WEB-BASED MEDIA AT EUROPEAN UNIVERSITIES: SYSTEMS, USAGE, AND MOTIVATION

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1.   EXECUTIVE SUMMARY

This paper presents the results of two surveys analyzing the usage of and the systems available for web-based media at European universities, and how the teachers can be motivated to increase their usage of such materials in their teaching practice. The surveys were carried out April-May 2009 among the EUNIS member universities and include responses from more than 30 different universities in Europe.

The surveys show that 93 % of the universities have systems for supporting the use of web-based media in teaching practice, but looking at the diversity in implemented systems, no technical solution seems obvious. The surveys also show that many teachers are already using web-based media in their teaching practice and by addressing some of their teaching circumstances it would be possible to increase the usage even further. Based on these results the paper presents five initiatives to motivate the teachers to a higher usage.

The paper concludes that there is a great potential for a high usage of web-based media at European universities, but also that one of the major challenges is finding the appropriate technical solution and implementation.

2.   Introduction

Web technologies and media authoring tools have today reached the point where audio, video, and (so some extent) interactive learning objects are fairly easily developed and distributed over the Internet. This also means that such media can be used in teaching practice for web-based learning – completely online or in blended situations.

Research indicates that correctly used web-based media can be both engaging and efficient learning materials and thus holds a potential for improving teaching practice (Andreasen et al., 2008; Paulsen, 2003; Salmon & Edirisingha, 2008; and others). However, in order to realize this potential systems to distribute and publish the media are required and the teachers have to be motivated for the usage.

This paper presents the results of two surveys analyzing these questions: 1) which web-based media systems and archives are available at European universities, and 2) what motivates the teachers to use web-based media in teaching practice - and how can this be accommodated?

The surveys were carried out as online questionnaires April-May 2009 using LimeSurvey (LimeSurvey, 2009) and announced through the official EUNIS mail lists, on the EUNIS E-learning Task Force website (EUNIS, 2009), and a few additional and local communication channels (see Figure 1 and 2 in Appendix for screenshots of the online questionnaires).

3.   Web-based Media Systems at European Universities

The survey of the available web-based media systems at European universities was carried out as an online questionnaire distributed to the EUNIS member universities and other European universities April-May 2009 (see Figure 1 in Appendix). The survey was aimed at e-learning providers and thus only a smaller amount of replies was expected. 34 answers from 30 different universities around Europe were submitted and the redundant answers were filtered out. The result of the survey is shown in Table 1.

Systems available	Percentage (n)
LMS *without* media repository	63 % (19)
LMS *with* media repository	37 % (11)
Media archive	37 % (11)
Podcast system	23 % (7)
Content management system	43 % (13)
Learning object repository	33 % (10)
Other media system or repository	33 % (10)
No systems available	7 % (2)

Table 1: Systems used and available for web-based media in teaching practice. The percentages show how widespread each kind of system is. LMS is short for Learning Management System (or e-learning platform).

Of the LMS *without* media repository are Moodle (42 % or 8 universities), Blackboard (21 % or 4 universities), and Sakai (11 % or 2 universities) the most widely used. Also Dokeos, It's learning, Desige2learn, Fle3, and homegrown systems are used at single universities.

Among the LMS *with* media repository are Moodle (45 % or 5 universities) and Ilias (27 % or 3 universities) most common. Also Blackboard, FirstClass, Quickplace, Sakai, and homegrown systems are used at single universities.

37 % of the universities have a separate media archive and the most common is DSpace (27 % or 3 universities). uPortal, Fedora, or various homegrown systems are also used at single universities as media archives. With regards to podcasts, all of the responding universities with separate systems for this purpose have a more or less homegrown solution.

33 % of the universities have a separate learning object repository, and this is in most cases homegrown and/or build on systems like DSpace, Fedora, Moodle or other local systems. Also 33 % of the universities have other kinds of media systems or repositories. In most cases these are homegrown, cross-institutional or national repositories (e.g. Jorum and SWITCHcollection), or based on other systems like uPortal, Adobe Connect, or BSCW. 7 % of the universities do not have web-based media systems available.

30 % (9 respondents) of the universities make systematically use of external media, interactive learning objects, or video repositories. The most common is YouTube (4 universities or 13 %) and iTunes (2 universities or 7 %). Additional systems such as Mogulus, Flickr, SURF Academia, SURF Media, Wimba Create, Slideshare, Academia, Google Docs, and some local national systems are also used systematically.

