Wikis in Academic Courses:
An Institutional Perspective

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Abstract

This paper reviews the experience gained in the Open University of Israel (OUI) in implementing wikis in its academic courses. The paper discusses six main aspects of the process and shows how the OUI experience can serve as a model for the implementation of new learning technologies in universities.

Keywords: wikis implementation, institutional perspective, innovation adoption, innovation diffusion.

Introduction

Wiki technology has special advantages over other educational technology tools, especially in its ability to allow co-editing of documents from a distance and the powerful accessibility to previous versions of the written document. (Aguar, Raitman & Zhou, 2004, Bruns & Humphreys, 2005, Lamb, 2004). Any university that wishes to use this technology (or, for that matter, any new technology) faces dilemmas and questions concerning its effectiveness, costs, scalability and stability, to name but a few. In the fall semester of 2006 the OUI decided to experiment with wikis as a tool designed to produce and submit home-assignments, while carefully assessing the outcomes. The OUI experience shows that wikis have a potential to deepen the collaboration among students and to serve as a platform for an alternative mode of distance learning (Tal & Tal, 2006, Tal-Elhasid & Meishar-Tal, 2007).

Implementing the use of wikis at the OUI

Implementing a new technology of e-learning in higher education institutions is a complicated and multi-dimensional process (Schonwald, 2003). Convincing the "early adopters" educators to try and use innovative learning technologies could be easy but achieving a large scale use of these technologies and a sustainable implementation is more complicated (Nichol, Anderson & Schedule, 2005, Hegarty at el. 2005). It demands the development a detailed, multi-dimensional institutional strategy, to cover all aspect of implementation: stuff development and support, leadership issues, strategic investments, financial support and a change in institutional culture.

The implementation wikis in the OUI was managed and evaluated by SHOHAM (Center for Technology in Distance Education).

Promotion

The first challenge was to identify the potential courses to be chosen as the pilot group. Six courses were chosen for the pilot and their CCs were declared "wiki pioneers". The CC's received in-depth pedagogical and technical tutoring about wikis, after which they were free to plan their own activity.

Several models emerged and are reviewed by Tal and Tal (2006). At the end of the first semester in which wikis were used, a special seminar was held to a wide academic audience, presenting the pedagogical potential of wikis in different models of assignments. The successful activities from the pilot stage were discussed and ideas for continuation were presented. This seminar served as a recruiting tool, and consequently additional course coordinators expressed their wish to join the project in the following semester.

A special portal for the wiki project was published, containing important information on the educational wikis, links to published academic papers, audio-visual and printable tutorials about the usage of wiki and the list of courses and CCs that joined the project with links to their wikis. (See at - http://wiki-openu.openu.ac.il/courses/wikiop). The wiki project was reported by internal university publications and also by the Israeli media (Haner, 2006; Shalev, 2006).

Training
A workshop is given to new CCs that join the project for the first time. In the pedagogical part of the workshop they learn how to design a collaborative wiki assignments and how to run them during the semester. During the technical part of the workshop the CCs learn to operate a wiki as a user and as the manager of the environment. The centre for Distance Learning Technologies (SHOHAM) continues to escort the CCs during the first semester and onwards, assisting in technical and pedagogical issues on demand. Students also receive technical support from the OUI general support centre.

Technical aspects
The OUI decided to use MediaWiki (http://www.mediawiki.org/wiki/MediaWiki) as platform for wiki activities. It was crucial to integrate Mediawiki into the OUI VLE by connecting it to the user-identification system. It should be pointed out that the MediaWiki does not have enough statistical reports that are an essential tool for the CCs to assess the assignments and to monitor student's performance. Thus an original in-house statistical tool was developed based on CCs needs and requirements, that enabled real-time assessment of the assignments.

Pedagogical aspects
Implementing wikis in the OUI was not only a technological endeavor; it was mainly a pedagogical revolution. The OUI model of teaching and learning depends mostly on self-study methods. Students are not allowed to submit assignment in pairs or in groups, only individually. Wiki assignments are, in principal, collaborative assignments. In order to move from the experimental phase to mainstream on-line teaching, the University academic committee had to decide whether a collaborative wiki assignment is acceptable and under which conditions. The OUI academic committee approved the wiki collaborative assignments and they became an established teaching tool from the 2008 fall semester.

Administrative aspects
Designing, implementing and assessing a wiki assignment is a time consuming activity. To achieve CCs participation and persistence in wikis there must be a fair payment related to it. The shift from a pilot project to a mainstream teaching tool required establishing criteria for payments to the CCs which depend on the duration of the wiki assignment and the number of participating students.

