2010

Mining the Knowledge Base: Wiki Technology and Constructivist Learning in a Reference Services Training Program (Paper)

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Abstract

In Fall 2009, University of the Pacific's (Stockton, CA) Health Sciences Branch (HSB) Library initiated a reference training program to develop staff competencies and skills in order to promote a uniform level of reference expertise. Training was delivered in a wiki format, informed by constructivist principles. Constructivism views learning as a dynamic process-- learners actively construct knowledge, which is built upon earlier experiences. Content on the wiki was participant-driven and guided by individual interests. The session included a summary of Pacific's program and its assessment, an overview of constructivist learning, applications for wiki technology in the library setting, and a facilitated discussion with audience feedback collected by clickers regarding these ideas' applicability within libraries.

Introduction

The University of the Pacific is a private, comprehensive university located in Stockton, California. Its undergraduate enrollment is approximately 3,500 students, while its graduate and professional enrollment nears 1,300 students. The University awards Bachelor, Master, Professional, and Doctoral degrees. The Health Sciences Branch (HSB) Library is one of two libraries that serves the University of the Pacific population, specifically the Dental Hygiene, Speech-Language Pathology, Pharmacy, and Physical Therapy departments.There are unique staffing challenges at HSB. With only three full-time employees, one of which is the Sciences Librarian, reference services provision can be inconsistent during library hours. Reference assistance is dependent upon the availability of the Sciences Librarian, who has obligations to the Main Library's Reference Desk, as well as to ad hoc, departmental, school-wide, and University-wide committees.

This reference services training program was created to ensure that students, staff, and faculty could expect a specific standard of reference provision during all library hours. Due to the varied and specialized programs served by HSB, the paraprofessional staff at HSB would need to learn about searching skills, subject-specific databases and resources, and how to conduct reference interviews.

Description

After providing the background for the reference services training program at HSB, the presenters posed this question to the audience: Which of these staffing challenges affect your library? Using clickers, the audience was able to respond to the following choices: a) training, b) scheduling, c) consistent skill-sets, d) customer service, e) reference delivery, f) none of the above, and g) all of the above. Audience members were prompted to discuss at their tables the

local challenges at their respective libraries, as well as the steps that they have taken to address those issues (see Appendix 1 for all participant contributions).

Of the 30 or so attendees, 29 responded with the clickers and indicated that the majority of their staffing challenges concerned all of the choices (see Table 1). This indicates that many libraries are struggling to find solutions for the same types of issues, including ensuring that customer service points are available throughout the library, communicating information across the organization for many employees who seldom see one another, training subject specialists to be generalists, ensuring knowledge and quality of seldom used skills, and meeting the needs of the campus community with the talents and strengths of the library workforce.

Table 1. Which of these staffing challenges affect your library?

Options	Number of Responses	Percentage
a) Training	3	10.34%
b) Scheduling	4	13.79%
c) Consistent Skill-Sets	6	20.69%
d) Customer Service	1	3.45%
e) Reference Delivery	0	0%
f) None of the Above	1	3.45%
g) All of the Above	14	48.28%

Key Points

Pacific's University Library maintains records of all of the questions that are fielded by its employees at all service points. From January 2007 through March 2010, it was determined that 76% of the reference questions that were recorded at HSB were first received by its paraprofessional staff. In some cases, the questions were referred to the Sciences Librarian, who was on-site at the time, while in others, the users were prompted to contact and make an appointment with the Sciences Librarian. It was recognized that this user experience was not ideal. The goals of the reference training program were to promote reference provision during all library hours, develop staff competencies and skills, and provide flexibility to the organization. The program began in November 2009 and concluded in March 2010. The individuals who were involved in this enterprise included the Sciences Librarian, Health Sciences Branch Coordinator, and Library Assistant – essentially, a librarian and two paraprofessional staff members.

The reference training program needed to accommodate these challenges: various learning styles, staggered work schedules, and time constraints at the branch. It also needed to incorporate a mechanism for collaboration and feedback, as well as archival abilities. It was determined that diverse training materials would be included in an online, shared document, which provided editing/writing capabilities to all of the participants. Everyone would have asynchronous access to the shared learning space. Therefore, training could take place outside of face-to-face hours.

Building upon the collaborative, team-oriented environment at HSB, it was agreed upon that this program would employ constructivist learning principles. Constructivist learning is founded upon these principles: everyone is responsible for the learning environment; there are facilitators and learners; learning is not the result of development, development is learning; errors are part of the learning process; reflection is the driving force of learning; and knowledge

is subjective, developmental, internally constructed, and communicated through cultural and social means (Fosnot, 1996).

