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Monitoring Students' Information Proficiency at Higher Pedagogical Educational Establishments of Poland and Ukraine

KEY WORDS

competence, information proficiency, teachers' information proficiency forming in the Polish Republic, standards and structure of future teachers' information proficiency

ABSTRACT

Shevchuk Lesya, *Monitoring Students' Information Proficiency at Higher Pedagogical Educational Establishments of Poland and Ukraine* [*Monitorowanie studenckich umiejętności informacyjnych w pedagogicznych instytucjach szkolnictwa wyższego w Polsce i na Ukrainie*]. Kultura – Społeczeństwo – Edukacja nr 1, 2012, Poznań 2012, pp. 35–42, Adam Mickiewicz University Press. ISBN 978-83-232-2470-9

The article deals with the development of students' information proficiency in the Polish Republic and Ukraine. The article is devoted to the implications brought into the process of teachers training by the impact of key competencies and information technologies. Special attention is paid to information proficiency and future teachers' skills that are the most important for their training and perspective career. Monitoring of future teachers' information proficiency forming at Polish establishments of higher education has been carried out which resulted in developing methodology recommendations for raising the level of the students' information proficiency at Ukrainian pedagogical higher educational establishments. Level of scientific development of the issue of future teachers' information proficiency forming has been described. Competence approach to training teachers for information society has been paid attention to. Peculiarities and structure of future teachers' information proficiency have been characterized.
Standards and criteria of Polish teachers have been systematized, contents of future teachers' information proficiency forming at Polish establishments of higher education have been analysed; projects and programmes as means for future teachers' information proficiency forming have been characterized.

Introduction

The industrial age has matured into the information age; wherein the means to access, manipulate, and use information have become crucial to success and power. The Internet is undisciplined radical electronic communications network that is

shaping our universe. Multimedia, the electronic publishing revolution, are entering every area of our live – college, work and home. This new digital technology combines texts, video, sound and graphics to produce interactive language and information learning which might be interesting for everybody. The electronic superhighway provides an entry to libraries, research institutions, databases, art galleries, census bureaus (Perron, 1993: 21) and teaching students in order to be information-competent, get competency-based education that is important for their future profession.

Competency-based education in recent publications

The above-mentioned is at issue and we paid main attention to the situation in Polish education related to competency-based approach as innovation in the field of teacher training for information society, information competence and computer technologies in the higher educational establishments in Poland. The main attention is paid here to didactical approaches to teaching and learning modern information technologies for information society (knowledge-based society). The Polish scientists G. Kwiatkowska, W. Komar, T. Lewowicki, G. Tadeusiewicz, W. Kwiatkowska-Kowal, R. Ossowski paid their attention to competency-based education, professional skills of future teachers and teacher training with the help of information technologies. W. Okoń investigated the changes of educational system and teachers' professional training. Detailed descriptions of computer technologies and the educational reform in Poland are analysed in the works of E. Gajek (1999), K. Knafel and E. Zlobecki (1999), H. Komorowska (1999/2000), M. Szpotovich (1999), A. Szyszkowiak (1998).

The relationship between teacher training and key competences should be considered for at least two dimensions. Firstly, the initial and continuing education of teachers should prepare them to facilitate the student's acquisition of key competences (Hordon, Halasz, Krawczyk, 2009).

This perspective raises questions about the methods, practices and beliefs that are most suitable for the purpose and whether or not they are currently included in teacher education. The second perspective is based on the assumption that since key competences are to be acquired by every individual, teachers should also acquire them. The EU Education Ministers have identified specific competences for teachers whilst most Member States have made a substantial effort to define their own sets of teacher competences. Therefore the question is whether teacher education builds up and enhances the key competences of teachers, as well as their capacities to facilitate their acquisition by their students ((Hordon, Halasz, Krawczyk, 2009).