Assessment
The wiki project was assessed and evaluated from the initial pilot stage in various ways:

1. Each semester a survey was distributed to the students and CCs for gauging their perceptions of the learning/teaching process with wiki.

2. Two research projects were conducted mainly in order to evaluate the level of collaboration among students, and to discover their motivation for participation and collaboration (Tal & Tal, 2006, Tal-Elhasid & Meishar-Tal, 2007).
3. A third research is on-going and is aimed at developing a tool to measure the strength of collaboration based on the wiki log-files.
4. An annual report is submitted to the University's senior management describing the advances and achievements.

Diffusion and Sustainability of wikis in the OUI

The main indicators of success in implementing e-learning technologies in institutes are diffusion and sustainability (Nichols, 2007). Diffusion in e-learning can be measured in term of adoption, namely how many users, courses or faculties have adopted the new tool. Sustainability of an e-learning technology can be measured by the number of courses that made use of the tool more then once, and for a continuous period (Sharpe, Benefield & Francis, 2006). The figures below present the current state of wikis in the OUI in terms of diffusion and sustainability.
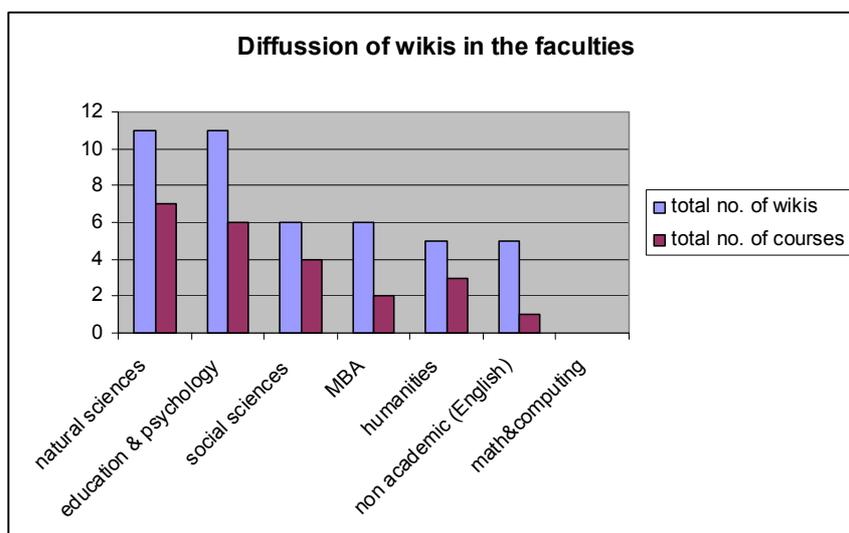

Figure 1. No. of wikis and the no. of courses per faculty (2006-2007)

Figure 1 shows the distribution of wikis in the different academic departments. The differences between the columns reflect the fact that some courses carried out a wiki activity more than once. It is a positive indication for the sustainability of the wiki project. The wiki was used mostly in the Natural Sciences and in the Education and Psychology departments, and was disregarded by the CCs in the department of Computer Sciences and Mathematics. This is probably due to the lack of adequate mathematical capabilities within the wiki editing tools.
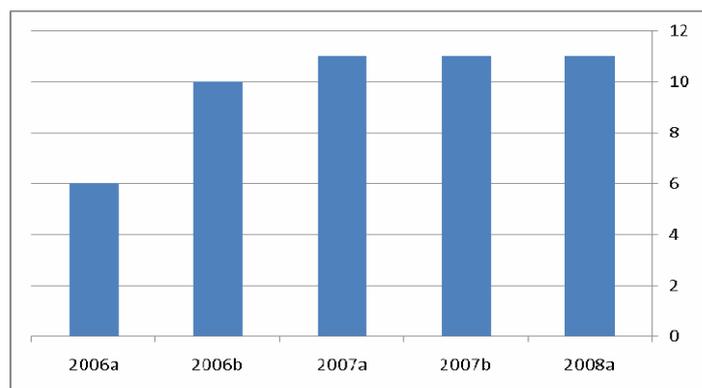
Figure 2. No. of wikis per semester (2006-2008) at the OUI

Figure 2 presents the growth of usage of wikis at the OUI for the period 2006-2008, the overall picture is showing a growth trend in 2006 and in the beginning of 2007, with stabilization during 2007-2008. This level of usage should be maintained in order to achieve sustainability of the project.

