PUBLISHING EDUCATIONAL CONTENT BY POLISH ACADEMIC STAFF IN THE CONTEXT OF WEB 2.0 AND OPENNESS ADOPTION – REPORT ON A SURVEY

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Abstract:
Objective of this article is to report the results of the study on publishing of teaching and learning materials by Polish academic staff in the context of adoption of Web 2.0 and openness concepts. Basic part of the study was the web based survey for individual academic teachers. Authors have also examined learning materials published at websites of numerous Polish universities to find out the reason for status quo that essentially differs from what can be observed at European and American Universities.

Key Words: Web 2.0, social network, open educational resources, academic staff adoption, survey

Introduction:

Web 2.0 and social networks have become thoroughly embedded in contemporary culture. People have incorporated these networks into their daily routines, using Facebook, Twitter, YouTube, online gaming environments, and other tools to build and maintain complex webs of professional and personal relationships. Students entering university are members of net generation [Ulbrich et al, 2011] and social networks are their "living technologies" [Hosein et al., 2010], that make them mobile, interactive, collaborative, creative and multitasking. Moreover business and government use social network as a communication and marketing tool to be in touch with their clients, citizens and electors. Higher educational institutions are not unaware of these facts and implementing Web 2.0 technologies and tools in various area (teaching, administration and management) is ongoing process.

On the other hand there is meaningful movement for openness. The concept of 'openness' is based on the idea that knowledge should be disseminated and shared freely through the Internet for the benefit of society as a whole. The two most important aspects of openness are free availability and as few restrictions as possible on the use of the resource, in technical, legal or price aspects. Openness in higher education means Open Access (OA) and Open Educational Resources (OER). Open access publishing usually refers to the worldwide electronic distribution of peer-reviewed journal literature in order to give free and unrestricted access to it [BOAI, 2002]. OER are teaching, learning and research materials in any medium that reside in the public domain and have been released under an open licence that permits access, use, repurposing, reuse and redistribution by others with no or limited restrictions [Atkins et al. 2007].

In recent times – particularly the last six years – there have been worldwide, ongoing discussion and debate on using Web 2.0 technologies and tools in education and need for openness in this domain. Although many researchers observe that using of these technologies in teaching and learning can be of benefit to students [e.g. Homola et al., 2009, Moran et al. 2011, Blankenship, 2010] and report increasing extend and frequency of use [Moran et al., 2011], there are also more sceptical voices [Grosseck and Selwyn, 2011].

Idea of openness has gain popularity after spectacular success of OER projects, such as MIT OpenCourseWare or Rice University's Connexions project. According to OECD in 2007, there were already more than 3000 open access courses (opencourseware) available from over 300 universities worldwide [OECD, 2007]. There is opinion that OER coupled with social networking and collaborative learning has created opportunity for pedagogical innovation [UNESCO, 2011].

Aforementioned trends and phenomena beg a question about current course of action in particular academic communities. Are they all so enthusiastic as American ones [Moran et al., 2011]? What is perception of Web 2.0 tools and attitude towards open publishing? What is level of adoption of this innovation by individuals? [Ajian and Harsthorne, 2008].

Objective of this article is to report the results of the study on publishing of teaching and learning materials by Polish academic staff in the context of adoption of Web 2.0 and openness concepts. Basic part of the study was the web based survey for individual academic teachers. Authors also have examined learning materials published at websites of numerous Polish universities to find out the reason for status quo that essentially differs from what can be observed at European and American Universities.

Methodology and sample

The sample for this study comprises members of academic staff from many disciplines in higher education. A selection process was two-stages. It began with random selection of 24 institutions from total of 132 public, higher education institutions in Poland.

Sample included universities, technical and medical universities, academies of economics and art academies. At the next stage, a sample of 1194 academic teachers was drawn from the population of those faculty members whose e-mail addresses were published on institutional web pages. They were sent invitation massages containing link to online form and explaining the goals and importance of investigation. They were also requested to forward the mail to their peers.

The questionnaire consisted of 22 questions. Most of them were partially open-ended, i.e. they provided the list with alternatives and an alternative "other" to enter free text for unanticipated answers. The data was collected on nominal scale (respondents were asked to select all alternatives that apply).

