Using a Wiki as a Platform for Formative Evaluation

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Abstract

This poster describes and discusses the process by which expert reviewers used a Wiki to provide evaluative comments on a set of educational modules developed by the Digital Library (DL) Curriculum Development project. A total of 32 experts from 23 universities in 6 countries provided comments on the 10 draft educational modules. The Wiki was an effective tool for the reviewers to identify and discuss the strengths and weaknesses of the modules, to share their experiences of teaching DL courses, and to communicate with the project team. The Wiki played an important role as a fundamental venue for building the DL community, based on these collaborative activities.

1. Introduction

To support learning and teaching about digital libraries (DLs), a joint research team from Virginia Tech (VT CS) and the University of North Carolina (UNC SILS) has been developing a DL curriculum framework and educational materials applicable for both CS and ILS programs (http://curric.dlib.vt.edu). After a series of analyses of the topics and reading materials covered by existing DL courses and group discussions with the project's advisory board members, the current version of a DL curriculum framework has been established (See Appendix A). It is composed of 10 core areas: Overview, Digital Objects, Collection Development, Information/Knowledge Organization, Architecture, User Behavior/Interactions, Services, Preservation, Management and Evaluation, and DL Education and Research. Each of the core areas is divided into 2-7 topics, each of which is represented by an educational module.

The educational modules are lesson plans to be implemented by instructors. Each module includes the module scope, learning objectives, the related attributes of the 5S theory (Gonçalves et al., 2004), the level of effort required in terms of in-class and out-of class time, relationships with other modules, prerequisite knowledge and skills required, the body of knowledge to be covered, required and recommended readings, learning activities and exercises, evaluation guidelines for assignments, a glossary, and additional useful links.

Prior to field testing the modules, experts participated in a formative evaluation of them, using a Wiki as a communication platform. That process is discussed here.

2. Wiki as a Collaboration Tool

A Wiki is a Web-based application designed to promote collaboration in building content online. Those who have access to a Wiki can add, delete, and modify its content, and those activities are tracked and can be recovered easily if needed. Wiki software was originally developed for Wikipedia, but it has been widely used to support various types of online activities such as teaching and learning online (Gao et al., 2008; Florea et al., 2008) and providing library services (Lombardo et al., 2008; Frumkin, 2005).

A Wiki (http://curric.dlib.vt.edu/wiki/) was chosen to support module evaluation in this project for several reasons. First, a Wiki can enable reviewers around the world to access it. Because the project's expert reviewers were recruited from a worldwide community of DL scholars, this capability was essential. Second, the simplified markup language helps reviewers to add and modify comments easily. While this markup language is not as simple to use as a word processor, it was well within the capabilities of the evaluators. Third, a Wiki enabled us to assign different levels of access and control. The contents are readable by anyone, but the writing option was limited to the invited reviewers and project team members only. Most importantly, due to its openness, a Wiki allows its users not only to post their own comments,

but also to refer to (or change) others' comments. It was hoped that reviewers would interact with each other to discuss issues and problems, leading to a meaningful collaboration to improve the modules.

3. The Formative Evaluation Process

Among the 47 topics in the curriculum framework, 10 modules were available for review in 2008. (See Appendix B for a list of modules reviewed.) For convenient viewing of the module drafts, a PDF version of each was linked to the Wiki. For each module, 3-4 expert reviewers were invited to conduct the evaluation; they were aware of each others' identities throughout the process. The reviewers received individual Wiki accounts, and were asked to "sign" each of their comments. (See Appendix C.) Unlike other applications of Wikis, the reviewers were NOT asked to edit each others' comments. The goal was to encourage discussion among the reviewers, rather than the development of a shared evaluation report.

The reviewers were asked to critique each module based on evaluation criteria related to the module's learning objectives, the body of knowledge, readings, learning activities, logistics and practical aspects of teaching the module, and the overall structure. (See the contents list at the top of Appendix C.) Finally, the reviewers were invited to leave additional comments.

4. Results and Discussion

A total of 32 experts from 23 universities in 6 countries (England, Finland, Japan, New Zealand, Vietnam, and USA) provided evaluative comments. The reviewers identified the strengths and weaknesses of each module and suggested ways in which it could be improved. The project team has revised the modules based on this feedback, and is now field testing the revised modules in classrooms.

The Wiki was an effective tool with which to conduct this formative evaluation and promote collaboration among the reviewers. They identified specific problems in the modules and provided their overall impressions of the modules. Reviewers often shared their experiences of teaching DL courses on the module topics, describing the in-class activities, assignments, and readings they had used. For example, one reviewer noted, "In my class on 'Introduction to Digital Libraries' (face-to-face), I teach 'digitization' like a hands-on lab." As we expected, ongoing discussion among reviewers was also observed. Explicit agreement or disagreement with others' comments were often posted. For example, one reviewer noted, "I agree with Lili and Joe's comments, and think Joe's comment about evidence on whether or not knowledge-based systems work is a critical one." The Wiki also promoted communication between the reviewers and the project team. Reviewers asked questions in order to clarify concepts in the modules, and the module developers provided responses. The whole process of module evaluation, discussion, and questioning and answering was transparent to all the participants and anyone else who was interested.

