An Ethnographic Study of Individual Learning Content Management

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Abstract: This paper presents some of the results from an on-going ethnographic study of how higher education instructors obtain and manage personal collections of learning materials to be used in their courses. The work serves as a case study on the commonalities and differences among professors in creating course experiences for their students in an effective and efficient manner. Among the trends noted was a move towards complete digitization of content and an increasing use of online graphics and video. The findings can potentially inform both better practice, better technologies and more efficient educational systems that encourage and facilitate the development, reuse, and sharing of learning materials on a global scale.

Keywords: Case Studies, Learning Management Systems, Learning Materials, Learning Objects, Open Learning Systems.

1. Introduction

Ethnographic approaches have recently become popular in human factors research in relation to technology [1]. The idea is to develop a deep understanding of the perspectives and information management practices of potential users of new technologies. The intention is not to provide specific directions for the design of technology, but to have a general framework of understanding.

An example of this kind of work is by Kaye et al [2], which investigated how professors organize their personal information by interviewing and observing within their offices. Among the findings were that almost all of those interviewed were not satisfied with their approach and were open to finding a better system of organization. Also people could be divided into two categories of approach to printed information management, those that file and those that stack. This study represents a new trend in information science research that is now know as Personal Information Management (PIM) [3]. Traditionally information research has been focussed on organisational information management and its associated
methods and tools, rather than how individuals and small groups manage personal information stores. This paper reports on an initial study in a research program that is intended to investigate how instructors obtain and organize the learning content used on their courses. In addition to understanding how individual instructors obtain and organize the content for their courses, an important concern is how much reuse and sharing of content occurs between instructors. In learning technology research there has been a great deal of interest in concepts such as learning objects [4,5] and learning repositories [6] to promote more efficient use of existing learning content. More recently, there has been much discussion of the sharing of learning content through Web 2.0 technologies [7]. This technology research and development has often progressed without a foundation of basic research on the attitudes and behaviors of the people the technologies are aimed at.

2. Method

The study consisted of thirty-minute interviews conducted in an instructor’s main office. In addition to asking about an instructors general content management practices, the interview also focused on a course that the instructor was currently teaching. The instructors are asked where the content for their course came from and asked to demonstrate how the content for this course is organized on their computer, web site and physically in the form of folders, files and material on shelves.

The instructors interviewed were all from a large American research university, seven in the age range of 35-45, two were under 25 and one was over 55. All but two were involved in teaching technology related subjects. All but three had less than 5 years of teaching. Two had over fifteen years experience.

The plan for this study is to interview an initial batch of 30 university instructors and then extend the work to other levels of education (primary and secondary). Follow up interviews will be conducted over a number of years to examine trends in learning content management and technology use.

2. Findings

All of the instructors reported that they seriously begin preparing course content about one month before it starts, although half also reported carrying out some informal or planning activities as much as three months in advance.

All but three of the faculty report to having their course content in an entirely digital form. Two had both digital and hardcopy folders of content (see figure 1). One was in the process of converting to entirely digital content and expressed pride in the process of gradually removing the folders from his bookshelf into
paper recycling. Four of the faculty reported not using any form of textbook, instead deriving all their third party learning content from online sources.

All of the instructors reported creating their own assignments and PowerPoint presentations. There seemed to be little attempt to find and reuse assessment material. In creating PowerPoint presentations, all reported using online content for some slides. The main material used was photographs and diagrams. Several reported using Google image search. Among other sources mentioned were Microsoft clip art and iStock photos.

Figure 1 Mechanisms for organizing physical stores of learning content.

Three of the instructors reported making substantial use of YouTube videos in their courses. Two reported having weekly featured videos, which the student feedback suggests to be motivational. One of the instructors, having found it difficult to motivate students to read all the articles they were giving out, found that some of the authors of the articles had made presentations of their work that had been videoed and put on YouTube. He now has reduced the number of reading articles, but covers the same content by including the videos.

One instructor reported sending out learning material via email; the rest used the University’s Learning Management System for distributing content. Two of the least experienced instructors had used a single folder approach before finding this impractical and switching to organizing content in different folders according to the week of the course. All of the others were using a weekly folder approach. They organized the content on Blackboard in a similar way to how they organized it on their local computer.

Two instructors reported that they obtained and reused learning material through networking with other instructors. One identified and obtained slides from a presentation he attended at a conference. One had obtained slides from an instructor at a former university, whom she had heard through a third party had good material.

Five instructors who primarily taught at graduate level noted the links between content used in their research (specifically research papers) and the content they used in their teaching. One specifically noted how their organization scheme for their research work assisted in organizing their teaching materials. The scheme
involved a white board listing projects alongside relevant stacks of papers organized by topic (see figure 1). Two instructors noted that they had collections of physical copies of papers organized into folders.

The instructors seemed sensitive to the question of how much of their content they reused, as if the value of the course was measurable in terms of the original content they created and reusing other people’s content was in some way cheating the system. There is a sense that a cultural change is needed in order to have more efficient reuse and openness in content management. Instructors variously estimated the amount of learning material derived from other sources at between 50-80%. Mainly the reused material was websites, articles and textbooks. The main instructor created material was PowerPoint and assignments.

Only two of the ten reported using learning content repositories. One of the instructors reported using SlideShare to obtain and modify existing PowerPoint presentations. One reported obtaining content from a repository set up by a professional organization. None reported making their content available to others. All the content was available only to the instructor’s own students through a restricted login to the course web site.

All instructors communicated with students through email, class meetings and announcements on the Learning Management System. Only one reported using social networking. In fact, he stated that he had to set up a Facebook account, as that was the only way he could reach some of his undergraduate students outside class. He also introduces them to LinkedIn, a social network site aimed at professionals, and forms networks with his graduated students. Some students conduct most of their online communications through social networking sites. A colleague interviewing a student recently reported that they only used email to communicate with “old people”.

Overall, this initial study shows that instructors have not yet fully embraced the promise of the Web 2.0 approach. This was a relatively young sample of instructors teaching technology related subjects at a top tier public university in the USA, but there was relatively little use of content sharing beyond obtaining graphics for PowerPoints and web links. Few were aware of all the potential places in which they might obtain preexisting content or share their own, but all reported constantly looking through their informal web browsing and research activities for new and better content. Typically they reported changing around 20% of the material, each time they taught the same course.

4. Discussion

In order to meet the challenges of 21st century education, there is a need to promote collaboration and harness the collective intelligence of instructors and subject experts throughout the world. The whole community of learners and teachers must work together through the enabling mechanism of Web 2.0.
As evidenced by the preliminary findings of the study reported here, the change necessary is happening, but only slowly. Part of the problem may be that universities are structured to reward creative approaches to course development. A culture change may be needed, accompanied by appropriate investment, to reward and facilitate reuse and sharing of existing content. Instructors should be encouraged to spend less time recreating content and more time planning collaboration experiences.

Currently obtaining learning material is made difficult by all the different places in which it is potentially located. Eventually this situation will improve through similar initiatives to that of Google scholar, which is helping to solve the researchers’ problem of finding previous research scattered over numerous independent databases and digital libraries.

Many universities have invested in Web 1.0 technologies in the past, purchasing learning management systems, investing in the technical support to maintain them, and training instructors how to operate the technology. A similar effort is needed to change to Web 2.0 approach, but as the technology is already out there in the shared space of the Internet, the investment needs to be in supporting instructors in the pedagogy of Web 2.0, which embraces open, participatory approaches to learning, where both instructors and students are encouraged to discuss, share and modify rather than replicate learning content.

References