The survey was carried out between March and April 2010.

Total of 194 people filled in questionnaire (N=194); so the response rate was 16% (the number of messages that ended up in spam filters is, of course, unknown).

Majority of responses came from staff with PhD degree. The number of responses per scientific degree and field are given in Tables 1 and 2.

Table 1 Number of responses per scientific degree

Scientific degrees and titles	Number of respondents	Percentage
Master of Art, Science	27	13.92%
Doctor (PhD)	122	62.89%
Habilitated Doctor[217]	22	11.34%
Professor[218]	23	11.86%
	194	

Polish fields of education are assigned to groups based on the guidelines of Eurostat - SCL - Field of science and technology classification (FOS 2007).

Table 2 Number of responses per field of science

Field of science	Number of respondents	Percentage
Natural sciences (e.g. mathematics, computer and information sciences, physical sciences, chemical sciences, earth and related environmental sciences, biological sciences)	69	35.56%
Engineering and technology (e.g. electrical, electronic, mechanical engineering)	24	12.37%
Medical and health sciences	6	3.9%

[217] It is post-doctoral degree that requires approval by an external ministerial body. Conferred in the organizational units which are authorized to confer it.

[218] Conferred by the President of the Republic of Poland.

Social sciences (e.g. psychology, sociology, economics and business, law, educational sciences)	75	38.66%
Humanities (e.g. history, philosophy, languages and literature, art)	20	10.31%

For the purposes of this investigation above fields have been also classified under headings "hard" and "soft" sciences. Natural sciences, engineering and technology and medical and health sciences are assigned to "hard" sciences whereas social sciences and humanities fall into "soft" category. This is rather informal distinction. Stereotypically "hard" sciences are regarded as mathematized ones and their representatives as technology skilled in comparison to their "soft" counterparts. Authors would like to verify if responses of representatives of both categories followed these stereotypes.

Communication with students

Only 2.58% of respondents (5 people) do not use any software application for communication with their students. Electronic mail is the most popular communication tool. Over 97% responders use it for this purpose. 'Soft' scientists more often use social media and twice as often manage blogs.

Table 3 Use of communication tools

Communication tool	Count	Percentage N=194	Percentage of „hard" sciences representatives N=99	Percentage of „soft" sciences representatives N=95
e-mail	189	97.42%	98.92%	98.95%
newsletter, internet forum	35	18.04%	20.43%	16.84%
chat. IRC	7	3.61%	5.38%	2.11%
instant messaging	21	10.82%	10.75%	11.58%
blog	6	3.09%	2.15%	4.21%
social media	17	8.76%	7.53%	10.53%
other tools	52	26.80%	34.41%	20.00%

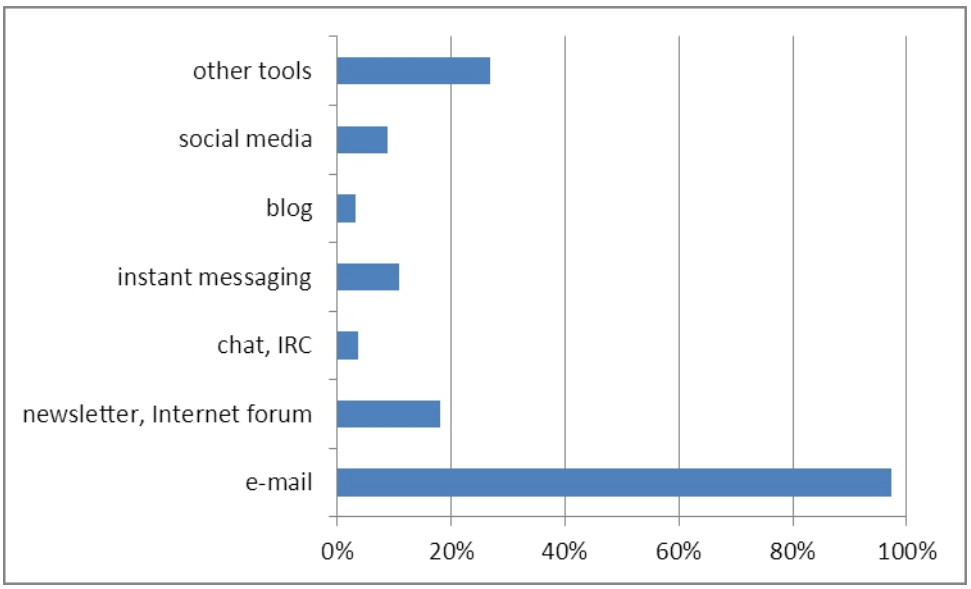

Figure 1. Use of communication tools

As other communication tools participants mentioned e-learning platforms, LMS, websites and teleconferencing.