Learners and facilitators have specific responsibilities with constructivist learning ideals. Constructivist learning is based on self-motivation and the understanding that one will receive as much as one puts into any endeavor. Learners must understand the intent or goal of the program, be willing to collaborate and leverage the knowledge of other participants, engage fully with the content, and reflect upon one's growth and continuing needs. Facilitators need to provide the basic framework and context for the program, determine some of the initial content, and incorporate feedback in order to assure the relevance of the program.

The presenters queried the audience regarding their familiarity with constructivist learning. Of the 28 respondents, 14 individuals or 50% responded yes, while the other 14 or 50% responded no (see Table 2).

Table 2. Are you familiar with constructivist learning?

Options	Number of Responses	Percentage
a) Yes	14	50%
b) No	14	50%

After pausing for discussion about constructivist learning and its potential library training applications, the presenters posed this question to the attendees: When have you previously encountered constructivist learning? Using clickers, the audience members were able to choose from among the following options: a) training program, b) professional development course, or c) academic course.

Of the 28 audience members who indicated that they were familiar with constructivist learning, 17 responded to the question of when they had previously encountered constructivist learning (see Table 3). These responses illustrate the relevance and applicability of constructivist learning, even in a professional setting often ruled by policies, processes, and procedures.

Table 3. When have you encountered constructivist learning?

Options	Number of Responses	Percentage
a) Training Program	3	17.65%
b) Professional Development Course	7	41.18%
c) Academic Course	7	41.18%

The presenters asked the audience to recall the earlier discussion of staffing challenges in their respective libraries, and then posed the following question: Could you use constructivist learning to address staffing challenges? Of the 22 responders, 21 believed that constructivist learning could be applied to address staffing challenges (see Table 4 and Appendix 1). This indicates that many of the attendees felt that the use of constructivist learning would be useful in dealing with staff issues, including training, scheduling, knowledge base, customer service, and reference delivery.

Table 4. Could you use constructivist learning to address staffing challenges?

Options	Number of Responses	Percentage
d) Yes	21	95.45%

e) No	1	4.55%

The use of wiki technology was relevant in the reference services training program. The wiki allowed for each participant to include personally relevant content, as well as provided a forum for ongoing communication. The asynchronous nature of wiki technology and the constant connection of participants supplemented in-person meetings. The wiki created an ongoing record of the evolution of knowledge and served as a repository for all of the reference services training program materials. To view features, access Pacific's reference services training program wiki at http://pacificreference.pbworks.com/.

A confidence scale survey was created to assess the proficiency of the paraprofessional staff in delivering reference services upon completion of the training program (see Appendix 2). Using a seven point Likert scale, the paraprofessional staff members rated their confidence levels on twenty-eight separate criteria, including searching the library catalog, navigating within health sciences databases, and answering reference questions by phone. The paraprofessional staff took the survey at intervals throughout the training program.

Based on the participants' initial and final surveys, the staff members' confidence increased 84% among the twenty eight criteria, while 16% remained unchanged and 0% decreased. The paraprofessional staff members felt more prepared to field reference questions and gained a better understanding of catalog and database searching, Boolean operators, and controlled language. The staff members were able to match initial customer service skills with newly learned reference delivery methods in order to provide greater overall service to patrons.

After examining the efficacy of the reference services training program and exploring constructivist learning by way of wiki technology, the presenters posed this final question: Do you think that you would potentially create and use wikis in your library? Audience members were invited to discuss specific library workflows that would likely benefit from the use of wiki technology, predicted staff reception, and the potential challenges of wiki implementation (see Appendix 1). To the question of wiki applicability in the library, 92.31% responded affirmatively, while only 7.69% responded negatively (see Table 5).

Table 5. Would you use wikis in your library?

Options	Number of Responses	Percentage
a) Yes	24	92.31%
b) No	2	7.69%

This indicates that a majority of the attendees are interested in creating and implementing wikis in the library setting to streamline workflows, standardize staff knowledge, provide reference service, resolve scheduling issues, and more.

Budgeting issues in the current economic climate have forced staggered schedules and numerous part-time positions on many libraries. These challenges have created a need for fluid, innovative means of training and communication among staff members. Employing the ideals of constructivist learning, the employees at the Health Sciences Branch of University of the Pacific created a wiki-based reference services training program to ensure a certain level of reference provision during all library hours. These wiki features were particularly helpful: asynchronocity, online accessibility, and navigability. Due to swiftly advancing technology, information literacy is a constant concern in libraries, among not only library patrons, but also library staff. Using wiki technology for training needs may help library staff with streamlining various

organizational workflows, but also become more familiar and comfortable with current information solutions.

References

Fosnot, C. T. (Ed.). (1996). *Constructivism: Theory, perspectives, and practice*. New York: Teachers College Press.

