expression? Difficult to understand? Poor vocabulary, wide lexical scope with mistakes or almost none?	Fairly good, acceptable	4	4
General effect Would the work match the general purpose in real life? Effective or not?	Quite effective	1	1

Często używane komentarze

- + Well done
- + Contains mistakes
- + Some minor mistakes, but largely OK
- + Fairly good, acceptable
- + Mistakes impair communication, partly difficult to understand
- + Correct

Frequently used comments: pre-edited, clickable

Pokaż oceniamu dodatkowy opis (uwagi) Ukryj dla oceniamu dodatkowy opis (uwagi)
 Pokaż studentom dodatkowy opis (uwagi) Ukryj dla studenta dodatkowy opis (uwagi)

Figure 3. Moodle Assignment advanced method of grading: Marking guide.

Source: The author's own work.

The teacher can control each student's performance as the grading table displays the student's status, grade, teacher's modifications, submission comments, feedback comments inline, feedback files.

Multifaceted assessment in Workshop. Another Moodle activity module which best exploits a plethora of assessment for learning possibilities is Workshop. It enables, apart from teacher’s assessment, both self- and peer-assessment. This activity is complex, yet flexible. There are four phases: set-up, submission, assessment, and grading evaluation. There is a clear-cut table presenting the activity structure and the phases with a useful indication of the current stage. Workshop is the only activity module that allows for breaking down the grade into grades for particular criteria. The grade can take the form of a number, letter, or description.

Violation of Conventional Rights

Zrecenzowana przykładowa praca

Example opinion

This expert opinion serves as an example, see attachment



Example work to be peer-assessed

Peer-assessment guide

Instrukcja recenzowania ▼

Pay attention to: 1. Structure (3 points), 2. Content (3 points), 3. Form (3 points)

Would it pose an effective expert opinion in real life?

Przykładowa recenzja

Jeszcze nie ocenione

Figure 4. Moodle Workshop peer-assessment practice: sample peer-assessment and peer-assessment guide.

Source: The author’s own work.

In fact, the student gets two grades, one for the value of his or her own work, and the other for the quality of his or her peer assessment. It means that these two different results requiring different competences can be assessed within one task. Each grade is calculated on the basis of an adopted method, for example, weighted mean.

There is enough room for the teacher to support the student's effort. If the teacher chooses to offer the student more peer-assessment practice the student is given a sample to be peer-assessed supported with the teacher's detailed instruction, tips. This test-dry is also aided by a sample assessment as a useful reference. Further support is included in the feedback notes.

Przykładowa recenzja
Jeszcze nie ocenione

Peer-assessment form

Formularz recenzowania

Kryteria	Poziomy			
Structure	<input type="radio"/> Structure is inappropriate, chaotic	<input type="radio"/> Hardly structured	<input type="radio"/> Structured but imperfect	<input type="radio"/> Well structured
Content	<input type="radio"/> Completely irrelevant	<input type="radio"/> Partly relevant	<input type="radio"/> Well connected to the references	<input type="radio"/> Contains proper information,
Form	<input type="radio"/> Form inappropriate, impairing communication	<input type="radio"/> Form partly correct with many mistakes	<input type="radio"/> Form correct with minor mistakes	<input type="radio"/> Form correct
General effect	<input type="radio"/> Would not have an effect in real life		<input type="radio"/> Would have an effect in real life	

Overall feedback

Informacja zwrotna dla autora

Feedback comment to the author with files

Załącznik

Możesz przeciągnąć i upuścić pliki tutaj, aby je dodać.

Figure 5. Moodle Workshop peer-assessment practice: peer-assessment form (rubric in grid mode) and overall feedback.

Source: The author's own work.

The activity's possible methods of grading include assessment forms consisting of a set of criteria and using either of the following standard strategies: accumulative grading, comments, number of errors or rubric. The assessment form may be rendered either in list or grid mode. The latter is shown in Figure 5.

Conclusion

New approaches to assessment, especially assessment for learning understood as “any assessment for which the first priority in its design and practice is to serve the purpose of promoting students’ learning” (Black et al., 2004, p. 10) can be enhanced when assisted by or set in a virtual learning environment like Moodle, itself being an assessment powerhouse. VLE supported language learning enables a more learner-centered assessment, opens more possibilities for learner autonomy, and strengthens key competences.

References

- Assessment Reform Group (2002). *Assessment for Learning 10 Principles*. Accessed 4 July 2015. Retrieved from <http://www.aaia.org.uk/content/uploads/2010/06/Assessment-for-Learning-10-principles.pdf>.
- Assessment Reform Group. Accessed 4 July 2015. Retrieved from <http://www.assessment-reform-group.org/publications.html>.
- Black, P., Harrison, C., Lee, C., Marshall, B., & Wiliam, D. (2004). Working inside the black box: Assessment for learning in the classroom. *Phi Delta Kappan*, 86 (1), 9–21.
- Black, P., & Wiliam, D. (2010). Inside the black box: Raising standards through classroom assessment. *Phi Delta Kappa International*, 92 (1), 81–90.
- Campione, J. C. (1989). Assisted assessment: A taxonomy of approaches and an outline of strengths and weaknesses. *Journal of Learning Disabilities*, 22 (3), 151–165.
- Dynamic Assessment. Accessed 4 July 2015. Retrieved from http://dynamicasssment.com/_wsn/page2.html.
- Gajek, E. (2011). Learner-oriented teaching and assessment through digital video projects. In H. Komorowska (Ed.), *Issues in promoting multilingualism teaching – learning – assessment* (pp. 287–306). Warszawa: Fundacja Rozwoju Systemu Edukacji.
- Holec, H. (1981). *Autonomy and foreign language learning*. Oxford: Pergamon.
- JISC (2010). *Effective assessment in a digital age*. Accessed 4 July 2015. Retrieved from <https://www.jisc.ac.uk/digiassess>.
- Kalamarz, R. (2014). Blending foreign language learning with key competences. Does e-learning do the trick? *International Journal of Continuing Engineering Education and Life-Long Learning*, 24 (1), 75–95.

- Komorowska, H. (2002). *Sprawdzanie umiejętności w nauce języka obcego: kontrola, ocena, testowanie*. Miejsce wydania: Fraszka Edukacyjna.
- Little, D. (2011). Learner autonomy, self-assessment and language tests: Towards a new assessment culture. In B. Morrison (Ed.), *Independent language learning: Building on experience, seeking new perspectives* (pp. 24–39). Hong Kong: Hong Kong University Press.
- Marczak, M., & Krajka, J. (2014). Electronic assessment tools in learning management systems – Perceptions of student teachers of foreign languages. In E. Smyrnova-Trybulska (Ed.), *E-learning and intercultural competences development in different countries* (pp. 270–271). Katowice–Cieszyn: STUDIO NOA.
- Shohamy, E. (2001). Democratic assessment as an alternative. *Language Testing*, 18 (4).
- Smyrnova-Trybulska, E., & Stach, S. (Ed.). (2012). *Wykorzystanie LCMS Moodle jako systemu wspomagania nauczania na odległość*. Katowice: STUDIO NOA.
- Webb, M., Gibson, D., & Forkosh-Baruch, A. (2013). Challenges for information technology supporting educational assessment. *Journal of Computer Assisted Learning*, 29 (5), 451–462.
- Wiliam, D. (2011). What is assessment for learning? *Studies in Educational Evaluation*, 37 (1), 3–14.

Ryszard Kalamarz

Ocena w nauczaniu języków obcych wspartym wirtualnym środowiskiem nauczania (VLE)

S t r e s z c z e n i e

Artykuł koncentruje się na roli wirtualnych środowisk uczenia się w zakresie różnych rodzajów oceniania w nauczaniu języków obcych, które to środowiska sprzyjają wspieraniu autonomii uczącego się oraz rozwijaniu takich kompetencji kluczowych, jak umiejętność uczenia się. Efektywne kształcenie językowe wymaga podejścia do oceniania bardziej zorientowanego na uczącego się. Systemy LMS, takie jak Moodle pozytywnie odpowiadają na takie potrzeby w komputerowo wspartym procesie dydaktycznym.

S ł o w a k l u c z o w e: nauka języków obcych, ocena, Moodle, wirtualne środowisko nauczania

Рышард Каламаж

Оценка с использованием виртуальной среды преподавания обучения иностранному языку

Р е з ю м е

В статье основное внимание уделяется роли виртуальной среды обучения в рамках различных типов оценивания в обучении иностранным языкам. Эта среда содействует автономии учащегося и развитию такой ключевой компетенции, как умение учиться. Системы дистанционного обучения, такие как Moodle, удовлетворяют потребность в эффективном лично-ориентированном подходе к оценке в обучении.

Ключевые слова: изучение иностранных языков, оценка, Moodle, виртуальная среда обучения

Ryszard Kalamarz

Evaluación en EVA para el aprendizaje de una lengua extranjera

R e s u m e n

El artículo se centra en el papel de los Entornos Virtuales de Aprendizaje en el ámbito de los diferentes tipos de evaluación en el aprendizaje de las lenguas extranjeras y la enseñanza dirigida a promover la autonomía del alumnado y el desarrollo de dichas competencias clave, como aprender a aprender. Una enseñanza de idiomas eficaz demanda un enfoque más orientado al alumnado en la evaluación. Los Sistemas de Gestión del Aprendizaje como Moodle parecen responder a esas necesidades en el proceso de enseñanza-aprendizaje asistida por ordenador.

Palabras clave: aprendizaje de lenguas extranjeras, evaluación, Moodle, entorno virtual de aprendizaje

IV

Research Results on Effective IT Tools



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Discussion Paper on More Adequate and Effective IT Tools. Some Previous Results Concerning More Adequate and Effective ICT Tools in the Category: Tools for Making Presentations

Abstract

The article describes some preliminary results of the implementation of Work-Package 4 (WP4) “Selection and testing new IT tools” in the framework of the international research network (IRNet) and researchers from partner institutions from Poland, Slovakia, Ukraine, and Australia. These results concern analysis and study of some categories of IT tools for making multimedia presentation. All the package period has been divided into 5 main stages. The role of multimedia in teaching is considerable as it offers various formats of presenting information simultaneously. The combination of text, audio, images, animation, video, as well as hyperlinks has an advantage of using both of the two main channels – visual and verbal – for presentation in an efficient way. This paper also discusses the features

of effective presentation and examples of computer programs which may be used for this purpose. Authors presented a ranking list based on quality and quantity assessment of chosen IT tools and they proposed some characteristics of good presentation as well as they analyzed frequent mistakes made by users elaborating presentations.

Key words: IT Tools, presentations, international research network IRNet, quality and quantity assessment

Introduction

A multimedia presentation can play an important role in teaching as it is a perfect tool supporting the process of teaching and learning, combining all media in one application.

The offer of software for creating multimedia presentations is broad, but students preparing for the teaching profession are rarely familiar with niche programs. It is an alarming consistency in the context of the need to find ways of effective presentation, that is, such that will attract attention, motivate to learn and constitute a source of information. The following features of effective presentations are contemporarily emphasized (Brosch & Frania, 2014, p. 30):

- multiplicity of media: presentation should contain at least one static element, that is, text, photos, graphics, and at least one dynamic component, such as video, audio, or animation;
- nonlinearity: the user is able to “jump” from one item to another without losing the sense of the presentation;
- interactivity: based on the recipients’ decision of what and how they want to see or read, which is related to the requirement of content and form management;
- coherence: all elements of the presentation should form a coherent whole without the possibility of exerting separate control on its different parts;
- digital mode of inputting and outputting content (Parekh, 2006, pp. 2–5).

Workpackage 4: Basic Objectives

Among more important objectives of WP4 are:

- to select and test new IT tools: social media, selected Web 2.0, and Web 3.0., massive open online courses, etc.; to evaluate synchronous and asynchronous

- tools, methodologies and good practices; to compare and evaluate, LMS (*Learning Management Systems*), CMS (*Contents Management Systems*), VSCR (*Virtual Synchronous Classrooms*), SSA (*Screen Share Applications*), CSA (*Contents Sharing Application*), cloud computing environment;
- to identify and define profiles of *virtual campus*, *virtual learning environment*, and *virtual synchronous classroom*; to review and compare virtual classrooms (VCR) based on hardware equipment against the ones based on PCs; to identify VCRs which better serve the teacher's or student's activities, to compare from the technological point of view the most known VCR (PC based) available in the market; to analyze the technological profile that virtual classrooms should have so as to ensure a good pedagogic result;
 - to characterize methodological and technological aspects of multimodal didactic communication;
 - to identify the general methodological aspects of VCR with a special focus on online tutoring, continuous online evaluation, and good practices; to test IT tools concerning effective developing ICT and e-learning competences, as well as in design of intercultural competences.

Methodology and Stages of Research

According to the Road map elaborated by Professor Antonio dos Reis, coordinator of WorkPackage 4, the whole period of implementation of this WP was divided into several main stages (1–5).