Publishing teaching and learning materials

Almost 97% of respondents confirm that their institutions host and maintain a website which potentially makes education content publishing available.

Table 4 Publishing of teaching and learning materials

Answer	Count	Percentage N=194	Percentage of „hard“ sciences representatives N=99	Percentage of „soft“ sciences representatives N=95
Yes	133	68.56%	70.97%	68.42%
No	61	31.44%	29.03%	31.58%

Over 68% of surveyed academic staff publish teaching and learning materials (c.f. Table 4). Although almost 40% of them are freely available, only 13.5% is released under any sort of license.

Table 5 Access to available materials

Access	Count	Percentage of those who publish N=133	Percentage of „hard“ sciences representatives N=66	Percentage of „soft“ sciences representatives N=65
Open	51	38,35%	46,97%	29,23%
Password	41	30,83%	21,21%	41,54%
Login and password	15	11,28%	10,61%	10,77%
Mix of methods	26	19,55%	21,21%	18,46%

Access to 60% published content is restricted by passwords or obligatory logging onto student account. Educational resources are located mainly at institutional websites, e-learning platforms or personal and private web pages (externally hosted). A few respondents indicated social networking (see Table 6).

Table 6 Location of educational content

Location	Count	Percentage N=133	Percentage of „hard“ sciences representatives N=68	Percentage of „soft“ sciences representatives N=65
Personal page hosted on institutional server	55	41.35%	48.48%	35.38%
Private page externally hosted	21	15.79%	16.67%	15.38%
Institutional website	68	51.13%	48.48%	53.85%
E-learning platform	37	27.82%	33.33%	21.54%
Other portals (including social networking)	7	5.26%	4.55%	6.15%

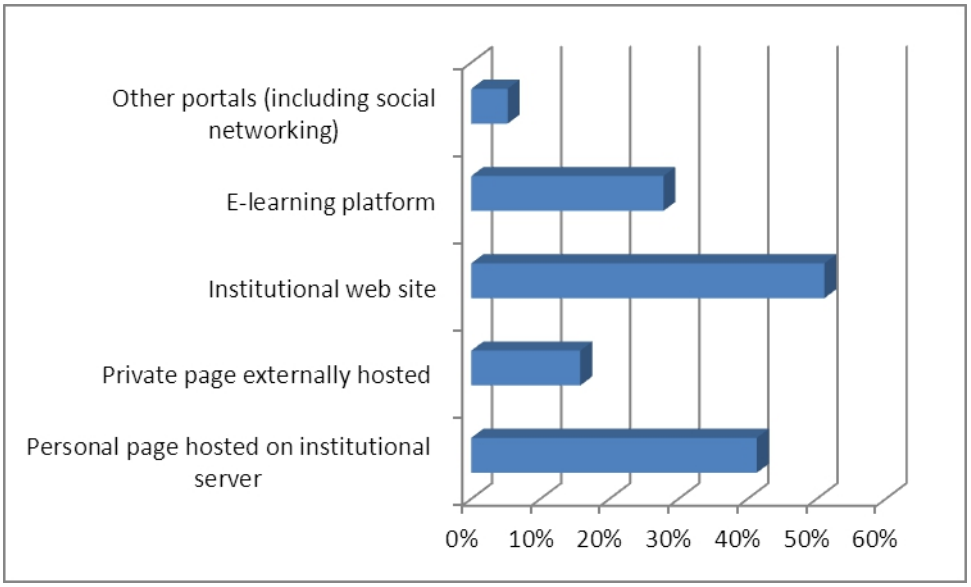

Figure 2 Location of educational content

Content of educational resources mainly includes lecture presentations (sometimes abbreviated), full text of the lectures, case studies, problems to solve (with answer key or without it), course outlines, assessment results, useful links and references, textbooks, reading materials, syllabuses, student works etc. (see Table 7).