Appendix 1. Participant Discussion Contributions

Discussion Question:
In your groups, list all of the staffing challenges that you face at your particular library.
How have you addressed those concerns?

Participant Comments:
- Customer service throughout the library
- Consistent skill-sets
  - (What's the standard? All or nothing?)
- Reference Delivery
  - Content Knowledge
- "Sole-Librarian" problem
  - Fewer librarians mean content/knowledge gap
- "Once-in-three months" effect
  - Only being given information/training that is used rarely and then forgotten
- Not enough expertise
- Evening/weekend librarians and hours
  - Communicating information
  - Investment in institution?
  - Prioritization of services
- Training subject experts to be generalists
- Time for planning/professional development
  - (Especially after conferences)
- Quality/consistency of reference interviews
- People skills
- Depth of knowledge of reference sources
- Communication of policies
- Building connections with campus community

Discussion Question:
How did constructivist learning benefit or hinder your project or studies?
Would you be interested in using constructivist learning in the future?
Where could you incorporate constructivist learning in your library?

Participant Comments:
- Creating a la carte reference tools
- Developing a shared notion of reference
  - Balance between answer vs. teaching
  - Being available via phone/text
- Training student assistants
- Educate faculty about CMS and other educational technologies
- Use LibStats to record reference questions/answers, and to facilitate reference training
- Constructivist by another name?
- Approach takes more time
- How do you know when you're finished?

- We're doing it right now!
  - Using Google Sites ("librain")
- Homepage on reference desk computers is new portal

Discussion Question:
Can you see yourself incorporating wiki technology in your library? Why or why not?
Which library workflows could benefit from wikis?
How receptive do you think the staff would be to wiki technology?
What challenges do you think the wiki might present?

Participant Comments:
- Committee work (useful when editing documents like strategic plan)
- Disseminating information across multiple locations and/or schedules
- Streamline staff workflows
- Communicate with student employees
- Issues with implementation:
- Varying levels of technical savvy
- Staff and/or librarian buy-in (involvement)
- Challenges:
  - Keeping wiki relevant for day-to-day work
- Blog or wiki to share knowledge
  - Formal training given less often
- Sharepoint
  - Useless as it is
- Wiki
  - Yes, if had help developing
- Students can create wiki
  - Constructivist learning
- Things requiring a lot of changes/updates
  - Public service desks
  - Strategic plan
  - Communication with student employees
  - Rare questions (refer to later)
- 50/50
- Update on print notebooks
- Will it be used?
- Union issues
  - Getting approval
- Flexibility with job description
- Division between school/work
- Will they contribute to wiki?
- Not everyone is a constructivist learner
- Self evaluation vs. assessment of skills
- Single staffing
  - No peer observation/review
- Possibly use libguides

Appendix 2. Reference Services Training Program Confidence Survey

When performing this task, I feel…	Absolutely Confident	Confident	Somewhat Confident	Neither Confident Nor Unconfident	Somewhat Unconfident	Unconfident	Not Confident At All
Answering Speech-Language Questions							
Answering Pharmacy Questions							
Answering Dental Hygiene Questions							
Anwering Physical Therapy Questions							
Searching Health Sciences Databases							
Describing the difference between popular and scholarly works							
Limiting a search to scholarly works only							
Searching PacifiCat (library catalog)							
Teaching PacifiCat (library catalog) search							
Searching HSB books							
Searching HSB periodicals							
Requesting ILL							
Teaching ILL requesting							
Speaking to students							
Speaking to staff							
Speaking to faculty							
Answering questions in person							
Answering questions by phone							
Answering questions by email							
Exhibiting 'welcoming' body language							
Introducing myself							
Refraining from interrupting							
Paraphrasing the question							
Asking open-ended questions							
Finding relevant result(s)							
Teaching the search method							
Asking follow-up questions							
Referring questions to HSB librarian							

Appendix 3. CARL Discussion Handout

Mining the Knowledge Base:
Wiki Technology and Constructivist Learning in a Reference Services Training Program

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Reference Training Program & Objectives:

Reference question tracking has shown that paraprofessional staff at the Health Sciences Branch Library at the University of the Pacific field 76% of all reference questions. To maximize staff presence and reference capabilities at HSB, reference training was implemented for the branch's two paraprofessional employees. Based on constructivist theory, which posits that development is learning and that knowledge is socially constructed, wiki technology was selected to collocate different resources and formats in a single location. The collaborative functions of the wiki complemented the branch's egalitarian organizational structure.

Results & Conclusions:

Twenty-eight criteria were assessed via a confidence scale that each paraprofessional took during regular intervals. Amongst the participants, confidence in 84% of the areas improved, with a total 100% staying the same and/or improving. Paraprofessionals felt more confident in receiving and responding to reference questions.

http://pacificreference.pbworks.com