The famous Jacques Delors' report *Learning: The Treasure Within* drew attention to the fact, that education is faced with being able to 'transmit, efficiently and on a massive scale an increasing amount of constantly evolving knowledge and know-how adapted to a knowledge-driven civilization' and to 'find and mark the reference points that will make it possible for people not to be overwhelmed by the flows of information… and to keep the development of individuals and communities as its end in view'. The report goes on to say that: 'each individual must be equipped to seize the learning opportunities throughout life, both to broaden her or his knowledge, skills and attitudes, and to adapt to a changing, complex and interdependent world' (Delors, 1996).

All the mentioned features prompted the interest for the evaluation of students' information proficiency in higher educational establishments of Poland and Ukraine. We stated the belief that comparative analysis could be a basis for generalizations in the form of recommendation. Our goal was to develop a set of instruments which could make a comprehensive assessment model, the most objective and one covering all stages of the teacher training.

The comparative analysis of information competency demonstrated by Ukrainian and Polish students was held in Gniezno in December 2009 with the support of the scholarship provided by the Institute for Interdisciplinary Studies "Artes Librales" (IBI AL) Warsaw University. It was attended by students of Collegium Europaeum UAM. The investigation was made under the supervision of Dr. Daria Hejwosz. A similar study was carried out in Ukraine with the students of Uman State Pedagogical University named after Pavlo Tychyna which is a partner university of Collegium Europaeum UAM. Prior to the research a module structured questionnaire was developed. It was based on the range of available indicators and criteria and was aimed at checking the level of information proficiency. The purpose of the research was a comparative analysis of forming future teachers' information proficiency at the universities of Poland and Ukraine. The research objectives were:

1. To identify the structure of future teachers' information competency.

2. To select and describe the indicators for defining the future teachers' information competency level.

3. To determine the level of future teachers' information competency (360 students in Poland and Ukraine).

4. To make the comparative analysis. The assumption before the research was that future teachers demonstrate a higher level of information competency in Poland than future teachers in Ukraine.

5. In case of confirming the assumption to use the findings to make recommendations on the improvement of future teachers' information competency to education providers, and other concerned organisations, including government.

The structure of future teachers' information competency was proved to be a multilevel complex, with competences as its components. The defined competences were: Selective Competence (1), Search Competence (2), Assessment and Analysis Competence (3), Communication Competence (4), and Ethical Competence (5). Each competence had components and respective indicators with corresponding points. They were used for describing the levels of future teachers information competency as high, medium, sufficient and low.

High level was defined as that characteristic of students possessing information culture; skills to define research topic or other necessary information, to formulate meaningful questions, used for general and specific subject topics, to formulate the task in different ways in order to obtain a specific result, to determine the key concepts and terms, and to rationally distribute potential resources. Future teachers with high level of information competency were able to differentiate between types of information sources in an electronic database, to determine appropriate information systems for research, to choose methods to obtain the necessary information through information systems and develop a study plan, including the use of information systems and research methods. Students with a high level of information proficiency demonstrated ability to successfully identify key words, phrases, synonyms and terms to find relevant information using assistive additional screens and more users to refine their search. They used appropriate Internet services, evaluated the number and importance of search results identified the gaps of information needed for search results, reviewing search strategy to obtain more information. The students understood the need for recording information about quotations for a link selection information, interpretation and presentation of information in their own words. They demonstrated the ability to find information on the qualifications of the author or publisher and their reputation, understanding interpret bibliographic reference information to assess its legality and accuracy. Students who had a high level of information competence, had such well-illustrated social qualities as: communicativeness, high level of culture etc.