The next phase

The wiki project in the OUI is successful in terms of diffusion, sustainability, students and CC's satisfaction (Tal & Tal, 2006). We intend to continue along this route while considering the following factors:

1. Extending the usage of wiki to other academic departments and in new courses.
2. Collaborative writing is new to the OUI students and CCs. There are numerous objections and fears in the beginning of the assignment preparation process. New efficient workshops are designed and will be implemented.
3. Evaluating the contribution of collaborative learning to a reduction in attrition of students in those courses, and enhancing their overall performance.
4. The hybrid model that emerged during the wiki project will be implemented to other technologies (blogs, second life etc.), based on CCs needs and desires.
5. The wiki will be fully integrated into the OUI VLE system.

Conclusions

The OUI wiki project is a good example of a successful implementation of a new peripheral technology and of innovative pedagogies in a higher education institution. It was flexible, quick and it required little prior arrangements which are often encountered during the development of new software. The project began with a small group of "wiki pioneers" and then extended into a large-scale project that eventually became an integrated part of the OUI arsenal of learning technologies. This process can serve as a model for the implementation of innovative technologies in other educational/instructional institutions. The model is based on six components: promotion, technical and pedagogical training, technical adjustments, institutional adjustment, assessment and administrative arrangements. A successful implementation must act in all the dimensions simultaneously in order to achieve good results, a quick and sustainable diffusion and high level of student achievements and satisfaction.

References

Augar, N, Raitman, R., & Zhou W., (2004). Teaching and learning online with wikis, *Proceedings of the 21st ASCILITE Conference,. Retrieved November 8, 2005*:
    http://www.ascilite.org.au/conferences/perth04/procs/augar.html

Bruns, A., Humphreys S. (2005). Wikis in teaching and assessment: The M/Cyclopedia Project. *Retrieved November 8*:
http://snurb.info/files/Wikis%20in%20Teaching%20and%20Assessment.pdf

Haner, L. (2006). The OUI started using wikis in 15 courses, *The Marker Online*, 23.8.06 (Hebrew). *Retrieved September 20, 2007:*
http://www.themarker.com/tmc/archive/arcSimplePrint.jhtml?ElementId=lh20060823_7741

Hegarty, B., Penman, M., Nichols, M., Brown, C., Hayden, J., Gower, B., Kelly, O. & Moore, M. (2005). Approaches and implications of eLearning adoption on academic staff efficacy and working practice: An annotated bibliography. *Ministry of Education: Author*. Retrieved September 17, 2007,
http://cms.steo.govt.nz/NR/rdonlyres/89765CF4-A2ED-4088-9AE5-0097F7E7324C/0/ALETliteraturereview.pdf

Lamb B. (2004). Wide open spaces: Wikis, ready or not. *Educause Review* 39.5. 36–48.

MediaWiki Website, Retrieved: 28.9.2007: http://www.mediawiki.org/wiki/MediaWiki

Nichols, M. (2007). Institutional Perspectives: The challenges of e-learning diffusion. *British Journal of Educational Technologies* (Online Early Articles). doi:10.1111/j.1467-8535.2007.00761.x

Nichols, M. and Anderson B. (2005). Strategic e-learning implementation, *Educational Technology & Society*, 8 (4) 1-8.

Schonwald, I. (2003). Sustainable implementation of e-learning as a change process at universities, *Paper presented at the online Educa 2003*.

Shalev, E. (2006). WikiOP – The wiki portal of the OUI has been lunched, Reload Magazine, 29.8.06. (Hebrew) Retrieved :September 20 2007: http://www.reload.co.il/article.asp?iobty=2846

Sharpe, R. Benefield G. Francis, R. (2006). Implementing a university e-learning strategy: Levers for change within academic schools. *The Association For Learning technology Journal, 14, 2, 135-152.*

Tal, H., & Tal, E. (2006). Wiki-Maman: A collaborative assignment in a Wiki environment. In Eshet, Y., Caspi, A., and Yair, Y. (Eds.) Learning in The Technological Era (pp. 43-54), Chais Conference on Instructional Technologies Research, Raanana: Open University of Israel. (Hebrew)

Tal-Elhasid E. & Meishar-Tal H. (2007). Wikis in academic courses: Models of usage and collaboration, In Eshet, Y., Caspi, A., and Yair, Y. (Eds.) Learning in The Technological Era (pp. 127-136), Chais Conference on Instructional Technologies Research, Raanana: Open University of Israel. (Hebrew)

Tal-Elhasid, E. & Meishar-Tal H. (2007). Models for activities, collaboration and assessment in wiki in academic courses. *Eden conference electronic proceedings. Naples, June 2007.*