Stage 1 includes:

- identifying necessary skills to teach in the school of the future, according to previous studies made and documents available;
- absolutely necessary skills: know how to present contents in multimedia format (presentations and didactic videos);
 - recommended skills: *communication, collaboration, creativity, critical thinking and problem solving, productivity, reflection and feedback, social networking, searching.*

Consequently, different IT tools were analyzed, their application in education was studied and a different category of application was specified, in particular Module 001, which contains: Tools for making presentations and Tools for making didactic videos.

Stage 2 includes: Tools identified by the team are expected to be reported in a Google Drive document available for remote collaborative work.

July – Teams responsible for identifying tools should present items to be used as criteria to evaluate and compare tools by each task to implement a CSEM (Custom Satisfaction Evaluation Model)

Stage 3 (September – October) involves comparing and concluding on the relative importance of tools, using a CSEM.

General Background of Research

What is a Presentation?

Researchers of the IRNet consortium from the University of Silesia (Poland) – Coordinator, Constantine the Philosopher University (Slovakia), Borys Grinchenko Kyiv University (Ukraine), Dniprodzerzhinsk State Technical University (Ukraine), Curtin University (Australia), analyzed a different definition of what is a presentation, for example:

“*Presentation* is the practice of showing and explaining the content of a topic to an audience or learner” (www.wikipedia.org).

Depending on the sense in the context and meaning, presentation can be described in the following ways: “The giving of something to someone, especially as part of a formal ceremony; the manner or style in which something is given, offered, or displayed; a formal introduction of someone, especially at court; the action or right of formally proposing a candidate for a church benefice or other position; a speech or talk in which a new product, idea, or piece of work is shown and explained to an audience; (medicine) the position of a fetus in relation to the cervix at the time of delivery” (<http://www.oxforddictionaries.com/definition/english/presentation>).

In fact, in all sectors of the economy and education there is a need to transmit significant amounts of complex information continuously.

This was done through numerous lectures, presentations, where the data transmitted were presented in the form of visualization of different separate media objects. Before the year 2000, the lecture was a form of presentation conducted by use of many different tools, such as maps, charts, tables, boards, films, sound, recordings, photographs, etc. The presentation of all these elements traditionally required a whole range of teaching aids, starting from a board and chalk, through very laborious preparation of charts and slides, to some sophisticated audio-video systems.

Instrument and Procedures

After comprehensive analysis of many tools for making presentations a number of main effective tools were identified. Among the main tools are:

- MS Power Point,
- Prezi (www.prezi.com),
- Impress Libre Office,
- Slide Dog,
- ClearSlide/SlideRocket.

Additional tools:

- Powtoon (www.powtoon.com),
- IBM Lotus Symphony,
- Wondershare DVD Slideshow Builder Deluxe,
- Corel Presentations,
- Lotus Freelance Graphics,
- Harward Graphics,
- Grapher,
- Slidewrite Plus,
- other.

Experts of the IRNet consortium from Poland, Slovakia, Ukraine, and Australia conducted an analysis and led a discussion concerning more important application of tools for making presentations (Table 1–5).

Table 1.

MS Power Point description, activities, marking guide

Application	Description	Activities	Marking guide
MS PowerPoint (MS PPT)	Power Point application is a slide show presentation show. Slides can contain: text graphics, sound, movies tables, and other objects. Transitions are available in the Power Point slides (i.e., push, wipe, split, reveal, etc.). Animations are available in PowerPoint slides (i.e., Fly in, Split, Shape, Wheel, etc.). SmartArt allows you to communicate information with graphics instead of just using text (i.e. list, process, cycle, hierarchy, relationship, etc.).	Face to face presentation; digital presentation; case studies; analyzing an article; short questions; supporting of different; educational activities.	Language; delivery; supporting material; central message; source and evidence; conclusion and recommendations.

Source: The authors' own work based on <https://products.office.com/en-ca/powerpoint>.

Table 2.
Prezi description, activities, marking guide

Application	Description	Activities	Marking guide
Prezi (www.prezi.com)	<p>Prezi is a cloud-based presentation software and storytelling tool for presenting ideas on a virtual painting.</p> <p>Users will have the control to pan and zoom, and to size, rotate or edit an object.</p> <p>Prezi allows its users to add text, images, video, media and texts.</p> <p>Pages under Prezi are called frames, which allows users to group a set of presentation media together as a single presentation object.</p>	Digital presentation; face to face presentation.	Language; delivery; supporting material; central message; source and evidence; conclusion and recommendations.

Source: The authors' own work based on www.prezi.com.

Table 3.
Impress description, activities, marking guide

Title of Application	Description	Activities	Marking guide
Impress Libre Office (https://www.libreoffice.org/discover/impress/)	<p>Impress has a comprehensive range of easy-to-use drawing and <i>diagramming tools</i> to add <i>style</i> and <i>sophistication</i> to your presentation.</p> <p>A lot different animations and effects.</p> <p>The <i>Fontworks</i> tool permits you to create attractive <i>2D</i> and <i>3D</i> images from text.</p> <p>Impress enables you to build and control <i>3D scenes</i>, incorporating a large variety of objects and components.</p>	<p>Impress is a truly outstanding tool for creating effective multimedia presentations.</p> <p>Presentation edition and creation is flexible, thanks to different editing and view modes: <i>normal</i> (for general editing); <i>outline</i> (for organizing and outlining your text content); <i>notes</i> (for viewing and editing the notes attached to a slide); <i>handout</i> (for producing paper-based material); <i>slide sorter</i> (for a thumbnail sheet view that lets you quickly locate and order your slides).</p> <p>Digital Presentation; face to face presentation.</p>	Language; delivery; supporting material; central message; source and evidence; conclusion and recommendations.

Source: The authors' own work based on <https://www.libreoffice.org/discover/impress/>.

Table 4.
SlideDog description, activities, marking guide

Application	Description	Activities	Marking guide
SlideDog (http://slidedog.com/blog/top-5-presentation-tools-2014/)	<p>Users can now easily add live polls, ask the audience for feedback, share slides online and remote control SlideDog from your mobile phone.</p> <p>All this can be enabled from within the app itself, and to this day we have not seen any competitors that can match our combination of seamless presentation playback and interactive audience features.</p> <p>Currently, all the new features are included in the free version of SlideDog.</p>	Digital presentation; face to face presentation.	Language; delivery; supporting material; central message; source and evidence; conclusion and recommendations.

S o u r c e: The authors' own work based on <http://slidedog.com/blog/top-5-presentation-tools-2014/>.

Table 5.
ClearSlide/SlideRocket description, activities, marking guide

Application	Description	Activities	Marking guide
ClearSlide/SlideRocket (http://www.sliderocket.com)	<p>SlideRocket stopped accepting new users when it was acquired by ClearSlide in 2013.</p> <p>SlideRocket is a revolutionary new approach to business communications designed from the start to help users make great presentations that engage your audience and deliver tangible results.</p> <p>SlideRocket protects your content investment and opens up a world of previously unavailable possibilities by importing your existing PowerPoint or Google presentations. Import as images for quick and easy sharing or import as editable files for full compatibility with SlideRocket.</p> <p>Other features: access anywhere; creating presentations online; support work together; share presentations easily; present dynamically; security ON; measure presentation effectiveness; go mobile.</p>	Digital presentation; face to face presentation.	Language; delivery; supporting material; central message; source and evidence; conclusion and recommendations.

S o u r c e: The authors' own work based on <http://www.sliderocket.com>.

Data Analysis

During discussion and analysis of previous experience there was elaborated a list of items to define quality of suggested tools for making presentations and to evaluate their relative importance, according to 1–5 grading system (Table 6). Besides, there was prepared a ranking list of IT tools for making presentations (Table 7).

Table 6.

A list of items to define quality of suggested tools for making presentations and their relative importance 1–5

	Items	US	UKF	BGKU	DSTU	CU	Total
1	2	3	4	5	6	7	8
1.	Can slides have standard format/templates?	5	5	5	5	5	25
2.	Can background be pre-defined to the slides?	5	5	5	5	5	25
3.	Can images be inserted in the slides?	5	5	5	5	5	25
4.	Is there an image editor tool?	4	4	4	3	3	18
5.	Classify image editor (according to 1–10 grading system)	5	4	4	4	3	20
6.	Is it possible to format colors?	5	3	4	3	5	20
7.	Is it possible to compress imaging?	5	5	4	4	5	23
8.	Is it possible to remove background?	5	5	5	4	5	24
9.	Is it possible to insert or crop images?	5	5	5	4	5	24
10.	Can a photo album be inserted automatically in a slide show?	5	4	4	4	5	22
11.	Is it possible to insert a standard form?	5	3	5	5	5	23
12.	Is it possible to insert graphics?	5	5	5	5	5	25
13.	Is it possible to insert hyperlinks?	5	5	5	5	5	25
14.	Is it possible to insert audio files?	5	5	5	4	5	24
15.	Is it possible to insert videos?	5	5	5	4	5	24
16.	Is it possible to insert different slide transitions?	5	5	5	5	5	25
17.	Is it possible to insert different type of animations?	5	4	5	5	5	24
18.	Is it possible to record audio narration?	5	4	5	4	5	23
19.	Is it possible to insert record time presentation for each slide?	4	2	4	4	5	19
20.	Is it possible to make an author notes presentation?	5	5	5	5	5	25

1	2	3	4	5	6	7	8
21.	Can a presentation be automatically converted into a video?	4	3	5	4	4	20
22.	Can a presentation be automatically saved in a PDF format?	5	2	5	5	5	22
23.	Can a presentation be automatically saved as an image?	5	3	5	5	5	23
24.	Interactive options (interactive buttons)+	5	4	5	4	5	23
25.	Fees (Free/Commercial)+	5	5	5	5	5	25
26.	Automatic sharing options (in social networks or elsewhere)+	4	3	4	4	5	20

Source: The authors' own work.

Table 7.
Ranking list of IT tools for making presentation

Tools' number	Points
1: PowerPoint MS Office	627
2: Impress, LibreOffice	617
3: ClearSlide/SlideRocket	601
4: Prezi	592
5: SlideDog	526
6: Keynote	For Mac
7: PPTPlex	For Mac

Source: The authors' own work.

Pedagogical Aspects of Multimedia Presentation

Apart from technological aspects of the above discussed IT tools, the authors also provided an analysis of pedagogical and methodological aspects of multimedia presentation as necessary in the developing area of multimedia presentation, in particular:

- the use of software for the creation of multimedia presentations broadens the scope of impact. You can integrate various elements of *communication*, *enter interactions*, and create a new narrative style that is not only a component used in the presentation;
- by being able to *individualize*, *animate*, and *stimulate* phenomena and processes which use elements typical to multimedia presentations, you can

imitate personal experiences, which largely determines such processes as remembering and learning.

Functions of multimedia presentation:

- informing;
- activating;
- motivating;
- inspiring.

The functions of a presentation are realized via planned systematic direct impact:

- *subjectivity* (a set of features and the formal content, for example: intuition, cognitive style, foreknowledge, recipient, his or her cultural experiences);
- *objectivity* (syntactic and semantic value, for example: communication characteristics, the structure of the message, type of construction, ways of emphasizing the structures, taking into account markers, traffic and carry-over effects);
- pragmatically (methodically, for example, a specific situation, character interaction, the type of tasks assigned to each kind of media).

Important capabilities and advantages of multimedia presentation include:

- the direct import of data from other applications;
- the possibility of any transformation of content and presentation;
- an easy way to reproduce presentation files;
- the ability to print information materials immediately, created from existing slides;
- the possibility of making a presentation in a local network or the Internet for any number of recipients.

Multimedia presentations can be classified depending on the form and target audience to which they are addressed:

- multimedia presentation in the form of a film (slide-show) (Figure 1): used as a typical training film (all of the slides switch over automatically). The teacher and recipients remain passive. Presentations of this type may have a loop shape, which allows to use them as illustrations of various types of exposure;

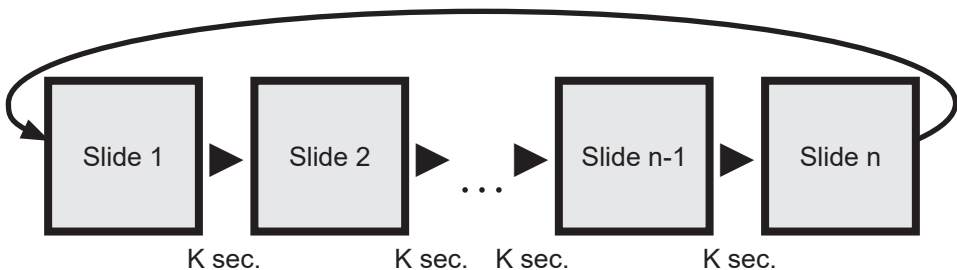


Figure 1. Multimedia presentation in the form of a film (slide-show).

Source: The authors' own work (Smyrnova-Trybulska, <http://el.us.edu.pl/weinoe>).