Average level was defined as that characteristic of students who could identify the research subject and transform the necessary information, formulating a number of relevant questions about information needs. Respondents could pick up key concepts or terms, representing the research subject. Seeing the advance of information resources in various formats, the noted students determined their diversity and importance. They showed good ability to distinguish between primary and secondary sources of information. They spent more time on selecting key concepts and finding relevant information. The students determined the types of information in the electronic system and selecting appropriate information system for research topics and content. These students determined the methods to obtain the necessary information through information systems and sought to

develop a plan for future research. The students tried to structure the selected information and showed the ability to use e-services network to install the necessary information. The students characterized by the average level of information skills attempted to find the necessary information that would cover the main idea. They literally defined the information that could be paraphrased. The students showed good ability to compare information from different sources and tried to express their own point of view. They demonstrated a good ability to find information on the qualifications of the author and demonstrated understanding of the need to check and verify data accuracy, attempted to discuss items relating to free access to information and provided the examples of plagiarism. The students knew about the availability of programs to check the necessary information on plagiarism, but never used them in practice. They demonstrated such well-marked social qualities as communicativeness, sufficient level of culture, work organization etc.

Sufficient level of information competency was typical of students who needed a competent consultant to determine the subject of research, to search information and formulate meaningful questions. These respondents tried to transform research questions in order to obtain a positive result. Future specialists tried to pick up some key concepts to find relevant information on the Internet and tried to structure it logically. Students with a sufficient level of information competence experienced a problem with choosing a search engine, selecting relevant information and assess its quality. They to some extent were able to develop a study plan using the visual design. Then, having established a prior plan, the students tried to identify key words and terms to find relevant information. The future teachers did not possess information about the types of sources cited and the necessity to paraphrase essential information. Respondents with a sufficient level of information competence demonstrated understanding and ability to interpret bibliographic reference sources, but couldn't find information on the qualifications of the author. A certain number of students showed the information to compare new information with other sources that are authoritative for summarizing. The students understood the policy on plagiarism and appropriation of others' information, but we found no knowledge of program to check intellectual property and copyright law. Of course, the lack of awareness of legislative and legal provisions lead to violations of established policies regarding access to information resources and use the appropriate style of documentation, as well as consistent and correct citation of sources.

Low level of information proficiency was typical of students who could not identify the subject of research without help, formulated a number of irrelevant questions that only to a certain extent helped to cover topics of research. These students had difficulties in selecting electronic retrieval systems, using key concepts and terms for successful and efficient retrieval. The future specialists did not

have sufficient skills to determine the suitability of the retrieved information and to decide on the expansion of information search beyond local resources. The students with low level of information competence could not make a research plan and schedule for obtaining necessary information, spending too much time for searching and selecting information on the Internet. The students were aware of the possibility of free access to information, but didn't possess sufficient knowledge of intellectual property, copyright laws and programs of checking the paper for plagiarism.

The following table shows the distribution of information competency levels (see Table 1).

Table 1. The distribution of points to determine the levels of information proficiency
(C = competence)

Levels	C 1 (max. 67 points)	C 2 (max. 86 points)	C 3 (max. 155 points)	C 4 (max. 40 points)	C 5 (max. 26 points)
Low	0–16	0–21	0–38	0–10	0–6
Sufficient	17–33	22–43	39–77	11–20	7–13
Average	34–50	44–65	78–116	21–30	14–20
High	51–67	66–86	117–155	31–40	21–26

Questionnaires to check the level of information proficiency formation were offered to students of Collegium Europaean UAM and students of Uman State Pedagogical University named after Pavlo Tyczyna. The investigation took 3 phases of 1,5 hours. The pedagogical supervision was conducted above the respondents during the work.

By the results of comparative analysis the students were divided by level of their information competency as follows (see Table 2).

Table 2. Levels of information competency of Polish and Ukrainian students (%)

Levels	C 1		C 2		C 3		C 4		C 5	
	Pol.	Ukr.	Pol.	Ukr.	Pol.	Ukr.	Pol.	Ukr.	Pol.	Ukr.
Low	0	0	0	0	3,5	0	0	5	0	0
Sufficient	0,15	55,8	6,25	25	20	66,6	15	15	62,5	0
Average	42,85	26,2	62,5	75	50	33,3	50	30	6,25	85,7
High	57,14	18	31,2	0	16,5	0	35	50	31,25	14,28

In Selective Competence (C 1) Polish students reached the middle and high levels demonstrating that they were quite well aware of modern requirements for receiving, processing and finding the necessary information. In Search Competence (C 2) Ukrainian students demonstrated middle and sufficient levels while more Polish students had a high level. According to the data, Ukrainian future teachers were in early stages of developing information skills, experimentation and willingness to use innovative technology during training sessions in comparison with their European counterparts. In Assessment and Analysis Competence (C 3) more Polish students had medium or high levels, while more Ukrainian students had a sufficient level. As for Communication Competence (C 4) more Ukrainian students had a high level, while Polish students had an average level. As to Ethical Competence (C 5) Ukrainian students were at medium or high levels, while Polish students were at sufficient and high levels[1].