Table 7 Content of educational resources

Content	Count	Percentage N=133	Percentage of „hard“ sciences representatives N=68	Percentage of „soft“ sciences representatives N=65
lecture presentations	73	54.89%	50.00%	58.46%
abbreviated lecture presentations	37	27.82%	22.73%	33.85%
lecture full text	11	8.27%	9.09%	7.69%
case studies	28	21.05%	18.18%	24.62%
problems to solve (without key)	81	60.90%	74.24%	49.23%
problems to solve (with key)	24	18.05%	30.30%	6.15%
other	36	27.07%	28.79%	26.15%

PDF is dominant textual format followed by word processor documents (c.f. Figure 3). Almost half of representatives of “soft” sciences make available source text documents, what implies edition approval. While representatives of “hard” science more often compress their files (c.f. Table 8).

Table 8 Format of teaching and learning materials

Format	Count	Percentage N=133	Percentage of „hard“ sciences representatives N=68	Percentage of „soft“ sciences representatives N=65
pdf	106	79,70%	80,30%	81,54%
word processor format	54	40,60%	33,33%	49,23%
spreadsheet format	29	21,80%	24,24%	20,00%
database format	12	9,02%	12,12%	6,15%
programme source code	16	12,03%	22,73%	1,54%
zip, arj	32	24,06%	39,39%	9,23%
other (including ppt, jpg, video formats,	24	18,05%	19,70%	13,85%

mp3)				

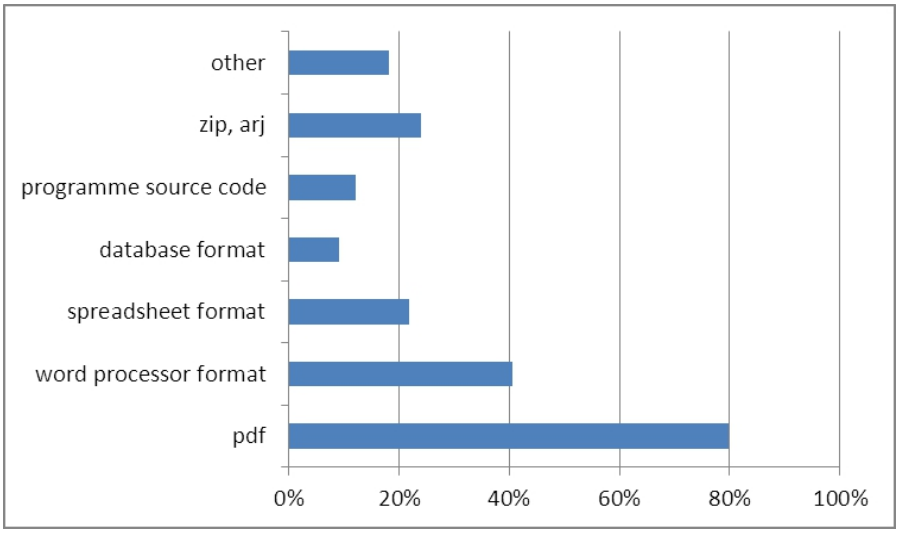

Figure 3 Format of teaching and learning materials

Students contribution

Majority of respondents does not encourage students to contribute towards development of learning resources (c.f. Table 9). Only sometimes they participate in problems solving or developing wikis and course web pages content. Although other forms of student's activity were also pointed out, such as scientific circle web page maintaining, managing the blog dedicated to the subject of the lecture, looking for interesting information that can make lecture more attractive etc., they should be treated rather as an exception than a rule.

Table 9 Student contribution

Student contribution	Count	Percentage N=133	Percentage of „hard" sciences representatives N=68	Percentage of „soft" sciences representatives N=65
none	86	64,66%	60,61%	67,69%
problems solving	32	24,06%	25,76%	23,08%
wiki content developing	5	3,76%	4,55%	3,08%
course web page content developing	5	3,76%	4,55%	3,08%
other	15	11,28%	12,12%	10,77%

Obstacles to publishing

Respondents were asked to define, from a preselected list, reasons for not publishing teaching and learning materials. The results are summarized in Table 10.