5. Conclusion

Among various online communication tools (e.g., emails, message boards, blogs, etc.), a Wiki was chosen for evaluating a set of DL educational modules. It served as an effective platform for this formative evaluation. At the same time, it enabled DL experts from around the world to collaborate online in promoting DL education. As new modules are developed, their formative evaluation will continue. Thus, it is expected that the project Wiki will continue to play an important role as a venue to gather DL experts and to build the DL community based on collaborative review activities.

References

Florea, M. (2008). Using WebCT, Wiki Spaces, and ePortfolios for teaching and building information literacy skills. *Journal of Library Administration, 48*(3/4), 411-430.

Frumkin, J. (2005). The Wiki and the digital library. *OCLC Systems & Services*, *21*(1), 18-22.

Gao, F., et al. (2008, Jan 7). Student engagement in distance learning environments: A comparison of threaded discussion forums and text-focused Wikis. *First Monday, 13*(1).

Gonçalves, M., Fox, E., Watson, L., & Kipp, N. (2004). Streams, structures, spaces, scenarios, societies (5S): A formal model for digital libraries. *ACM Transactions on Information Systems*, *22*, 270-312.

Lombardo, N.T., et. al. (2008, Summer). Putting Wikis to work in libraries. *Medical Reference Services Quarterly*, *27*(2), 129-45.

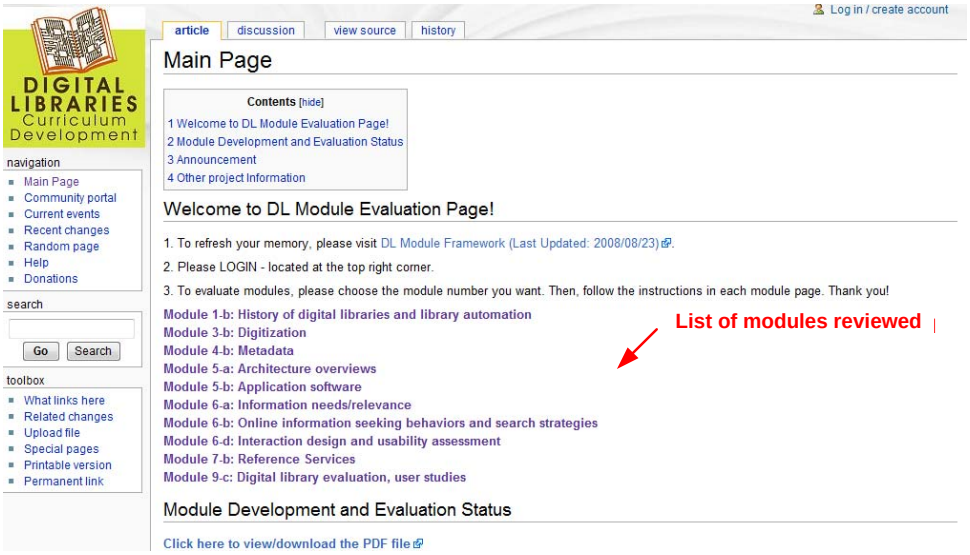
Appendix A: Framework for a DL Curriculum (last updated 2008/08/23)

(Titles in blue indicate that the module was reviewed in 2008)

CORE TOPICS

1	Overview	1-a (10-c): Conceptual frameworks, models, theories, definitions	**1-b: History of digital libraries and library automation**
2	Digital Objects	2-a: Text resources 2-b: Multimedia 2-b (1): Images	2-c (8-d): File formats, transformation, migration
3	Collection Development	3-a: Collection development/selection policies **3-b: Digitization**	3-c: Harvesting 3-d: Document and e-publishing/presentation markup 3-e (7-e): Web (push) Publishing 3-f (7-f): Crawling
4	Info/ Knowledge Organization	4-a: Information architecture (e.g., hypertext, hypermedia) **4-b: Metadata** 4-c: Ontologies, classification, categorization	4-d: Subject description, vocabulary control, thesauri, terminologies 4-e: Object description and organization for a specific domain
5	Architecture (agents, mediators)	**5-a: Architecture overviews** **5-b: Application software** 5-c: Identifiers, handles, DOI, PURL	5-d: Protocols 5-e: Interoperability 5-f: Security 6-c: Sharing, networking, interchange (e.g., social)
6	User Behavior/ Interactions	**6-a: Info needs, relevance** **6-b: Online info seeking behavior and search strategy**	**6-d: Interaction design, usability assessment** 6-e: Info summarization and visualization
7	Services	7-a: Indexing and searching 7-a (1): Image retrieval **7-b: Reference services** 7-c: Recommender systems	7-d: Routing, community filtering 7-e (3-e): Web (push) Publishing 7-f (3-f): Crawling 7-g: Personalization
8	Preservation	8-a: Preservation 8-b: Web archiving	8-c :Sustainability 8-d (2-c): File formats, transformation, migration
9	Management and Evaluation	9-a: Project management 9-b: DL case studies **9-c: DL evaluation, user studies** 9-d: Bibliometrics, Webometrics	9-e: Intellectual property 9-f: Cost/economic issues 9-g: Social issues
10	DL education and research	10-a: Future of DLs 10-b: Education for digital librarians	10-c (1-a): Conceptual framework, theories, definitions 10-d: DL research initiatives

Appendix B: DL Curriculum Development Project Wiki Homepage



Appendix C: An Example of the Wiki Evaluation Comments Page (1-b: History of DLs and Library Automation Module)