Conclusion

Monitoring of future teachers' information competency forming at Polish establishments of higher education has been carried out which resulted in developing methodology recommendations for raising the level of the students' information proficiency at Ukrainian pedagogical higher educational establishments (Shevchuk).

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Monitorowanie studenckich umiejętności informacyjnych w pedagogicznych instytucjach szkolnictwa wyższego w Polsce i na Ukrainie

Streszczenie

Lesya Shevchuk w artykule pt. *Monitorowanie studenckich umiejętności informacyjnych w pedagogicznych instytucjach szkolnictwa wyższego w Polsce i na Ukrainie* prezentuje wyniki badań porównawczych przeprowadzonych na próbie 360 studentów pedagogiki uczelni polskich i ukraińskich w 2009 roku. Głównym celem badań była analiza porównawcza procesów kształtowania kompetencji informacyjnych w obu badanych próbach przyszłych nauczycieli. Schevchuk prezentuje cele szczegółowe badań oraz założenia teoretyczne procedury badawczej. Na podstawie przyjętych kryteriów teoretycznych w badaniach przyjęto, iż studenci mogą dysponować wysokim, średnim, wystarczającym lub niskim poziomem kompetencji informacyjnych. Shevchuk szczegółowo charakteryzuje wyróżnione poziomy, wskazując na wskaźniki natężenia pięciu zmiennych w obrębie badanych kategorii. Wyróżnione zmienne to: kompetencje selektywne, kompetencje poszukiwawcze, kompetencje oceniające i analityczne, kompetencje komunikacyjne, kompetencje etyczne.

Wyniki badań wskazują, iż w obrębie kompetencji selektywnych polscy studenci osiągnęli średnie i wysokie poziomy, co zdaniem Autorki ukazuje, iż „są całkiem świadomi nowoczesnych wymagań dla uzyskiwania, przetworzenia i znalezienia potrzebnych informacji" (Shevchuk, 2011: 8).

Z kolei w obrębie kompetencji poszukiwawczych studenci ukraińscy wykazują średni i wystarczający poziom, a studenci polscy poziom wysoki. Wynik ten Shevchuk komentuje w następujący sposób: „Zgodnie z tymi danymi ukraińscy przyszli nauczyciele byli na poziomie wczesnych etapów rozwijania umiejętności informacyjnych, eksperymentowania i wykazywania chęci użycia innowacyjnych technologii podczas sesji szkoleniowych w porównaniu ze swoimi europejskimi odpowiednikami" (Shevchuk, 2011).

W odniesieniu do kolejnej wyróżnionej zmiennej, jaką były kompetencje oceniające i analityczne, analiza wyników badań wykazuje, iż większa liczba polskich studentów osiągnęła średni i wysoki poziom, zaś studenci ukraińscy osiągnęli poziom wystarczający. Natomiast w zakresie kompetencji komunikacyjnych i etycznych studenci ukraińscy przewyższają poziomem studentów polskich.

Podsumowując, Lesya Shevchuk wskazuje na pragmatyczny wymiar przeprowadzonych badań, pisząc: „monitorowanie kompetencji informacyjnych przyszłych nauczycieli […] zaowocowało wypracowaniem wskazówek metodologicznych, dzięki którym możliwe jest podniesienie poziomu umiejętności w zakresie informacyjnym studentów pedagogicznych instytucji szkolnictwa wyższego na Ukrainie" (Shevchuk, 2011: 8).