Table 10 Reasons for not publishing

	Count	Percentage N=61	Percentage of „hard" sciences representatives N=31	Percentage of „soft" sciences representatives N=30
lack of capacity	4	6,56%	7,41%	6,67%
lack of time	21	34,43%	48,15%	23,33%
concern over copyrights and use in appropriate manner,	29	47,54%	44,44%	50,00%
favour traditional textbooks	17	27,87%	33,33%	20,00%
concern with passing tests and	10	16,39%	11,11%	20,00%

tasks to the lower level students				
other reasons	17	27,87%	29,63%	26,67%

Over 31% of those surveyed do not publish any teaching and learning materials. Copyrights and inappropriate use are their main concerns. They worry about plagiarism in assignments and dissertations and that freely accessible educational content can be wrongfully used e.g. for commercial purposes. Representatives of "soft" sciences more often concern that tests and tasks can be passed to the lower level students. It can be explained by the fact that preparing them is more time and effort consuming than in other fields.

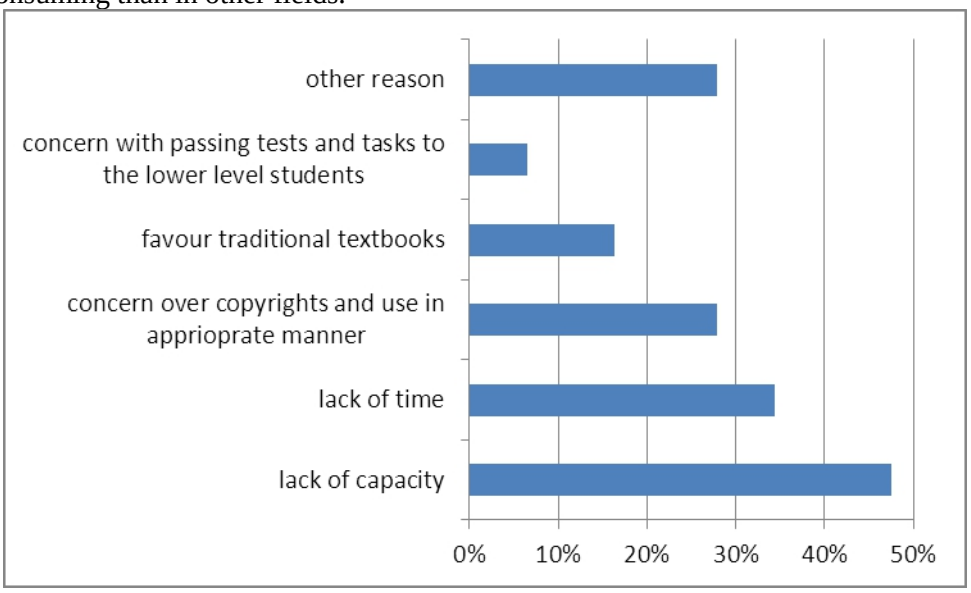

Figure 4 Reasons for not publishing

Additionally those that are not making their materials available on the Internet cited the following as reason why:

- there is no need (this response is interesting where compared to the fact, that 85.75% respondents admitted that students asked them about course materials available online)
- no required because of class type;
- there are no possibility of publishing at institutional website;
- publishing of educational content is not a common practice in Department;
- lack of institutional support and approval;
- students build on previously published materials and do not increase their knowledge;
- publishing learning materials provides opportunity rather for thoughtless copying than independent thinking;
- favouring handing in printed copies or sending materials electronically to certain people.

Conference webcasting, lecture capturing

Technology advancement in streaming, recording, taking photos and publishing have given a rise to the need for controlling the use of personal image. More and more conferences are webcasted or recorded for future access. Records obviously contain image, likeness and voice of the person. Speakers are sometimes surprised by the fact, firstly because they do not know if it is only streaming or recording, secondly because they do not know future use of the records. More and more universities capture live lectures and make them available to students to view on demand. Although it is obvious that students should not re-publish recordings to public websites, but there are no technological barriers to prevent them from doing so. On the other hand taking traditional lecture notes in writing is not very fashionable nowadays. Students have wide range of recording devices at their disposal: notebooks, smart phones or smart pens and digital paper etc. and they do not necessarily ask lectures for permission to use them.