- multimedia presentation with a linear structure (Figure 2): the consecutive slides are displayed one after another. Although there is a possibility to go to any slide in the presentation, each is a separate object not having hypertext links which recognize their content in a systematic structure;

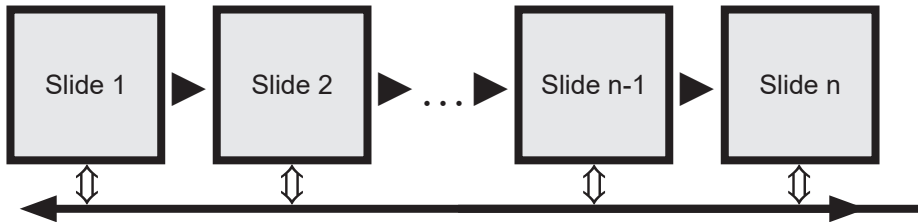


Figure 2. Multimedia presentation with a linear structure.

Source: The authors' own work (Smyrnova-Trybulska, <http://el.us.edu.pl/weinoe>).

- interactive presentations (Figure 3):

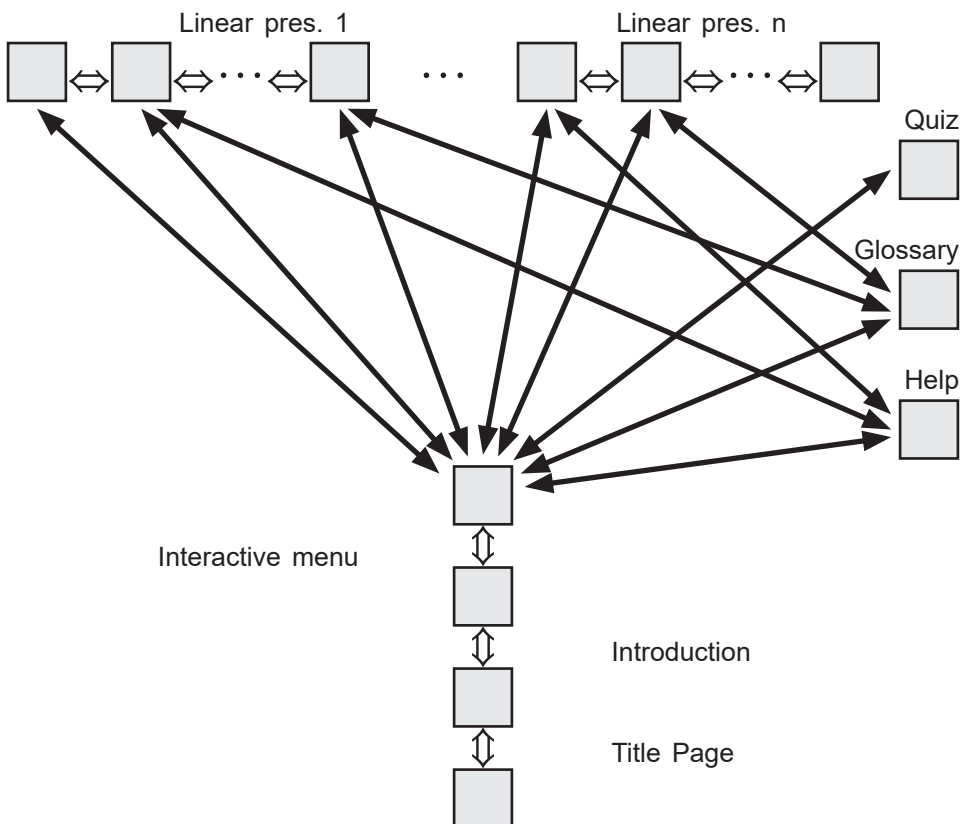


Figure 3. The presentation of the branched structure with interactive elements.

Source: The authors' own work (Smyrnova-Trybulska, <http://el.us.edu.pl/weinoe>).

you can extract presentations for mass and individual consumers. In both cases, the presentation structure is similar, but for individual customers it requires a much broader refining of the technical details and equipment due to precise methodical instructions.

At the start, interactive presentation offers many opportunities of browsing for the recipient. It is credited on the basis of selecting appropriate hyperlink specific contents or expanding the scope of knowledge of specific issues.

Other Criteria of Classification of Presentation

- Type of school: universities, primary schools, secondary schools, etc.;
- Users age: university students, children, teenagers, adult people, etc.;
- Subject: humanities, sciences, etc.;
- Type of teaching/learning: presence form or remote mode (distance learning);
- Didactic aims: introduction of a new topic, evaluation, etc.;
- Type of work organization: individual, group, collective.;
- Type of structure: film, linear structure, and branched structure, etc.

On the basis of the research done by Brosch and Frania (2014) and the authors' research study we can conclude that students often make many mistakes during their elaboration of multimedia presentations (Table 8).

Table 8.
Errors made by students during the design of a multimedia presentation

Type of error 1	Display 2	Effect 3
Excessive effects	Too frequent use of various sound and visual effects.	It is not information that is communicated to its recipients.
Incorrect choice of font	The use of fonts without Polish letters; the use of multiple font styles within a single presentation.	Presentation loses its clarity.
Excessive text	The text voiced by the presenter is the same as the text on the display.	The presentation is inflexible and boring, recipients lose interest.
Multiplication of the same effects	The use of ready slide templates.	No originality; the presentation is not attractive for the recipient.
Excessive array of colours	A single slide has more than 3 colours.	Reception of information is made more difficult than it is necessary; visual perception is overloaded.

1	2	3
Authors (students or teacher) often prefers elaborating of type the presentation in form of a slide-show or linear structure presentation	The imposed pace which may not be adjusted to the listeners' pace.	The lack of individualised teaching and learning.
Disproportionate or not spicy or too small graphical objects	Poorly received by users.	The figures do not fulfill their functions substantive and teaching.

S o u r c e: The authors' own research based on Brosch and Frania (2014).

The analysis of research conducted before and our own previous experience identified that there is a nonlinear relation between time of presentation and attention of the audience which can be presented as follows (see Figure 4). Therefore, it is essential to keep in mind all these outcomes, provide suggestions and recommendations for a good presentation, which could keep users' attention when the presentation is displayed.

IRNet researchers elaborated several rules how to use PowerPoint most efficiently (Figure 2), which was based on previous study conducted by other experts, in particular: (Toon Goedemé), (Marcovitz, 2012), (Osmańska-Furmanek 1999), (Anderson 2015), (Brosch & Frania 2014).

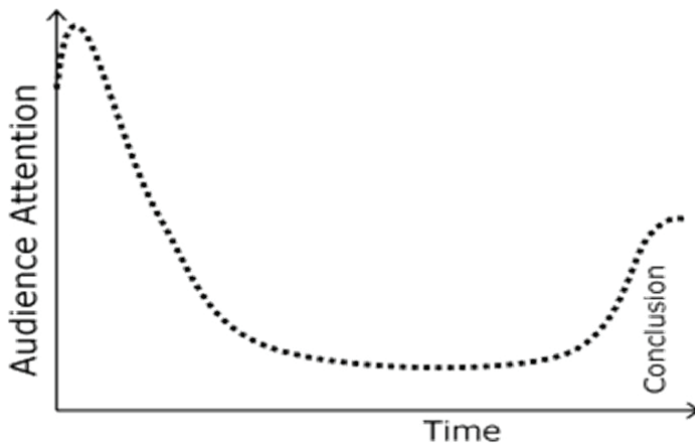


Figure 4. Relation between time of presentation and attention of audience.

S o u r c e: Toon Goedemé.



Figure 5. Basic requirements for good presentation.

Source: The authors' own research based on Toon Goedemé.

Additional sources: animations, movies, demonstrations (Toon Goedemé). Top Five Slide Key Points.

1. Reduce the amount of text. Your slides are supporting your talk, not duplicating it. Use photos or graphics to illustrate your point, or summarise the content in a few key words or phrases.
2. Create a visual hierarchy. Not all information is equally important. Contrasting font sizes and placement of text helps the audience understand your message quickly. Do not use bold type for all of the text.
3. Divide your presentation into sections. Help the audience follow your presentation by adding interstitial slides or putting the section title on each slide.
4. Have a learning objectives slide. Let the audience know at the beginning the key three to five points you want them to take away from your presentation.
5. Use a color palette. If your organization has a template, they probably have a color palette. Use colour for emphasis. Limit the number of colors in your palette (Effective Presentations, a Toolkit for Engaging an Audience).

Among suggestions good slide structure could be specified:

- use 1–2 slides per minute of your presentation;
- write in point form, not complete sentences;
- include 4–5 points per slide;
- avoid wordiness: use key words and phrases only;

- maximum 40 words/slide!

After analyzing theoretical and practical aspects of design of presentation we could describe more important font requirements:

- use at least an 18-point font;
- use different size fonts for main points and secondary points (this font is 24-point, the main point font is 28-point, and the title font is 36-point);
- use a sans-serif font like Arial.

Good and bad examples of the usage of fonts, colors, and pictures in presentations are illustrated in Figures 6, 7, 8 respectively.



Figure 6. Good and bad examples use of fonts in presentation.

Source: The authors' own work.



Figure 7. Good and bad examples of the use of colors in presentation.

Source: The authors' own work.

Among more important color requirements we could mark the following:

- the use a color of font that contrasts sharply with the background (e.g., blue font on white background);
- the use color to reinforce the logic of your structure (e.g., light blue title and dark blue text);
- the use color to emphasize a point (but only occasionally).



Good

Bad

Figure 8. Good and bad examples of the use of pictures in presentation.

Source: The authors' own work. Pictures from Microsoft Office free image gallery.

Stage 4

1. October – November: making up focus groups, one of students and one of in-service teachers.
2. November – statistic treatment of obtained results and final conclusions. Evaluation of the results of research by independent experts
3. December – e-round table to present conclusions.

Deliverables:

D 4.1. Monograph *Innovations in Higher Education – Modern Communications and Collaboration at the University Using Specific IT Tools*.

D 4.2. Joint Consortium Report on the Selection of New IT Tools and Their Characteristic and Its Publication on Project Website.

D 4.3. 7 scientific papers, published in the *ICTE 2015* (Information and Communication Technology in Education) Conference Proceedings.

- D 4.4. Discussion papers on the topic of more adequate and effective IT tools.
- D 4.5. Script *Selection IT tools and their using for developing IT competences*.
- D 4.6. Scientific paper *Using effective and adequate IT tools for developing teachers' skills* (International Journal IJCEELL).
- D 4.7. Collection of papers *Open Educational and Informational E-environment of Modern University*.
- D 4.8. Monograph *ICT Tools – Good Practice of Effective Use in Education*.

Conclusions

This paper aims to present some temporary, preliminary results of research, conducted within the first 7 months of WP4 “Selection and Testing New IT Tools,” module 001 “Tools for Making Presentations.” The second part of the WP4 involves the implementation of other tasks planned for realization:

Task 4.3. Making up focus groups, one of students and one of in-service teachers, in every country participating in the project in order to involve them into testing new ICT tools (LCMS, massive open online courses, virtual classroom technology, social media, other selected tools such as Web 2.0 and Web 3.0).

Task 4.4. Invitation of focus groups to experimental learning with use of new ICT in sequence in order to provide the participants with the possibility to take personal experience of usage new ICT tools and express their view on their use in learning.

Task 4.5. Collection of the data on the participants' attitude to new ICT by implementing such methods as observation, interview, and self-assessment.

Task 4.6. Analyses of the data obtained, generalizing and making conclusions on strong and weak points of implementing LCMS, virtual classroom technology, social media, selected Web 2.0 and Web 3.0.

All the results of the study will be published in the subsequent/forthcoming articles of international consortium.

