



UNIVERSITAS
OSTRAVIENSIS

ICT Competencies for Academic E-learning

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ICT COMPETENCIES OF DISTANCE LEARNING PARTICIPANTS VS. TECHNOLOGIES

- The level of required ICT competencies of distance education participants depends on the advancement of technologies constituting the entire distance learning process management.

Is a secondary school graduate prepared for the role of distance learning participant?

COMPETENCIES OF A SECONDARY SCHOOL GRADUATE VS. DISTANCE LEARNING

- Students can acquire the necessary ICT competencies during:
 - the *computer classes*
 - and subject *computer science*

Stage 3 - lower secondary school

- the *computer science* is taught at **2 hours a week**
- is expected to provide solid grounds for further development of the student's IT competencies.

COMPETENCIES OF A SECONDARY SCHOOL GRADUATE VS. DISTANCE LEARNING

Stage 4 - upper secondary school

- divided into two levels for *computer science*:
basic and advanced
- the advanced level applies to selected grades, e.g. specializing in **IT** or **technical**
- the subject is taught at **1 hour a week**, for one year
- the learning goals are equivalent to the 3rd stage of education
- **contents are expanded** with such areas as:
 - creating and editing graphics
 - multimedia (sound, video, presentations)
 - relational database handling
 - using resources published on distance learning portals

COMPETENCIES OF A SECONDARY SCHOOL GRADUATE VS. DISTANCE LEARNING

Conclusion

- A secondary school graduate should (theoretically) have the knowledge and skills enabling him/her to take **an active part in the e-education process.**
- Stage 3 and 4 of the education system largely depends on the **teacher's abilities and creativity.**

COMPETENCIES OF A SECONDARY SCHOOL GRADUATE VS. DISTANCE LEARNING

Authors' experience

- University students in their first years of study, particularly of humanities and other non-technical faculties, have **difficulties**
 - using an educational portal,
 - working with new applications,
 - have problems with playing media files.

ICT PROBLEMS DISCOVERED AMONG STUDENTS AT MEDICAL UNIVERSITIES

Gaps in ICT competencies necessary for e-learning

- Experience with e-learning at **three Polish medical schools**:
 - Poznan University of Medical Sciences,
 - Medical University of Bialystok,
 - College of Health Sciences of Collegium Masoviense in Zyrardow.

STUDIES

- **e-learning** and **blended-learning** classes using OLAT and MOODLE
- faculties: medicine, medical emergency services, physical therapy, nursing, obstetrics
- students of medicine - Polish language speakers and foreigners in MD Program in English
- **first remote classes** attended by all of the participating students
- had **never passed any preparatory courses** at their Universities that would prepare them for participation in e-learning

MATERIALS AND METHODS

- Over 1600 **students**: 1060 Poznan, 492 Bialystok, 100 Zyrardow
- **Interviews** with the 18 teachers, 7 administrators who participated in implementation of the education process
- The respondents were asked **to describe all the problem** cases encountered by their students during the learning process
- Some of **the problems reported by students** were registered in **the surveys** to evaluate the classes, or communicate **orally** or via **e-mail**

CLASSIFICATION OF ICT COMPETENCIES

- The analysis was carried out on the basis of **the classification of ICT competencies** necessary for the receiving end of distance education, which was proposed by the authors in 2012

Ren-Kurc, A., Kowalewski, W., Roszak, M., & Kołodziejczak, B. (2012). ***Building Digital Content for E-Learning. Information and Communication Technologies (ICT) Competence***. In Smyrnova-Trybulska, E. (Sc. Ed.), Monograph: E-Learning for Societal Needs (pp. 201–212). Katowice-Cieszyn: University of Silesia

CLASSIFICATION OF ICT COMPETENCIES - 2012

- **A** - launching processes and applications
- **B** - understanding the flow of communication on the Internet with the discernment of the used services
- **C** - knowledge of basic HTTP protocol communication client applications (commonly known as browsers)
- **D** - installation and use streaming media client software, commonly known as multimedia

CLASSIFICATION OF ICT COMPETENCIES – RESULTS

- Sometimes a single **problem would incorporate certain component parts from two categories** of ICT competencies.
- Some of the category B and C problems related to handling the application interface could be gathered into **a new category E - Using online applications**.
- The distribution of the problems observed at each of the three Universities:

University	Category A	Category B	Category C	Category D
Poznan	33%	67%	22%	11%
Bialystok	29%	29%	29%	13%
Zyrardow	0%	60%	60%	20%

CLASSIFICATION OF ICT COMPETENCIES – RESULTS

- Medical university students **have certain gaps in their ICT competencies**, which makes it difficult for them to be efficient participants of e-learning courses.
- The Universities covered by the research project differ in terms of the source of primary problems diagnosed among the students.
- The **differences** thus revealed would be worth studying in the future in terms of determining their **source**.

CONCLUSION

- Distance learning requires the participants to have certain knowledge and skills which often extend beyond the range of ICT competencies they acquire during the earlier stages of their education.
- To eliminate the problems thus caused, the authors suggest the following **two complementary solutions**:

RECOMMENDATIONS

1. To **broaden the contents** of the *Information Technology* course offered to students in their initial years
 - does not entail any additional expenses and is beneficial for the university itself
2. To **prepare an e-course** that would be mandatory for those faculties where *Information Technology* is not taught
 - involves extra costs for the university to prepare and facilitate the course

POLAND - 2017

- In 2017, the Polish school system underwent another **reform** in terms of organization and syllabus.
- It should be hoped that the new syllabus structure will account for **the increasing need to improve ICT competencies** - necessary for a distance learning participant (the students **could be better prepared** for this role).

Thank you
for your attention
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