4. Motivating the Teachers to use Web-based Media

The motivation of the teachers is analyzed through an additional web-based questionnaire directed to the teachers at EUNIS member and other European universities. The survey identifies the teachers' current usage of web-based media such as audio, video and interactive learning objects and which factors that would help them to increase that. Since it is difficult to ask direct questions to the teachers' personality about what is required to motivate you to increase your usage of web-based media and get a fair answer, the questions were instead phrased so that the responding teachers could indicate which *outer circumstances* that would motivate them to a *higher* usage. Further, the respondents were asked to indicate which circumstance they found most important.

This survey was also carried out online April-May 2009 and announced through the official EUNIS mail lists, on the EUNIS E-learning Task Force website, and a few additional and local communication channels (see Figure 2 in Appendix). 109 teachers from 24 different European universities responded to the survey (all respondents that were not teaching students were filtered out) covering a major part of the EUNIS map. However, the University of Porto, University of Helsinki, and the Haaga-Helia University of Applied Science are biasing the results with a relatively high response rate. The results of the survey are shown in Table 2, 3, and 4.

Use frequency of web-based media	Percentage (n)
Oftentimes	37 % (40)
Occasionally	44 % (48)
Seldom	12 % (13)
Never	7 % (8)
	100 % (109)

Table 2: To which extend the teachers use web-based media such as audio, video, and interactive learning objects in their current teaching practice.

Motivating circumstances	Percentage (n)
Easy access to existing and relevant materials	80 % (87)
Easy access to publication and upload	68 % (74)
Easy access to production facilities - equipment and software	51 % (56)
Acknowledgement by students	51 % (56)
Time for production	50 % (55)
Easy access to technical support	44 % (48)
Access to knowledge exchange and networking group	40 % (44)
Acknowledgement by peers/colleagues	39 % (42)

Easy access to pedagogical support	39 % (42)
Easy access to digital recourses such as clip arts, templates, animations	35 % (38)
Acknowledgement by university management/administration	33 % (36)
Easy access to legal advice about intellectual property and copyrights	30 % (33)
Your own equipment and software for production	22 % (24)
Control of access to materials	18 % (20)
Honorarium for materials	15 % (16)
Other factors	4 % (4)
None	2 % (2)

Table 3: Circumstances that would motivate the teachers to a higher usage of web-based media in their teaching practice. The percentages indicate the part of the teachers that find each circumstance in question relevant. The table is sorted with the highest scores first. The "other factors" mostly include the *freedom* aspect in terms of being allowed to use relevant and preferred technology.

Furthermore, the teachers were asked to select which one of the listed circumstances they found most important of the list in Table 3. The result is in Table 4.

Most important circumstance	Percentage (n)
Easy access to existing and relevant materials	25 % (27)
Time for production	16 % (17)
Easy access to publication and upload	13 % (14)
Acknowledgement by students	8 % (9)
Easy access to technical support	8 % (9)
Easy access to production facilities - equipment and software	7 % (8)
Easy access to pedagogical support	7 % (7)
Access to knowledge exchange and networking group	4 % (4)
Acknowledgement by university management/administration	4 % (4)
Other factors	3 % (3)
Easy access to legal advice about intellectual property and copyrights	2 % (2)
None	2 % (2)
Honorarium for materials	1 % (1)
	100 % (107)

Table 4: Which one of the listed circumstances (in Table 3) the teachers found most important. The not listed circumstances were not considered as most important of any of the teachers.

Summarizing the results shows that the responding teachers are already using web-based media quite extensively in their teaching practice. 37 % of the teachers are *oftentimes* and 44 % are *occasionally* using web-based media while only 19 % *never* or *seldom* uses it in teaching practice.

With regards to *increasing* the usage of web-based media in teaching practice, the survey points to some circumstances that could be improved to foster motivation. In general many circumstances and factors seem to be relevant for the motivation of the teachers, however, the six significantly most stated are:

- Easy access to existing and relevant materials
- Time for production
- Easy access to publication and upload
- Easy access to production facilities - equipment and software
- Acknowledgement by students
- Easy access to technical support

Also easy access to pedagogical support, access to knowledge exchange and networking group, and acknowledgement by peers/colleagues seem to play an important role.

The survey also showed that control of access to materials and honorarium for materials only is of minor importance. This is an interesting result when having in mind that some universities spend a lot of money and take special initiatives for advanced control of access to materials and user authentication and other universities give special bonuses to teachers developing and publishing podcasts, learning objects, or open course ware.