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References

- Anderson, C. (2015). How to give a killer presentation. Accessed 26 August 2015. Retrieved from <https://hbr.org/2013/06/how-to-give-a-killer-presentation/>.
- Baron-Polańczyk, E. (2011). *Chmura czy silos? Nauczyciele wobec nowych trendów ICT*. Zielona Góra: Oficyna Wydawnicza Uniwersytetu Zielonogórskiego.
- Brosch, A., & Frania, M. (2014). The potential of multimedia presentations as the educational tools – Polish examples in higher education. In: J. Kapounová & K. Kostolányová (Eds.), *Information and communication technology in education* (pp. 28–34). (ICTE-2014). Conference Proceedings, University of Ostrava, Rožnov pod Radhoštěm, 2014. Retrieved from <https://konference.osu.cz/ict/dokumenty/2014/proceedingsICTE2014.pdf>.
- Dimitrova, V., Dimitrova, N., & Lustig, F. (2013). ICT in the project-based education of physics. In J. Kapounová & K. Kostolányová (Eds.), *Information and communication technology in education* (pp. 76–81). Proceedings of the 2013 ICTE Annual Conference. Ostrava: University of Ostrava.
- Effective presentations, a toolkit for engaging an audience*. Robert Woods Johnson Foundation. Accessed 26 August 2015. Retrieved from <https://www.medicalteams.org/docs/default-source/resource-center/effective-presentation-toolkit.pdf?sfvrsn=2>.
- Faculty (WEiNoE) distance learning platform. Accessed 26 August 2015. Retrieved from <http://el.us.edu.pl/weinoe>.
- Huk, T. (2011). *Media w wychowaniu, dydaktyce oraz zarządzaniu informacją edukacyjną szkoły*. Miejsce wydania: Oficyna Wydawnicza Impuls.
- Kołodziejczak, B., Roszak, M., Kowalewski, W., & Ren-Kurc, A. (2014). Multimedia educational materials in academic medical training. *Studies in Logic, Grammar and Rhetoric Issue on Logical, Statistical and Computer Methods in Medicine* 39, no. 1 (52), 105–121.
- Łasiński, G. (1998). Strategia prezentacji w procesie efektywnego komunikowania się. In W. Strykowski. *Media a edukacja*. II Międzynarodowa Konferencja Naukowa. Poznań: Wyd. eMPi2.
- Osmańska-Furmanek, W. (1999). *Nowe technologie informacyjne w edukacji*. Zielona Góra: Lubuskie Towarzystwo Naukowe.
- Parekh, R. (2006). *Principles of multimedia*. New York, NY: McGraw–Hill Education.
- Powerful PowerPoint for Educators: Using Visual Basic for Applications to Make PowerPoint Interactive, Second Edition by Marcovitz, David M. (2012) Paperback.
- Rosman, P. (2013). *Some aspects of ICT integration into education*. In J. Kapounová & K. Kostolányová (Eds.). *Information and communication technology in education* (pp. 252–260). Proceedings of the 2013 ICTE Annual Conference. Ostrava: University of Ostrava.
- Smyrnova-Trybulska, E. (2003). *Podstawy wykorzystania komputera*. Sosnowiec: Wydawnictwo Wyższej Szkoły Zarządzania i Marketingu.
- Strykowski, W. (2003). *Rola mediów i edukacji medialnej we współczesnym społeczeństwie*. Chocwanna R. XLVI (LIX), vol. 1 (20), 111–122.
- Toon Goedemé, De, Nayer. Institute Belgium. How to give a good presentation. Accessed 26 August 2015. Retrieved from https://www.ki.fpv.ukf.sk/projekty/kega_3_4029_06/source/HowToGiveAGoodPresentation.pdf.

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Dotychczasowe wyniki dotyczące bardziej odpowiednich i efektywnych narzędzi w kategorii: narzędzia TIK do przygotowania prezentacji

Streszczenie

Artykuł opisuje wstępne wyniki realizacji Pakietu Prac 4 „Wybór i testowanie nowych narzędzi TIK” w ramach międzynarodowej sieci badawczej IRNet z udziałem naukowców z instytucji partnerskich z Polski, Słowacji, Ukrainy i Australii. Wyniki te dotyczą analizy i badania pewnych kategorii narzędzi informatycznych przeznaczonych do multimedialnych prezentacji. Cały czas trwania pakietu prac został podzielony na pięć głównych etapów (1–5). Multimedia w nauczaniu dostarczają wielu różnych formatów prezentowania informacji w sposób symultaniczny. Połączenie tekstu, dźwięku, obrazów, animacji, wideo, a także odnośników pozwala wykorzystać dwa główne kanały odbioru informacji (wizualny i werbalny) w realizowaniu prezentacji w sposób efektywny. W niniejszym artykule zostały również omówione cechy efektywnej prezentacji i przykłady programów komputerowych, które mogą być wykorzystywane do jej przygotowania. Autorzy przedstawili ranking wybranych narzędzi informatycznych, stworzony na podstawie jakościowej i ilościowej oceny, i zaproponowali zalecenia dotyczące wyznaczników dobrej prezentacji, a także przeanalizowali błędy najczęściej popełniane przez autorów prezentacji.

Słowa kluczowe: narzędzia informatyczne, prezentacje, międzynarodowa sieć badawcza IRNet, ocena jakościowa i ilościowa

Евгения Смирнова-Трибульская, Эва Огородзка-Мазур, Анна Шафраньска-Гайдица, Мартин Дрлик, Мартин Цапай, Юлия Томанова, Петр Швец, Наталия Морзе, Русудан Махачашвили, Марина Романюха, Мыкола Наказный, Людмила Сорокина, Томайесс Исса, Теодора Исса

Некоторые предыдущие результаты изучения наиболее адекватных и эффективных ИКТ-инструментов категории «Инструменты для создания презентаций»

Резюме

В статье описываются некоторые предварительные итоги реализации рабочего пакета №4 «Выбор и тестирование новых инструментов ИКТ» в рамках международного проекта сети IRNet исследователями из учреждений-партнеров Польши, Словакии, Украины, Австралии. К результатам относится анализ некоторых категорий ИКТ-инструментов для создания мультимедийной презентации. Исследование было разделено на несколько основных этапов (1–5). Роль мультимедиа в преподавании является значительной, так как предлагает различные форматы представления информации одновременно: текста, звука, изображения, анимации, видео, а также гиперссылок. Отмечается преимущество использования обоих из двух основных каналов – визуального и вербального – для представления информации наиболее эффективно. Особенности эффективного представления информации и примеры компьютерных программ, которые могут быть использованы для этой цели, также обсуждаются в работе. Авторы пред-

ставили рейтинг-лист в зависимости от качества и оценки количества выбранных ИКТ-инструментов и предложили некоторые рекомендации для создания презентации. Кроме того, в статье проанализированы наиболее часто совершаемые ошибки.

К л ю ч е в ы е с л о в а: ИКТ-инструменты, презентация, международная научно-исследовательская сеть IRNet, качественное и количественное оценивание

Eugenia Smyrnova-Trybulska, Ewa Ogrodzka-Mazur, Anna Szafrńska-Gajdzica, Martin Drlik, Martin Capay, Júlia Tomanová, Peter Švec, Nataliia Morze, Rusudan Makhachashvili, Maryna Romanyukha, Mykoła Nakazny, Lyudmyla Sorokina, Tomayess Issa, Teodora Issa

Algunos resultados previos en relación a las herramientas TIC más adecuadas y efectivas en la categoría de herramientas para realizar presentaciones

R e s u m e n

El artículo describe algunos de los resultados preliminares del Paquete de Trabajo 4 (WP4) “Selección y testeo de nuevas herramientas informáticas” en el marco del proyecto europeo IRNET y los investigadores e investigadoras de las instituciones socias de Polonia, Eslovaquia, Ucrania y Australia. Estos análisis son resultado de la preocupación y el estudio de algunas categorías de herramientas TIC para la elaboración de presentaciones multimedia. Todos los paquetes de trabajo han sido divididos en varias etapas de trabajo del 1 al 5. El papel de los materiales multimedia en la enseñanza es considerable, ya que ofrece varios formatos de presentación de la información al mismo tiempo. La combinación de texto, audio, imágenes, animaciones, vídeo, así como de hipervínculos, tiene la ventaja de utilizar los dos canales principales de comunicación (visuales y verbales) para realizar presentaciones de manera eficiente. Las características de estas herramientas dirigidas a elaborar presentaciones, junto con ejemplos de programas de ordenador que se pueden usar con este propósito, también se discuten en el presente trabajo. Los autores y autoras, además, presentan una clasificación jerarquizada de dichas herramientas basada en la calidad y la cantidad de las herramientas TIC evaluadas. Al mismo tiempo, se propusieron algunas recomendaciones necesarias para realizar una buena presentación, así como se analizaron algunos de los errores más frecuentes que cometen los usuarios cuando elaboran presentaciones.

P a l a b r a s c l a v e: Herramientas TIC, presentaciones, IRNet, Red Internacional de investigación-internacional, evaluación de la calidad y la cantidad

V

Reports



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**Report on the Implementation of WorkPackage 2
“Analyses of Legal, Ethical, Human, Technical and
Social Factors of ICT and E-Learning Development
and Intercultural Competences State in Every Partner
Country” in the Framework of the IRNet Project**

Abstract

This article, prepared by an international team of researchers from different scientific areas, connected with ICT, e-learning, pedagogy, and other related disciplines, focuses on the objectives and some results of the international project IRNet. In particular, the article describes research tools, methods, and a procedure of the WP2, that is, analyses of legal, ethical, human, technical, and social factors of ICT and e-learning development, and the state of intercultural competences in partner countries: objectives, tasks, deliverables, and implementation of research trips. Researchers from Poland, the Netherlands, Spain, Slovakia, Portugal, Czech Republic, Australia, Ukraine, and Russia analyzed the results of WP2 in the context of the next stages and Work packages of IRNet project – International Research Network.

Keywords: International Research Network IRNet, ICT, e-learning, intercultural competences

Introduction

Research Problem

Nowadays, we can observe a rapid transition of the knowledge society to the “society of global competences,” in which both the global economy and the education systems are undergoing significant changes. It is evident that without an active implementation of innovations into education these objectives cannot be successfully achieved. At the same time, we should identify the existing problem – the fact that e-learning methodology is not yet fully developed and specified, both within and outside the EU.

Development and implementation of the systems designed to enhance ICT competences of the modern specialist, in particular future teachers, in-service teachers, and educational managers, based on the systematic use of Internet technologies (LCMS systems, Massive Open Online Courses, “virtual classroom” technology, social media, other selected Web 2.0 and Web 3.0 technology) will positively contribute to the development of skills in the area of ICT and intercultural competences.

One of the providers of meeting challenges of the digital society will be the international scientific project IRNet. The project has been financed by the European Commission under the 7th Framework Programme, within the Marie Curie Actions International Research Staff Exchange Scheme (Grant Agreement No:

PIRSES-GA-2013-612536. Duration of the project is 48 months: 1/01/2014 until 31/12/2017).

The IRNet project aims to set up a thematic multidisciplinary joint exchange programme dedicated to research and development of new tools for advanced pedagogical science in the field of ICT instruments, distance learning, and intercultural competences in the chosen EU countries (i.e., Poland, Netherlands, Spain, Portugal, Slovakia, Czech Republic) and countries outside the EU – third countries (i.e., Australia, Russia, Ukraine). The programme will strengthen the existing collaboration and establish new scientific contacts through mutually conducted research and secondments of the researchers. The main objectives of the project are: (1) to exchange expertise and knowledge in the field of the innovative technologies of education between the EU and third countries and suggest effective strategies of implementing new tools in their profession; (2) to analyze and evaluate social, economic, legal conditions, as well as methodologies and e-learning technologies developed in the European and third countries involved in the project.

General Progress of the Project

Qualitative indicators of progress and success in line with work plan and milestones (description of progress towards milestones and deliverables). The activities of the project are in line with the expected outcomes as far as the milestones and the deliverables, expected during this mid-term reporting period (first 8 months).

WP1: “Project and consortium management”

During the period the following deliverables were achieved for the WP1:

D1.1. The project website was set up in February 2014 at www.irnet.us.edu.pl.

D1.2. Consortium meetings: monthly Steering Committee meetings were held by videoconferences.

D1.3. Reports on the project progress to the EC: 1 mid-term report submitted to the EC.

During the period considered in the present report the main research objectives were related to the WP2 “Analyses of legal, ethical, human, technical and social factors of ICT and e-learning development and the state of intercultural competences in every partner country” and the WP3 “Analyses and evaluation of the ICT level, e-learning and intercultural development in every participating country.” The details of the progress towards the achievement of deliverables and milestones are given in detail for these Work Packages below.

Research Focus

WP2: Analyses of legal, ethical, human, technical and social factors of ICT and e-learning development and the state of intercultural competences in every partner country.

Objectives

The overall goal of the WP2 is to anticipate the coming years when universities will face the need to work together, both in terms of student exchange and in terms of technological and infrastructural procedures for exchanging staff members and open online courseware material. The recent attention for MOOCs (*Massive Open Online Courses*) is only a small part of the solution. Much more vital are the compatibility of institutional policies, benchmarks for effectiveness and the mutual recognition of assessment characteristics.

Building on the leading work of the team the participants will engage in a critical review of the existing literature, legal documents, web sources, etc., drawing on contributions from a range of relevant disciplines (education, computer science, intercultural education, sociology, anthropology, political science) and analyze legal, ethical, human, technical, social factors of ICT development, e-learning and intercultural development in partner's countries. They will add new perspectives on the problem of understanding higher education and developing some key competences – globalization nexus in different regional and national contexts. This WP2 will be coordinated by UT (Netherlands), exploiting their particular expertise in some key competences and education. It will advance existing knowledge by creating a synergy between UT's expertise with US, BGKU, DSTU expertise on legal, ethical, and human factors of ICT development, as well as psychological accomplishment of face-to-face and e-learning and teaching and sharing the latest blending teaching methods via technology in CU (Australia) and expertise of other universities.

Task 2.1

The following terms for the common glossary were studied and defined: globalization, key competences, intercultural competence, PLE (personal learning environment). A questionnaire for students (different language versions) as well as a questionnaire for academic teachers was elaborated by the project research team.