Taking into account aforementioned trends authors decided to ask staff members and researchers about their attitude and experience.

Only 49 of 194 respondents attended webcasted or recorded conferences. Over half of them (57%) were informed about the fact previously, but only 30% were asked for agreement whereas majority (77%) thought they should have been asked.

Nearly half (48.5%) of those surveyed would grant their consent to the recording lectures by university capture system.

More than half (55%) noticed students recording their lecture without asking for permission, while only 12% make an announcement of ban on recording.

Conclusion

In general, the findings indicate that, those members of Polish academic staff who responded to the survey seemed to underestimate role of social media in teaching process. They are attached to traditional methods based on textbooks, printed handouts and e-mail as communication tool. Some academic teachers contribute mailing lists and take part in discussion forums, probably because these tools are native to e-learning platforms. Even if they make some materials available it is only for sake of content delivery and support. That is why textual content is by far the most frequently published one. Respondents rather present information than encourage collaboration construction of knowledge. Educational resources they produce are far from being open. Majority of them is restricted to students enrolled on the course and released under no license.

The two most pressing concerns about publishing are copyright and plagiarism. Although many academics are willing to publish some materials, they are often hesitant as how to do this without losing all their rights. When asked about other barriers that prevent them from publishing, the respondents pointed out lack of time and skills together with the absences of support from university management.

Although sample was not representative and small number of replies calls for great caution in the interpretation of results, additional analysis of available educational resources seemed to confirm emerging picture of course of action in 2010, that essentially differed from what could be observed at European and American Universities. Tree years is long period of time, especially in IT, therefore authors have decided to conduct follow-up study to take stock of changes in attitudes and awareness in the field of open educational resources and exploiting social media since the first survey was made.

References:

Ajian Haya, Harsthorne Richard., Investigating faculty decisions to adopt Web 2.0 technologies: Theory and empirical tests. Internet and Higher Education 11, Elsevier, 2008, pp. 71–80.

Atkins Daniel E., Brown John S., Hammond Allen L. A review of the open educational resources (OER) movement: Achievements, challenges, and new opportunities. 2007. Available at http://www.hewlett.org/uploads/files/ReviewoftheOERMovement.pdf [06 .04.2013].

Blankeship Mark., How Social Media Could and Should Impact Higher Education, Hispanic Outlook, 2010, pp. 11-12.

Budapest Open Access Initiative. BOAI, 2002,

Available at http://www.soros.org/openaccess/read [06.04.2013]

Connexions - Sharing Knowledge and Building Communities. Available at http://cnx.org [06.04.2013].

Free Online Course Materials - MIT OpenCourseWare. Available at http://ocw.mit.edu [06.04.2013].

Giving Knowledge for Free The Emergence Of Open Educational Resources OECD-CERI, 2007

Grosseck Gabriela. To use or not to use web 2.0 in higher education? Procedia Social and Behavioral Sciences 1, Elsevier, 2009, pp. 478–482

Guidelines for Open Educational Resources (OER) in Higher Education. UNESCO, Commonwealth of Learning, 2011

Homola Martin., Kubicova Zuzana., Taking Adventage of Web 2.0 in Organized Education (A Survey), ICL 2009 Proceedings, Austria, 2009, pp. 741-752.

Hosein, Anesa; Ramanau, Ruslan and Jones, Chris Learning and living technologies: a longitudinal study of first-year students' frequency and competence in the use of ICT. Learning Media and Technology, 35(4), pp. 403–18, 2010.
Moran Mike., Seaman Jeff., Tinti-Kane Hester., Teaching, Learning, and Sharing: How Today's Higher Education Faculty Use Social Media. Pearson Learning Solutions and Babson Survey Research Group, 2011.
Open Educational Practices and Resources OLCOS Roadmap 2012, Open eLearning Content Observatory Services Project, Austria, 2007.
Selwyn Neil. Social Media in Higher Education, The Europa World of Learning 2012, Routledge 2011.
Ulbrich Frank., Jahnke, Isa and Mårtensson Pär, Special Issue on Knowledge Development and the Net Generation, International Journal of Sociotechnology and Knowledge Development, 2011.