4.1. Five Initiatives

Based on these results, the following five initiatives seem to be the best way to accommodate and motivate the teachers to a higher usage of web-based media:

1. Establish an archive with easy access for all teachers (and students) and ensure that there is a minimum amount of relevant materials.
2. Establish an easy-to-access production flow and service where teachers directly can develop and upload web-based media or can easily access production facilities, borrow equipment, and get technical and pedagogical support to the entire production process.
3. Study management should acknowledge that using and developing web-based media learning materials is a part of teaching practice to ensure time for production.
4. Facilitate exchange of knowledge and experiences among peers about the materials and the usage.
5. Address the students and be open to feedback on the systems, materials and the usage.

5. Conclusions

The results of the survey of web-based media systems show that most universities are addressing the issue of handling web-based media for teaching practice (93 % has one or more systems for this purpose), but the very diverse implementations and systems in use indicate that there is no common or obvious way to facilitate and support it. Some universities have dedicated and separate systems for learning objects, podcasts, and media, while others uses a LMS or a CMS for this purpose. It is also quite common to have homegrown systems either build from scratch or based on other existing systems. In some countries cross-institutional or national systems/repositories are available and used. The most common systems for handling web-based media are – besides homegrown solutions and national repositories - Moodle, Blackboard, Ilias, DSpace, Fedora, and YouTube.

With regards to making use of web-based media in teaching practice the second survey shows that 37 % of the teachers are using web-based media oftentimes, 44 % is using it occasionally, and 19 % is seldom or never using web-based media in their teaching practice. To motivate the teachers to a higher usage several things can be done, and the survey showed that the most important circumstances to address and support were: easy access to existing and relevant materials, time for production, easy access to publication and upload, easy access to production facilities - equipment and software, acknowledgement by students, and easy access to technical support.

Summarizing the surveys, a great potential for a high usage of web-based media such as audio, video and interactive learning objects at universities is identified. Teachers are already using the media, and by taking a few initiatives accommodating their main wishes and demands, the usage could be

increased even further. However, the survey result of the media systems in use shows that no technical solution seems obvious. This could indicate that no adequate media systems currents are available or that the needs and demands of each university are so diverse that only homegrown systems would suit. If this is the case one of the major challenges for ensuring a high usage, motivating the teachers, and ultimately to a more flexible, engaging and efficient teaching practice, is the technical solution and implementation.

6.   Acknowledgements

7.   References

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8. Appendix: Screenshots of the Online Surveys

Snapshot of Media Archives

*Which University do you work at?

*Which department do you work at?

*What is your position?

*Which systems do you use at your university for web-based media such as audio, video and linteractive learning objects in teaching practice?

Check any that apply

☐ LMS (e-learning platform) wihtout media repository? If yes, which system (s)

☐ LMS (e-learning platform) with media repository? If yes, which system (s)

☐ Media archive(s)? If yes, which system(s)?

☐ Learning objects repositories? If yes, which system(s)?

☐ Podcast systems? If yes, which system(s)?

☐ Content management system? If yes, which system(s)?

☐ Other media or object systems or repositories? If yes, which system(s)?

☐ We do not use digital media systems in teaching practice.

*Does your university systematically make use of external media, interactive learning objects, or video repositories? (Eg. Youtube, iTunes, Microsoft Video etc.)

○ Yes
○ No

Figure 1: Screenshot of the questionnaire of web-based media systems at European universities implemented in LimeSurvey.

Usage of digital media in teaching practice

*Which university do you work at?

Which institute/department do you work at?

*Are you currently teaching students?

○ Yes

○ No

*To which extend to you use web-based media such as audio, video, and interactive learning objects in your teaching practice?

Choose only one of the following

○ Never

○ Seldom

○ Occasionally

○ Oftentimes

? Examples of interactive learning objects could be Flash-animations, Adobe Captivates, Java-applets, interactive video, Producer-presentations etc

*Which of the following circumstances would motivate you to a higher usage of web-based media in your teaching practice:

Check any that apply

☐ 1. Easy access to publication and upload

☐ 2. Easy access to production facilities - equipment and software

☐ 3. Easy access to existing and relevant materials

☐ 4. Easy access to technical support

☐ 5. Easy access to pedagogical support

☐ 6. Easy access to legal advice about intellectual property and copyrights

☐ 7. Easy access to digital recourses such as clip arts, templates, animations

☐ 8. Access to knowledge exchange and networking group

☐ 9. Acknowledgement by students

☐ 10. Acknowledgement by peers/colleagues

☐ 11. Acknowledgement by university management/administration

☐ 12. Your own equipment and software for production

☐ 13. Time for production

☐ 14. Honorarium for materials

☐ 15. Control of access to materials

☐ 16. None

☐ 17. Other factors

*Which of the listed factors would be most important to you?

Choose only one of the following

Please choose.. ▾

Figure 2: Screenshot of the questionnaire analyzing the motivation of the teachers implemented in LimeSurvey.