Task 2.2

The main documents on international cooperation, including international agreements of the universities and the legislation concerning the development of a knowledge society (with the aid of e-learning as a means to build competences) and the role played by higher education institutions was studied. An analysis of the education system beneficiaries and partner countries was made.

Task 2.3

A matrix of guidelines for research on the new forms of the international cooperation, and student exchange programs were developed. The administrative structure of the university responsible for the evaluation of teaching quality and teacher training was analyzed. The university's activity in international research programs was studied.

Task 2.4

Didactic principles of the ICT competences as well as the competences in the field of e-learning and teaching, the mechanisms of improving education, methodological background of the competence approach to the University Students' Training and psychological assumptions of enhancing students' creativity within their professional competence at higher education institutions were studied.

Task 2.5

Both the national systems of quality assessment of teaching and the international quality assessment system, functioning in accordance with the former one, have been explored. The project participants took part in roundtables in partner universities (the list of the most important events is given in section 2. "Transfer of knowledge and training activities (workshops)."

Task 2.6

A table including all main factors and indicators of ICT and e-learning competences was worked out. The international (Polish, Russian, Spanish, Slovak, Czech, Portuguese, Australian, Dutch, Ukrainian) legislation concerning the ICT, e-learning and intercultural competences was explored. Researchers worked within the virtual University Campus, which serves all university centers, promoting the cultural adaptation of students and the development of the cultural competences. Questionnaires for students and academic teachers were improved.

Task 2.7

During secondments the researchers took part in various conferences/workshops/meetings. The list of project events is presented in section 2, that is, "Transfer of knowledge and training activities" and "Dissemination of results (conferences)."

Task 2.8

A meeting for all project participants in Spain, videoconferences and roundtable debates were conducted. The researchers from Ukrainian, Russian, and Spanish work groups took part in 2 videoconferences, 5 debates, 6 roundtables, as well as discussions during their secondment to UEx, Spain. Polish, Australian, Portugal, Slovak, Czech work groups participated in the meeting in remote mode (24/03/2014).

Task 2.9

The researchers from Polish, Russian, Dutch, and Spanish work groups took part in 8 meetings, 2 videoconferences, 2 workshops, 7 debates, 5 roundtables, as well as discussions during their secondment to HSPU, Sankt-Petersburg, Russia.

Task 2.10

The International Scientific Conference DIVAI 2014 “Distance learning in applied informatics” was organized by UKF, Nitra, Slovakia and held on May 5–7, 2014 in Sturovo, Slovakia. The conference was dedicated to the questions of the use of computer simulation, the possibility of distance learning and the use of ICT technologies in the evaluation of knowledge and students’ independent work. Several presentations were presented during conference sessions. As a result of the activities at the DIVAI 2014 a series of scientific articles was elaborated and published in the Conference Proceedings. In addition, a project meeting was held with participation of researchers from Slovakia, Russia, Ukraine, Poland, and Czech Republic (7/05/2014).

Task 2.11

The conference “Innovations in higher education” was conducted with dissemination of the initial results of the research (DSTU, Ukraine). The conference was dedicated to the legal framework of the development of distance and e-learning in IRNet participants’ countries. The results of the participation in the conference are 9 scientific articles in the Conference Proceedings, 8 presentations presented during conference sessions in presence and remote mode (videoconference form using Adobe Connect Technology). The project participants from Ukraine, Poland, the Netherlands, Portugal, and Spain were among the lecturers. The report “The general conception of analyses and implementation the legal, ethical, human, technical, and social factors of ICT and e-learning development in several European countries – International Research Network” was prepared and presented during the conference.

Deliverables

During the period the following deliverables were achieved for the WP2:

D 2.1. “DIVAI 2014 Conference Proceedings” were published.

D 2.2. Working paper “Conceptual aspects: Analyses of legal, ethical, human, technical, social factors of development of ICT, e-learning and intercultural development in deferent countries” was submitted for publishing in the Special Issue of the *International Journal of Continuing Engineering Education and Lifelong Learning* (ERIH).

D 2.3. “Innovations in higher education” Conference Proceedings were submitted for publishing (“Innovations in higher education and dissemination of the initial results of the research on the legal, ethical, human, technical, social factors of

information-communication technology, e-learning and intercultural developments in different countries, June 25, 2014,” International conference proceedings. Collection of scholarly papers of Dniprodzerzhynsk State Technical University, Technical Sciences, section Education, Ch. Editor A. P. Ogurtsov. Dniprodzerzhynsk: DSTU. 2014. No 1 (24). Supplement. 97p.).

D 2.4. Conceptual framework for a joint research project based on lasting collaboration with the project participants was elaborated.

D 2.5. The report “First outcomes of the WP2 activities and research carried out within the framework of the IRNet project” was published on the project website.

Milestones

The milestone foreseen for the period (M1.1 – decision on clarification on next research activities directly based on evaluation of analyses law, ethical, human, technical, social factors of the development of ICT, e-learning, and intercultural development in every partner country) were attained.

Project Achievements

Scientific Highlights and Research Achievements

During the analysis of legal documents of 9 IRNet countries and 10 universities in the framework of the WP2 implementation a comparison of legal factors of ICT and e-learning development in the countries from West, Central, East Europe, and Australia was made and identical, similar, overlapping data and differences in state policies, and university regulations in different project partners were found. It was identified that in the West European universities the potential of MOOCs is adopted in a such way that stimulates the further use of other ICT tools and e-learning for flexible learning and teaching and for internationalization of education. In Central European universities and in Australia, blended learning is implemented on the basis of the Regulation of the Minister of Science and Higher Education (e.g., in Poland the number of hours in the remote mode does not exceed 60% of the total number of hours of classes).

In Russia and Ukraine also a Regulation of the Minister of Science and Higher Education has been issued defining the distance form similar to the remote form; however, the Regulation does not specify the time, which can be used by teachers of the university to conduct the classes on-line. It can be observed that due to the extensive use of technology in the practice of e-learning in Russia, more and more legislative activities are being undertaken in order to ensure a flexible legal framework for the implementation of these technologies in the educational institutions of different levels. The main prerequisites for organizing this type of

the educational interaction are determined by the Federal Law on Education (2012), the concept of a unified information educational environment in Russia (2013), and the Order of Ministry of Education and Science, which prescribes the manner in which e-learning and distance learning technologies should be used (2014).

Research Methodology

Instrument and Procedures

The algorithm of joint research actions was developed. Firstly, groups of factors influencing the development of key competencies were stated; time horizons were defined influencing the following factors: legislative and technical – the short term, the social – medium term, ethical and humanitarian – a long-term perspective.

Secondly, a scope of influencing these factors was determined: global, state (in the countries – participants of the project), institutional (among educational institutions – participants of the project), personal (individual student in an educational institution environment, and through it – the state and global).

Thirdly, common approaches were identified to determination of personal key competencies structure. A set of interests, positions, attitudes of a personality correlates with the scale of factors influence (legislative, technical) on the individual. At the international level (European) those interests relate to the unified European educational space (in line with the Bologna process), between cultural interaction (mutual enrichment of cultures), increasing academic mobility of teachers and students. At the state level, interests relate to the development of the information educational environment; accessibility and openness of e-learning technology; compatibility of content and devices, integration to the European space and protection of the national identity of national minorities. At the institutional level, interests relate to the development of corporate interests, changing labor market demands, academic mobility of teachers and students. At the personal level, interests relate to the ability to select and implement learning experiences, educational path, format, inclusive education; competitiveness in the labor market, competence of the 21st century.

To achieve the aims of the project the research group has developed a questionnaire which is aimed to gain the data on the students' views and attitudes towards various educational processes in their educational environments, entailing modes of the use of the ICT, intercultural and professional competences. The diagnostic research instrument of more than 60 questions was translated in students' native languages (Czech, English, Dutch, Polish, Portuguese, Russian, Slovak, Spanish, Ukrainian) and presented on-line by the university survey system LimeSurvey and by Google Drive.

The characteristics of the survey data were as follows:

1. Sociological data (country, nationality, sex, age, name of the university, field of study, specialization, year of study, level of studies (Bachelor's degree, Master's degree)).
2. Questions concerning the intercultural competences.
3. Questions concerning the ICT competences, use of social media for extracurricular activities.
4. Questions which are reflective in nature, revealing students' opinions about the courses and their assessment in terms of substantive, methodological, technological, organizational aspects, and e-learning as a technology, method and form of obtaining education.

There are more than 100 valid responses collected from HSPU (Russia), more than 100 valid responses collected from US (Poland), more than 100 valid responses collected from DSTU (Ukraine), BGKU (Ukraine), OU (Czech Republic), more than 100 valid responses collected from DSTU (Ukraine), BGKU (Ukraine), UKF (Slovakia). The partners from LU, UT, and CU continue to conduct the research.

The preliminary results of the survey were published in different articles/papers and presented during the conferences, meetings, and seminars.

Moreover, a research survey for academic teachers was prepared and realized. The survey contained 89 questions in several categories:

1. Juridical support for ICT. Documents, law concerning ICT.
2. Monitoring of teaching.
3. Creating electronic resources database.
4. Assessing the quality of teaching.
5. Security of the information.
6. University infrastructure.
7. Management of the educational process (managing the university).
8. Analysis of social factors and intercultural development in each partner country.

Transfer of Knowledge and Training Activities (Workshops)

The secondments provided the IRNet research teams with the opportunity to develop and transfer best practices related to the development of new tools and methods of work in the field of ICT instruments, e-learning, and intercultural competences; in particular, they provided the following support and knowledge to the project and future research possibilities:

- to analyze the methodological background and main approaches of conducting international investigations on ICT, e-learning and intercultural competences in order to work out a system of measuring instruments appropriate for the research at the international level;
- to analyze and evaluate the level of ICT, e-learning, and intercultural developments in every participating country applying the system of measuring instruments approved;

- to compare the results obtained and to draw the conclusion about the existing barriers in ICT, e-learning and intercultural competences, taking into consideration descriptions of the national specifics of legal, human, social, ethical, and technological factors of their implementation.

Detailed description of the transfer of knowledge and training activities during secondments is given below:

Secondment of DSTU, BGKU, HSPU to UEx (March 2014)

The transfer of knowledge activities during the secondment focused on the new technologies implemented in the UEx campuses, principally in aspects related to the implications of the Information and Communication Technologies in the Teaching and Research quality (Institutional Web, Virtual CampusRedUEx, Virtual Shared Campus G9, and Video Conferences).

Workshops:

1. Workshop and meeting with the Director of SOFD (Service of Orientation and Teacher Training): “To get to know the Service of Orientation and Teacher Training Activities.”
2. Conference and workshop “University, Education and Learning in Russia and Ukraine” – a lecture about the education systems in Russia and Ukraine (26/03/2014).

Secondment US, UEX, UT to HSPU (April 2014)

The transfer of knowledge activities during the secondment focused on the mapping and developing an account of factors involved in the process of globalization and regionalization in the development of the key competences, including their interests, scales of influence, and temporal horizons concerning higher education systems of the IRNet participating institutions, the identification of the role of key higher education institutions in policy developing of key competences and in new forms of international cooperation, the analysis of the legal, ethical, human, social factors of the development of the ICT, e-learning and intercultural development in every partner country. In particular, it was possible to discuss the analysis of processes of the development of the competences (e.g., processes operating simultaneously on different scales, contemporary trends and previous research).

Workshops:

1. “Best pedagogical minds and their impact on the integration of past, present and future of Europe,” HSPU, St. Petersburg (16/04/2014).
2. “IT-Specialist of the Herzen State Pedagogical University of Russia,” St. Petersburg, Presentations: “System of education in Poland,” “Higher education in the Netherlands” (10/04/2014).
3. “E-learning,” organized by the Department of Information and Communication Technology, conducted by Dr. Ilya Gosudariiev, HSPU, St. Petersburg (18/04/2014).

4. "Information technology in the university preparation of teachers," HSPU, St. Petersburg (24/04/2014).

Secondment of HSPU, DSTU, BGKU to UKF (May–June 2014)

The transfer of knowledge activities during the secondment were focused on the main methodological aspects of the previous research of the chair of informatization of education of UKF, HSPU, BGKU, DSTU: technological, environmental, psycho-didactic approach for the educational environment modeling, basic concepts of modeling, algorithmization of network communication, models of network communication, extracurricular activities for students, professional competence of teachers in the information environment, pedagogy in network environment, examples of network teaching methods, module of International Master Training Program "ICT for professional development of teachers," implementation of the motivation to e-learning.

During the secondment, researchers carried out a study of UKF information and educational environment (recourses, communication, library data bases). They were prepared for a meeting with students: they worked out the plan of presentations, summarized the main questions to discuss with students (their professional interests, attitude to e-learning and ICT use in educational and extracurricular activities).

Workshops:

1. During this secondment, the international scientific conferences "High-Tech Educational Environment" and DIVAI 2014, "Distance Learning in Applied Informatics" were organized by the UKF in Sturovo, Slovakia (5–7/05/2014).
2. Discussion and roundtable debate during International Scientific Conference DIVAI 2014 "Distance Learning in Applied Informatics," organized by the UKF in Sturovo, Slovakia (5–7/05/2014).

Research Results

Dissemination of Results (Conferences, Publications)

From the very beginning of the project the partnership used various dissemination tools to better exploit and improve the project objectives, results, and the transfer of knowledge. National and international conferences as well as publications constituted an important opportunity to share the project initial results and achievements with experts in the field. However, it must be emphasized that these means are not fully exhaustive: the dissemination of the results obtained in the framework of the project work was the subject of many other activities, meetings, workshops, and presentations during visits in the host organizations.

Conferences

The partnership of the network organized and hosted 6 important conferences being in line with the project objectives. All of these events were attended not only by the network researchers, but also by external participants.

1. International scientific-practical conference “High-tech information educational environment,” organized by HSPU, Sankt Petersburg, Russia (15/04/2014). The conference was a perspective of the educational environment, in which information and communication processes are deployed in both traditional and virtual (electronic) formats, causing qualitative changes in the scientific, educational, social and cultural fields. The conference was dedicated to the innovation in terms of the informatization of the educational activities, IT in scientific research, socio-cultural effects of informatization. More than 50 participants from different countries attended the conference.
2. DIVAI 2014 (“Distance learning in applied informatics,” International Scientific Conference), organized by UKF, Nitra, in Sturovo, Slovakia (5–7/05/2014). The conference was dedicated to the questions of the use of computer simulation, the possibility of distance learning, as well as the use of the ICT technologies in the evaluation of knowledge and students’ independent work. The conference was attended by more than 40 participants from different countries.
3. International Scientific Conference “Innovations in higher education,” organized by DSTU, Dniprodzerzhynsk, Ukraine (25/06/2014). The conference was dedicated to the legal framework of the development of distance and e-learning, ethical, human techniques, social factors of the development of the ICT, e-learning and intercultural development, technological and informational methods of distance and e-learning in the IRNet partner-countries. The conference was attended by more than 30 participants from different countries.

Publications

19 papers were published or submitted by members of the network, about 30% of those papers involve researchers from at least two different participating organizations (EU and third countries). All publications are the outcome of research network and a result of an active exchange programme.

DIVAI 2014 Conference Proceedings, Editors: Milan Turčáni, Martin Drlík, Jozef Kapusta, Peter Švec. Constantine the Philosopher University in Nitra, Faculty of Natural Sciences, Department of Informatics, Editors Nitra, ISBN 978-80-8094-691-3 (printed).

1. Kommers, P., Smyrnova-Trybulska, E., Morze, N., Noskova, T., Pavlova, T., & Yakovleva, O. *First outcomes of WP2 research carried out within the framework of the IRNet project – International Research Network*.
2. Sekret, I., & Kommers, P. *Conceptual issues of the digital competence development in the framework of the Council of the European Union*.

3. Zavgorodnyi, V., Yalova, K., Yashina, K., Sadovoy, O., & Romaniukha, M. *Uniform information and educational space for distance learning of Ukrainian IT students.*
4. Drlik, M., Svec, P., & Skalka, J. *Comparison of approaches to the data analysis in the virtual learning environments.*
5. Cápaj, M. *Online learning systems in various forms of studies.*

“Innovations in higher education and dissemination of the initial results of the research on the law, ethical, human, technical, social factors of information-communication technology, e-learning and intercultural developments in different countries – June 25, 2014,” International conference proceedings. Collection of scholarly papers of Dniprodzerzhynsk State Technical University: Technical Sciences, section Education, Editor-in-Chief A. P. Ogurtsov. DSTU. No. 1 (24) – 2014, 81p. (printed).

1. Smyrnova-Trybulska, E., Cubo, S. D., Pinto, P., & Malach, J. (2014). *The general concept of analyses and implementation of the legal, ethical, human, technical and social factors of ICT and e-learning development in several European countries – International Research Network.*
2. Zavgorodnii, V., Yalova, K., Romaniukha, M., Drlik, M., & Capay, M. *Comparative analysis of e-learning environments at UKF and DSTU.*
3. Shumeiko, O. *Secure format of electronic data for distance learning.*
4. Grybuyk, O. *The process of deployment of cloud environment of an educational institution: Network security.*
5. Sadovoy, O., Yashina, K., Il’chenko, L., & Isskandarova, N. *A visualization system of methods of splitting cubic, cylindrical and spherical bodies into elementary volumes.*
6. Sorokina, L., Bohomaz, K., & Shelomovska, O. *The analysis of the legislation concerning distance learning in Ukraine.*
7. Nakaznyi, M. *Psychological support of students in the process of e-learning and distance learning in technical educational institution.*
8. Morze, N. *The conditions of creation and implementation of corporate standard of masters ICT competence.*

Six articles were submitted to Special Issue of IJCEELL (*International Journal of Continuing Engineering Education and Life-long Learning*). ISBN 1560-4624. Devoted to the IRNet Project.

Six papers were printed in the *International Journal of Continuing Engineering Education and Life-long Learning*, 25 (4). ISBN 1560-4624.

1. Kommers, P., Smyrnova-Trybulska, E., Morze, N., Issa, Tomayess, & Issa, Theodora. *Conceptual aspects: Analyses of the legal, ethical, human, technical, social factors of the development of ICT, e-learning and intercultural development in different countries setting out the previous new theoretical model and preliminary findings*, pp. 365–393.

2. Noskova, T., Yakovleva, O., Pavlova, T., & Smyrnova-Trybulska, E. *Students in the information environment: A study of educational and extracurricular activities*, pp. 394–410.
3. Morze, N., Smyrnova-Trybulska, E., & Umryk, M. *Designing an e-university environment based on the needs of Net-generation students*, pp. 466–486.
4. Ogrodzka-Mazur, E., & Gajdzica, A. *New professionalism of the teacher and education towards interculturalism*, pp. 487–497.
5. Noskova T., Pavlova T., Yakovleva O., Morze, N., & Drlik, M. *Quality features of university information environment in its external indicators*.
6. Yalova, K., Zavgorodnii, V., Romaniukha, M., & Sorokina, L. *Challenges and prospects in development of e-learning system for IT-students* (in print).

Project Management

Overview of the activities carried out by the partnership; identification of problems encountered and corrective action taken.

Overview of the Activities Carried Out by the Partnership

The main objective of this period was to assure a successful start of the network. As first activity, the kick-off meeting was held on October 30, 2013, before the start of the project, organized by the Coordinator (US) via a videoconference (Adobe Connect support). During this meeting the goals of the project and the objectives of each work package were pointed out, the plan of secondments was discussed and the rules of participating in the IRSES project were reminded.

In February 2014 the website of the project was started at www.irnet.us.edu.pl, which includes the most important information about the IRNet project. The website featuring branched structure, personification and interactive services such as forum was created by the Coordinator (US). The website is regularly updated with new content and constitutes an access point for all project documentation, meeting minutes and contains a photo gallery providing the participants with the opportunity to demonstrate their secondments and research activities. It also has a forum and a secure area for circulation of papers, etc. between project participants. The logo of the network was designed by a graphic designer.

In the period concerned 38 secondments were realized: 25 secondments (involving 13 researchers) from the third countries to the UE countries organizations and 13 secondments (involving 10 researchers) from the UE countries to the third countries organizations.

18 papers were published or submitted by members of the network and 3 important conferences were organized. The researchers also took part in numerous training events, such as workshops, seminars, and roundtables.

Discussion and Conclusions

In this paper the authors presented the objectives of the international project IRNet – International Research Network for study and development of new tools and methods for advanced pedagogical science in the field of ICT instruments, e-learning and intercultural competences, as well as WP 2: *Analyses of legal, ethical, human, technical and social factors of ICT and e-learning development and the state of intercultural competences in partner countries: Objectives, tasks, deliverables*. The international team of researchers from the University of Silesia in Katowice (US, Poland, Beneficiary 1 (Coordinator)), the University of Twente (UT, the Netherlands), the University of Extremadura (UEX, Spain), Constantine the Philosopher University in Nitra (UKF, Slovakia), Lisbon Lusíada University (LU, Portugal), University of Ostrava (OU, Czech Republic), Curtin University in Perth (CU, Australia), the Borys Grinchenko Kyiv University (BGKU, Ukraine), Dniprodzerzhinsk State Technical University (DSTU, Ukraine), the Herzen State Pedagogical University of Russia, St. Petersburg (HSPU, Russia) continuing the study and research according the Project Documentation, the project scheduler, and in near future, they will publish subsequent papers and manuscripts in the conference proceeding as well as in the scientific journal and monograph.

Acknowledgments

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References

- IRNet Project Web-site. Retrieved from <http://www.irnet.us.edu.pl>. Accessed October 10, 2015.
- Kommers, P., Smyrnova-Trybulska, E., Morze, N., Noskova, T., Pavlova, T., & Yakovleva, O. (2014). First Outcomes of WP2 Research Carried Out Within the Framework of the IRNet Project – International Research Network. In DIVAI 2014 – Distance Learning in Applied Informatics. Conference Proceedings, 5–7 May 2014. Editors: M. Turčáni, M. Drlík, J. Kapusta, & P. Švec. Constantine the Philosopher University in Nitra, Faculty of Natural Sciences, Department of Informatics, Editors Nitra, 357–372.
- Kommers, P., Smyrnova-Trybulska, E., Morze, N., Noskova, T., Yakovleva, O., Pavlova, T., Drlík, M., Malach, J., Cubo Delgado, S., Pinto, P., Issa, Tomayess, & Issa, Theodora (2014). Contrastive

- Analyses and Evaluation of the ICT and E-Learning Competences in Australia, Czech Republic, the Netherlands, Poland, Portugal, Russia, Slovakia, Spain, and Ukraine Within the Framework of the IRNet International Research Network Project. In *E-learning and intercultural competences development in different countries* (pp. 13–30). Monograph Sc. Editor Eugenia Smyrnova-Trybulska, University of Silesia, STUDIO NOA. Katowice–Cieszyn, 484p.
- Morze, N., Spivak, S., & Smyrnova-Trybulska, E. (2014). Personalized educational environment as one of the trends of modern education. In *Information and communication technology in education (ICTE-2014)*, (pp. 158–166). Conference Proceedings, Ed. J. Kapounova, & K. Kostolanyova. University of Ostrava, Rožnov-pod-Rodnoscem.
- Smyrnova-Trybulska, E., Ogrodzka-Mazur, E., Gajdzica, A., Noskova, T., Pavlova, T., Yakovleva, O., Morze, N., Kommers, P., & Sekret, I. (2014). Research instrument to study students' beliefs about e-learning, ICT, and intercultural development in their educational environment in the framework of the IRNet project. In *Information and communication technology in education (ICTE-2014)*, (pp. 254–263). Conference Proceedings, Ed. K. Kostolanyova & J. Kapounova, University of Ostrava, Rožnov-pod-Rodnoscem. <https://konferencje.osu.cz/ictedokumenty/2014/proceedingsICTE2014.pdf>.
- Smyrnova-Trybulska, E., Cubo Delgado, S., Pinto, P., & Malach, J. (2014). The general concept of analyses and implementation of the legal, ethical, human, technical and social factors of ICT and e-learning development in several European countries – International research network. In *Innovations in higher education and dissemination of the initial results of the research on the law, ethical, human, technical, social factors of information-communication technology, e-learning and intercultural developments in different countries*. June 25, 2014. (pp. 3–14). International Conference Proceedings. Collection of scholarly papers of Dniprodzerzhynsk State Technical University: Technical Sciences, section Education, Ch. Editor A. P. Ogurtsov. DSTU, no. 24.

Eugenia Smyrnova-Trybulska, Ewa Ogrodzka-Mazur, Anna Szafrńska-Gajdzica, Ewelina Doluk, Piet Kommersthe, Nataliia Morze, Tatiana Noskova, Tatiana Pavlova, Olga Yakovleva, Paulo Pinto, Juan Arias Masa, Sixto Cubo Delgado, Gemma Delicado Puerto, Martin Drlik, Josef Malach, Tomayess Issa, Maryna Romanyukha

Raport z wdrożenia WP2 „Analiza prawnych, etycznych, ludzkich, technicznych i socjalnych czynników rozwoju ICT i e-learningu oraz kompetencji interkulturalnych w każdym partnerskim kraju” – w ramach projektu IRNet

Streszczenie

Artykuł, przygotowany przez międzynarodowy zespół badaczy reprezentujących różne dziedziny nauki, związanych z TIK, e-learningiem, pedagogiką oraz dyscyplinami pokrewnymi, koncentruje się na celach i wynikach międzynarodowego projektu IRNet (International Research Network for study and development of new tools and methods for advanced pedagogical science in the field of ICT instruments, e-learning and intercultural competences). W artykule przede wszystkim zostały opisane narzędzia badawcze, metody i przebieg Pakietu Prac 2, w ramach którego dokonano: analizy prawnych, ludzkich, technicznych i społecznych czynników rozwoju TIK i e-learningu oraz stanu kompetencji międzykulturowych w krajach partnerskich. Analizie poddano również: cele, zadania, rezultaty i realizację wyjazdów naukowych. Badacze z Polski, Holandii, Hiszpanii, Słowacji, Portugalii, Czech, Australii, Ukrainy i Rosji poddali wyniki Pakietu Prac 2 analizie w kontekście kolejnych etapów i pakietów prac projektu IRNet.

Słowa kluczowe: międzynarodowa sieć badawcza IRNet, ICT, e-learning, kompetencje interkulturalne

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Отчет о реализации рабочего пакета 2 (WP2) “Анализ правовых, этических, человеческих, технических и социальных Факторов ИКТ, а также развития электронного обучения и межкультурной компетенции в каждой из стран-партнеров” в рамках проекта IRNet

Резюме

Настоящая статья подготовлена международной группой авторов-исследователей, представляющих различные научные области, связанные с ИКТ, электронным обучением, педагогикой и другими дисциплинами. В работе представлены цели и основные результаты проекта IRNet. В частности, в статье описаны исследовательские инструменты, методы и процедуры второго рабочего пакета: анализ правовых, этических, человеческих, социальных факторов, влияющих на развитие ИКТ и электронного обучения, анализ межкультурной компетенции в странах-партнерах. Описаны цели, задачи, показатели результативности, данные о выполнении выездных исследований. Исследователи из Польши, Нидерландов, Испании, Словакии, Португалии, Чешской Республики, Австралии, Украины и России проанализировали результаты, полученные в результате выполнения WP2 в контексте следующих этапов проекта IRNet – Международная исследовательская сеть.

Ключевые слова: Международная исследовательская сеть IRNet, ИКТ, электронное обучение, межкультурная компетенция

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Informe sobre la aplicación del WP2 „análisis de factores legales, éticos, humanos, técnicos y sociales en las nuevas tecnologías y e-learning y el estado de las competencias interculturales en cada país miembro“ en el marco del proyecto IRNet

Resumen

Este artículo ha sido elaborado por un equipo internacional de autores; investigadores de diferentes áreas científicas, relacionadas con las TIC, el e-learning, la pedagogía y otras disciplinas

relacionadas , se centra en los objetivos y algunos resultados del proyecto de investigación IRNet. En particular, el artículo describe las herramientas de investigación, métodos y procedimientos del WP2: los análisis de los factores legales, éticos, humanos, técnicos y sociales de las TIC y el desarrollo del e-learning. Además, se describe el estado de las competencias interculturales en los países socios: objetivos, tareas, entregables y el resultado de los encuentros de investigadores. Expertos de Polonia, los Países Bajos, España, Eslovaquia, Portugal, República Checa, Australia, Ucrania y Rusia analizaron resultados del WP2 en el contexto de las próximas etapas y paquetes de trabajo del proyecto IRNet (Red de Investigación Internacional).

P a l a b r a s c l a v e: IRNet, Red de Investigación Internacional, TIC, competencias interculturales



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FATİH Project in Turkey: A Case Analysis

Abstract

In the 2023 vision strategy, prepared by TUBITAK in Turkey, Information Technology (IT), areas have been designated for target countries and FATİH project started in 2010. In order to achieve the aimed goals, FATİH (Increasing Opportunities and Improving Technology Movement) project consists of five main components. These components establish hardware and software infrastructure, educational e-content preparation and management, effective use of IT in the curriculum, in-service training of teachers, conscious, reliable, manageable and quantifiable IT use. The first component identifies technical infrastructures of school. The second component was created for the provision of educational content which is Education Information Network (EIN). The third component considers training programs. The fourth and fifth components of the effective use of IT by teachers discuss the issue of conscious and reliable Internet use and plan information for the in-service training. This paper presents the first component of the FATİH project and discusses the current situation and future goals of the ongoing project.

K e y w o r d s: Information technology, FATİH project in Turkey, effective use of IT

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Introduction

The Supreme Council for Science and Technology (BTYK) assigned the Scientific and Technological Research Council of Turkey in order to determine the science and technology policies for about 20 years – until 2023. Within this perspective, Turkey’s current situation in technology and science was determined by means of National Science and Technology Policies 2003–2023 Strategy Report, which was prepared in more than two years and the objectives for 2023 were presented.

In addition to this, the 2023 vision report (TUBITAK, 2004) says that information and communication technologies improved considerably starting from the last quarter of the 20th century. These technologies have played a crucial role as the infrastructure of scientific and technological developments in other fields. Moreover, it is foreseen that this role will remain as important as today in the near future (TUBITAK, 2004, p. 18).

“FATİH Project in Education” started in the light of these studies. This project has an important role in the educational policies of the country and it required a great deal of investment. The project, which started on November 22, 2010, was planned to be completed in a very short period of 5 years. However, the project has not been completed yet. The first two years were allocated to planning, preparation and pilot studies. The remaining three years were planned as three stages, which can be seen in Figure 1:

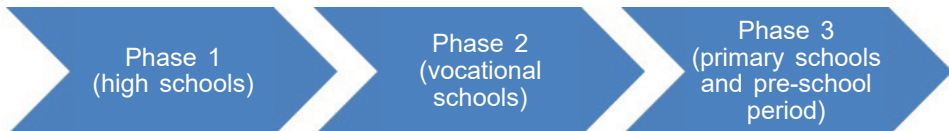


Figure 1. The Planning of FATİH Project in Education in terms of Infrastructure and Hardware.

S o u r c e: The authors’ own work.

As it can be seen, a three-phase process was planned for the infrastructure and hardware issues. In the first phase – high schools, in the second phase – vocational schools, and in the third phase – primary schools and pre-schools were planned to be equipped with the required infrastructure and hardware (MoNE, Activity Report, 2011; Alkan, Bilici, Akdur, Temizhan & Çiçek, 2011; MoNE FATİH Project Web, 2012).

FATİH Project in Education

FATİH Project in Education is defined by the Ministry of National Education (MoNE) as enabling equal opportunities in education and improving technology in our schools for the efficient usage of Information, Communication, and Technology (ICT) tools in the learning-teaching processes. Within this context, it was aimed at appealing to more sensory organs in all 42,000 schools and 570,000 classes that are in the pre-school education, the primary education and the secondary education through providing tablets and LCD Interactive Boards. In-service trainings for teachers are going to be held in order to provide effective usage of the ICT equipment in the classrooms in the learning-teaching process. In this transformation process, educational e-contents is going to be formed in accordance with the current teaching programs (MoNE FATİH Project Web, 2012).

As for the aforementioned activities, five main components of the project were determined within the scope of the FATİH Project in Education (MoNE FATİH Project Web, 2012; MoNE Activity Report, 2013):

- providing equipment and software substructure;
- providing educational e-content and management of e-content;
- effective usage of the ICT in teaching programs;
- in-service training of the teachers;
- conscious, reliable, manageable, and measurable ICT usage.

Method

In the study, the document analysis model, which is one of the qualitative research methods, was used. Qualitative studies enable researchers to reach the data source directly. They allow to make convincing generalizations and detailed descriptions about the context and the phenomena (Büyüköztürk, Çakmak, Akgün, Karadeniz, & Demirel, 2012, p. 177). Document analysis can be defined as analyzing printed or web-based information and documents systematically (Bowen, 2009).

In this study, *Providing Equipment and Software Substructure* component, which is one of the main components of FATİH Project was examined, the current situation was analyzed and the objectives of the projects were discussed within this context.

The sources of the study included the MoNE's activity reports, formal websites, regulations which were published in the official gazette, research reports of some institutions on the project, articles and theses on this project.

Findings

The Starting Objectives of the Project about Providing Equipment and Software Substructure Component

In the first year of the project, MoNE's plan about providing equipment and software component was "to equip all classrooms with a laptop computer and overhead projectors, all schools with a multifunctional printer and all classrooms with 8 MB wideband Internet connection" in 2010 (MoNE Activity Report, 2011). There occurred some changes in these objectives in 2011 and it was modified as "The schools will be equipped with a multipurpose camera and a multifunctional printer and all classrooms will have 10 MB wideband Internet connection" (MoNE Activity Report, 2012). When the changes were taken into account, it was seen that laptop computers and overhead projectors were removed and cameras were added. Moreover, the Internet infrastructure was increased from 8 MB to 10 MB thanks to the technological improvements.

It can be thought that there was the need to change the objectives of the project in the light of evaluations after the pilot studies and progress of the projects within two years. When the MoNE Activity Report 2012 was taken into consideration, it can be seen that 5 more subtopics were added to the *providing equipment and software substructure* component (MoNE Activity Report, 2013):

- information collection module;
- geographical decision support system;
- identity management project hardware and software purchase;
- interactive whiteboard;
- infrastructure studies;
- infrastructure;
- management and support system for school infrastructure;
- data center.

The above-mentioned subtopics clarify that private sector representatives and MoNE staff hold a great number of meetings in order to plan the legal purchasing process and accomplish the objectives of the project (MoNE Activity Report, 2013).

The details of the subtopics for *Providing Equipment and Software Substructure* were explained below (MoNE Activity Report, 2013).

- Information collection module: the updated information about the schools is collected, project is monitored and needs analyses are completed.
- Geographical decision support system: the geographical distribution of schools and analysis and reports are indicated on a map so that the administrators could easily make decisions.
- Identity management project hardware and software purchase: the related units are supported in purchasing hardware and software legally.

- Interactive whiteboard: the councils that are formed in the project are responsible for preparing technical contract, evaluating proposals, and signing the contract.
- Infrastructure studies: the infrastructure studies at schools are monitored. They are responsible for active web devices, wireless web management, trouble shooting, and the management of tablet PCs.

As for today, the following items are distributed for schools, classrooms, teachers, and students in FATIH Project in Education (OrduMoNE, 2015; MoNE FATIH Project Web, 2012; MoNE Activity Report, 2011).

- For 40,000 schools: a multifunctional printer, physical infrastructure, high speed Internet connection;
- For 570,000 classrooms: interactive whiteboards, classroom management software, wireless connection in the classrooms;
- For 853,000 teachers: tablet PCs, EBA Portal, EBA Market, access to content portals, e-mail account, online content development studio, Cloud Storage, access to Learning Management System, digital identification, platform for sharing course content;
- For 10,000,000 students: tablet PCs, EBA Portal, EBA Market, Cloud Storage, digital identification, assignment sharing, individual learning materials.

The Investment for the Component of Providing Equipment and Software Substructure and Current Situation

As for the pilot studies of the project, the infrastructure of 52 schools in February 2012 and 102 schools in May 2012 were completed by Turk Telekom, Turkey's leading communication and technological company. Moreover, 13,800 tablet PCs were distributed to teachers and students at 154 pilot schools (MoNE Activity Report, 2013). After the completion and the evaluation of pilot studies, the infrastructure and hardware works that were planned in three phases are summarized below (MoNE Activity Report, 2015; MoNE Press, 2015).

1st phase infrastructure and hardware. In this context, the local area connection and the Internet infrastructure at 154 pilot schools and 3,362 schools in phase 1 (3,516 in total) were completed. In these schools, 84,921 classrooms were equipped with interactive white boards and 3,657 camera and multifunctional printers were distributed to these schools. In this context, 62,800 tablet PCs were delivered to teachers and students in 2013 (MoNE Activity Report, 2014; Anatolian Press, 2014). In 2014, the number of interactive whiteboards which were given to the schools within the context of phase 1 of FATIH Project in Education, increased to 114,921. These schools were provided with 20,269 multifunctional printers. The number of tablet PCs delivered to the teachers and students was 737,800. After that, 10,600 tablet PCs were planned to be distributed and this is still in progress (MoNE Activity Report, 2015).

2nd and 3rd phases infrastructure and hardware. In the 2nd and 3rd phases of infrastructure and hardware work, the tender process for 347,367 interactive whiteboards, 13,645 A3 multifunctional printers and 28,351 A4 multifunctional printers for vocational schools, primary schools at districts and villages was completed and the setting up process started. At the end of 2014, 101,644 interactive whiteboards were delivered (MoNE Activity Report, 2015). By the end of 2015, 25,384 multifunctional printers will have been delivered and set at schools (MoNE Press, 2015).

According to the news release by MoNE on February 21, 2015, 4,000 schools which were not provided with high speed Internet connection were provided with the Internet by satellite, and 35,684 schools were provided with ADSL connection. It was planned that all schools have fiber Internet connection meant to be completed in the first quarter of 2015 (MoNE Press, 2015).

The works related to the geographical decision support system, which is one of the subtopics of *Providing Equipment and Software Substructure* component were completed. 54,000 schools were defined in the geographical decision support system. All schools are able to update their institutional and contact information in the system. The institutional and contact information of 154 pilot schools and 3,657 schools in Phase 1 and their hardware information were updated in the system (MoNE Activity Report, 2015).

The future objectives of the project. It has been planned that 10 million 600 thousand tablet PCs will be distributed in February, 2016 (Table 1). The distribution of tablet PCs in the FATIH Project in Education will start from 5th and 9th grade students. In this process, interactive whiteboards and Internet infrastructure will be prerequisite for tablet PC distribution (MoNE Press, 2015).

Table 1. The current situation for Equipment and Software Substructure component of FATIH Project in Education

Current situation	High speed Internet	Interactive whiteboard	Multi-functional printer	Tablet PC
Completed	4,000 Internet by satellite. ADSL Connection for 35,684 schools. Fiber Internet Connection for 3,516 schools	114,921	45,653 schools	887,800 students and teachers
Going on	Fiber Internet connection for all schools	318,644	The rest of the schools	10,6 mln teachers and students

Source: The authors' own work.

As the table shows, there has been a huge amount of investment and the technical infrastructure and hardware needs have been met. It can also be understood that

the investments which were to be completed at the beginning of the project have been planned but could not be completed before the deadline.

Conclusions

In the light of the studies, it can be stated that “FATİH Project in Education” had an important role in educational policy of the country and it required a huge amount of investment. The project that started on November 22, 2010, was planned to be completed in a short period. However, the project has not been completed. The component of *Providing Equipment and Software Substructure* can be seen as the exposed face of the project. This component was also the part in which great financial investments and purchases were completed.

Analyzing the MoNE Activity Reports and MoNE Press releases, it can be seen that the infrastructure works have not been completed yet. The MoNE has the right to purchase any good until the end of 2015 and this period will end soon. Thus, this period should be extended.

Twenty-first-century developments enable us to use high speed Internet connection so that the investments which could allow the schools to use these technologies are of great importance. According to the Gücü (2014), the schools at which fiber Internet connection was available had the high speed Internet connection. However, most of the websites are blocked and there are some problems about the web browser installed on tablet PCs, and because of this, fiber Internet connection cannot be used properly.

According to a study on the project, it occurred that teachers avoided the use of tablet PCs during lessons, as the students used them for different purposes and it was impossible to control them. Moreover, most teachers used interactive whiteboards for watching slides, films, animations, solving problems, and showing book content so that students were passive in these activities (Albayrak, 2014).

As a result of some studies, it was mentioned that there were some problems as there was no connection between the tablet PCs and the interactive white boards (Gücü, 2014; Altın, & Kalelioğlu, 2015). Updating the software, this problem might be solved and the project will work more effectively as there will be interaction in the classroom.

On the other hand, Akıncı and colleagues (2012) claimed that the improvements in the infrastructure would not guarantee the effective and productive use of ICT tools in the classrooms. Therefore, they mentioned that the investment made on infrastructure appeared to be more important than the investment made on teachers, which was the most important weakness of the project (Akıncı, Kurtoğlu, & Seferoğlu, 2012).

FATİH Project in Education is quite an important movement for the future of our country. Moreover, the documentation of each processes and its dissemination are very crucial as this project might be a sample project for other countries in the world (İslamoğlu, Ursavaş, & Reisoğlu, 2015). Moreover, analyses should be done at schools where the project has been completed. Thus, the problems which occurred during the implementation of the project will be diagnosed and possible solutions might be suggested.

At the end of this study, it could be concluded that only providing infrastructure will not be sufficient for the success of the project. The teacher training courses are required and the software programs in classrooms should be more user-friendly.

Recommendations

- The right of MoNE to purchase goods and services will end at the end of 2015 so this period should be extended before 2016.
- The software programs should be developed which will enable the interaction between interactive whiteboards and tablet PCs.
- While providing secure and virus-free Internet platforms, the efficiency and performance should not be ignored.
- Activity or project development reports should be prepared and shared publicly in order to inform people.

References

- Akıncı, A., Kurtoğlu, M., & Seferoğlu, S. S. (2012). Things necessary for FATİH Project's success as a technology policy: A case study/ Bir teknoloji politikası olarak fatih projesinin başarılı olması için yapılması gerekenler: bir durum analizi çalışması. *Akademik Bilişim 2012* (p. 1–10). Uşak: Uşak University.
- Albayrak, E. (2014). *An evaluation of FATİH Project from perspective of classroom management / Fatih projesi kapsamındaki okullarda bilişim teknolojilerinin kullanımının sınıf yönetimi açısından değerlendirilmesi*. Institute of Educational Sciences, Unpublished MA Thesis, Antalya: Akdeniz University.
- Alkan, T., Bilici, A., Akdur, T. E., Temizhan, O., & Çiçek, H. (2011). FATİH Project / Fırsatları artırma teknolojiyi iyileştirme hareketi (FATİH) projesi. *International Computer & Instructional Technologies Symposium 2011*. Elazığ: Fırat University. Accessed October, 15, 2015. Retrieved from <http://web.firat.edu.tr/icits2011/papers/27622.pdf>.

- Altın, H. M., & Kalelioğlu, F. (2015). Views of teachers and students related to FATİH Project / FATİH projesi ile ilgili öğrenci ve öğretmen görüşleri. *Başkent University Journal of Education*, 2 (1), 89–105.
- Anatolian Press (June, 26, 2014). 732,000 PC were delivered as part of FATİH Project in Ankara / FATİH projesiyle 732 bin tablet dağıtıldı, Ankara. Accessed November, 20, 2015. Retrieved from <http://www.aa.com.tr/tr/egitim/fatih-projesiyle-732-bin-tablet-dagitildi/148484>.
- Bowen, G. A. (2009). Document analysis as a qualitative research method. *Qualitative Research Journal*, 9 (2), 27–40. doi:<http://dx.doi.org/10.3316/QRJ0902027>.
- Büyüköztürk, Ş., Çakmak, E. K., Akgün, Ö. E., Karadeniz, Ş., & Demirel, F. (2012). Scientific research methodologies/ *Bilimsel Araştırma Yöntemleri*. Ankara: Pegem Akademi.
- Gücü, M. (2014). Views of teachers, students and administrators related to FATİH Project / FATİH projesine ilişkin öğrenci, öğretmen ve yönetici görüşleri. Institute of Social Sciences, Unpublished MA Thesis, İstanbul: Yıldız Teknik University.
- İslamoğlu, H., Ursavaş, Ö. F., & Reisoğlu, İ. (2015). A content analysis of academic studies related to FATİH Project / FATİH projesi üzerine yapılan akademik çalışmaların içerik analizi. *Eğitim Teknolojisi Kuram ve Uygulama*, 5 (1), 161–183.
- MoNE (2011). *Annual Report-2010 /Milli Eğitim Bakanlığı Faaliyet Raporu-2010*. Ankara: Milli Eğitim Bakanlığı.
- MoNE (2012). *Annual Report-2011 /Milli Eğitim Bakanlığı Faaliyet Raporu-2011*. Ankara: Milli Eğitim Bakanlığı.
- MoNE (2013). *Annual Report-2012 /Milli Eğitim Bakanlığı Faaliyet Raporu-2012*. Ankara: Milli Eğitim Bakanlığı.
- MoNE (2014). *Annual Report-2013 /Milli Eğitim Bakanlığı Faaliyet Raporu-2013*. Ankara: Milli Eğitim Bakanlığı.
- MoNE (2015). *Annual Report-2014 /Milli Eğitim Bakanlığı Faaliyet Raporu-2014*. Ankara: Milli Eğitim Bakanlığı. Accessed 10 September 2015. Retrieved from <http://sgb.meb.gov.tr/www/mill-egitim-bakanligi-2014-idare-faaliyet-raporu-yayimlanmistir/icerik/151>.
- MoNE Fatih Project Web (2012). *About FATİH Project / Proje Hakkında* (Milli Eğitim Bakanlığı). Accessed November 8, 2015. Retrieved from <http://fatihprojesi.meb.gov.tr/tr/english.php>.
- MoNE Press (February 21, 2015). *Press Release*. Accessed November 9, 2015. Retrieved from <http://www.meb.gov.tr/basin-aciklamasi/haber/8098/tr>.
- Ordu MoNE (2015). A meeting related to interactive boards / *Etkileşimli Tahta Kabul Toplantısı*. (MEB). Accessed November 9, 2015. Retrieved from http://ordu.meb.gov.tr/meb_iys_dosyalar/2015_03/24030017_ordu_et_kabultoplant.pdf.
- TÜBİTAK (2004). Strategic document for vision 2023 / *Vizyon 2023 StratejiBelgesi*. Ankara: TÜBİTAK. Accessed 9 November 2015. Retrieved from http://www.tubitak.gov.tr/tubitak_content_files/vizyon2023/Vizyon2023_Strateji_Belgesi.pdf.

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Projekt FATİH w Turcji: analiza przypadku

Streszczenie

W strategicznym dokumencie Wizja 2023 przygotowanym przez TUBITAK w Turcji dziedziny związane z technologią informatyczną zostały wyznaczone dla docelowych krajów i w 2010 roku rozpoczęto realizację projektu FATİH. Aby zrealizować założone cele, projekt FATİH (Działania w celu zwiększenia szans i poprawy poziomu technologii) obejmuje pięć elementów, takich jak: tworzenie infrastruktury informatycznej, przygotowanie e-treści i zarządzanie nimi, efektywne wykorzystywanie technologii informatycznej w programach nauczania i praktykach zawodowych nauczycieli, świadome, rzetelne, zorganizowane i wymierne wykorzystywanie technologii informatycznej. Pierwszy element zakładał rozpoznanie technicznych uwarunkowań szkoły. Drugi element został stworzony w celu zapewniania treści edukacyjnych stanowiących Edukacyjną Sieć Informacyjną (EIN). Trzeci element dotyczył programów szkoleń. W zakresie komponentu czwartego i piątego, przewidujących efektywne wykorzystywanie technologii informatycznej przez nauczycieli, została opracowana kwestia świadomego i rzetelnego wykorzystywania Internetu, jak i informacje dotyczące praktyk zawodowych. Artykuł prezentuje pierwszy element projektu FATİH, a także omawia prezentuje bieżącą sytuację oraz przyszłe cele trwającego projektu.

Słowa kluczowe: informatyka, projekt FATİH w Turcji, efektywne wykorzystywanie informatyki

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Fatihprojekt в турции: анализ

Резюме

В документе, посвященном стратегии 2023, которой был разработан в Турции, информационные технологии (ИТ) целевым предназначаются странам. Реализация проекта FATİH (Движение к расширению возможностей и улучшению технологий) началась в 2010 году. Проект состоит из пяти основных компонентов: создание аппаратного и программного обеспечения и инфраструктуры; подготовка и управление образовательным контентом; эффективное использование ИТ в учебных программах; обучение без отрыва для учителей; сознательное, надежное, управляемое и количественное использование ИТ. Первый компонент заключается в определении требований к технической инфраструктуре школы. Второй компонент создан для предоставления образовательного контента с помощью Образовательной информационной сети (EIN). Третий компонент направлен на изучение учебных программ. В четвертом и пятом компонентах будет рассмотрено эффективное использование ИТ учителями, вопрос о сознательном и надежном использовании Интернета. В настоящей статье представлен первый компонент проекта FATİH, текущая ситуация и цели проекта.

Ключевые слова: информационные технологии (ИТ), проект FATİH в Турции, эффективное использование ИТ

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Proyecto FATIH en Turquía: análisis de un caso

Resumen

En el documento Estrategia 2023 elaborado por TUBITAK en Turquía, las áreas de las Tecnologías de la Información y la Comunicación (TIC) han sido designadas para los países objeto. El proyecto FATIH comenzó en 2010. Con el fin de alcanzar las metas propuestas, el proyecto Fatih (Movimiento Tecnológico para el Aumento de las Oportunidades y la Mejora) consta de cinco componentes principales. Estos componentes son implementar una infraestructura de *hardware* y *software*, una preparación y gestión de e-contenidos educativos, el uso efectivo de las TIC en el currículum, la formación para docentes en servicio y un uso consciente, fiable, manejable y cuantificable de las TIC. El primer componente fue identificar las infraestructuras técnicas de la escuela. El segundo componente se creó para proporcionar contenidos educativos; la denominada Red de Información Educativa (EIN) que está siendo examinada. El tercer componente considerado fueron los programas de formación. Los últimos componentes son el uso eficaz de las TIC por el profesorado, el uso de Internet consciente y con confianza y la información planificada de la formación en servicio también son objeto de estudio. Este trabajo presenta el primer componente del proyecto FATIH, así como la situación actual y las futuras metas del proyecto en curso.

Palabras clave: Tecnologías de la Información, Proyecto FAITH en Turquía, Uso efectivo de las TIC



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2. *Zastosowanie systemów CMS w tworzeniu przestrzeni informacyjno-edukacyjnej w Internecie*. Podręcznik akademicki. 2012. Ed. E. Smyrnova-Trybulska, S. Stach. Authors: E. Smyrnova-Trybulska, S. Stach, B. Fuklin, D. Staniek. Katowice: Uniwersytet Śląski, STUDIO NOA, 194p. ISBN: 978-83-60071-55-7 (<http://www.wydawnictwo.us.edu.pl/node/3731>).

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