Working With Wikis: Pedagogies, Applications, and Resources

With students increasingly integrating internet technology and social media into their daily lives, educational institutions are taking steps to integrate technologies across disciplines. Students often consult the most famous wiki, Wikipedia (www.en.wikipedia.org) for anything from general questions to research on papers; however, professors report frustration with Wikipedia’s anonymous authorship and lack of citations as indicators of the website’s unreliability. At the same time, faculty are using wikis to engage students through collaborative writing, peer editing, and writing to learn strategies, all crucial parts of Writing Across the Curriculum pedagogies.

Wikis can be useful because they allow students to work together and engage contemporary technology, all without requiring complicated software or advanced expertise with computers. In most cases, you can sign up for a wiki and begin writing it within fifteen minutes.

This paper and bibliography focuses on the applications of using wikis in classroom assignments. It provides:

- An overview of wiki technology.
- Practical suggestions for planning, setting up, and implementing a class wiki.
- A document of a year-long wiki-project for a CSI Cognitive Psychology Class.

What is a Wiki?
The concept of a wiki was first invented in 1995 by software programmer Ward Cunningham, who was looking to make “the simplest online database that could work.” The term “wiki” comes from the Hawaiian “wiki-wiki,” which simply means “fast,” reflecting Cunningham’s original mission to create a basic, easy to use program to organize information.

A wiki is a website that is created by any number of users, all of whom can write and edit content. Wikis can be large or small. They do not have a single author but a vast number of contributors who write content and edit pages for greater accuracy. A wiki will have multiple “pages,” or websites, organized around a topic that are easy to navigate and organize. The teacher, student, or group of students, can create single-topic pages and write content, which will all be accessible through a table of contents page and by linking separate pages to each other in the text (See Figure 1, below).
Why a Wiki?

Tools such as wikis build crucial skills for student development, casting writing as a key skill in communication through collaborative writing, writing-to-learn, and “scaffolded” assignments, all critical parts of Writing Across the Curriculum pedagogy. Wikis are dynamic, flexible tools that can be used as either major assignments, complementary to existing assignments, or note-taking devices.

In “Wide Open Spaces: Wikis, Ready or Not” (2004), Brian Lamb cites several key strengths of working on wiki projects:

- wikis invigorate writing ("fun" and "wiki" are often associated).
- wikis provide a low-cost but effective communication and collaboration tool (emphasizing text, not software).
- wikis promote the close reading, revision, and tracking of drafts.
- wikis discourage "product oriented writing" while facilitating "writing as a process."
- wikis ease students into writing for public consumption.

Many high school and college educators across the country are beginning to use wikis as part of class projects to build online resources. The following three examples shows the range of purposes and courses that a wiki can be applied to (see the Bibliography for more details):

- Rasma Lazda-Cazers used a semester-long wiki project it for a Germanic Mythology undergraduate course. Assignments included finding, paraphrasing, and referencing materials in a wiki environment, with a focus on collaborative writing.
The University of Houston Music Library used a wiki for its policies and procedures manual, the print version of which had been growing unwieldy (see Ravas, 2008). The result was easier to update, maintain, and disseminate.

Pennell (2008) looks at a University of Rhode Island “Writing in Electronic Environments” created a travel page for an imaginary Russia as a city in Rhode Island.

Challenges and Solutions
As with any new technology, even those of us who are adept at using the internet can meet stumbling blocks on the way to creating a wiki in a classroom. Below are four typical challenges and solutions that have been reported in the literature.

1. **Choosing a Wiki**: With so many wiki sites on the internet, choosing one can seem like a monumental task. Although most encourage members to purchase accounts, nearly all wiki sites have a special “educational” account. One of the most popular wiki sites for education is pbworks.com, one of the earliest and easiest to use wikis. Its developers have stated that “making a wiki is as easy as making a peanut butter sandwich.”

2. **Starting a Wiki**: Starting the wiki can be a daunting task; however, sites like Pbworks makes it easy to sign up, give a title to the class, and begin setting up the site (see below Figures 2-4 for screenshots of the signing-up process). Additionally, Pbworks has training videos on their site and they will send you daily emails for a week outlining how to operate the site.

3. **Technology**: Although wikis are easy to use, research reports a brief adjustment period to the technology from both professors and students. Users of course wikis advise introducing students to the technology as early in the semester as possible. Often, a librarian may be qualified to conduct a training session in a smart classroom. In addition, CUNY holds an annual IT conference, which can be useful to introducing faculty to new technologies.

4. **Collaboration**: Working in groups can often be challenging, but wikis offer multiple strategies for a professor to include individual student voices into an assignment. Beyond writing text, students can function as both writers and editors. Wiki technology allows students to write comments on any entries (as in a blog), select words to “tag” and link to other pages, as well as research and upload media such as images of YouTube video.

5. **Plagiarism**: Many professors worry about plagiarism in the “Google Era,” when students can easily cut and paste text from outside sources. For strategies to limit plagiarism, see the CSI WAC newsletter “Disentangling the Problem of Plagiarism” (http://www.csi.cuny.edu/wac/newsletters.html). One quality that professors report liking about wikis is transparency. Unlike the anonymous Wikipedia, all entries into a class wiki are automatically signed by a student. Students can be accountable for their own work, even within a group.
Signing Up With PBWorks and Getting Started
Registering an educational account with pbworks.com takes only a few minutes. You simply enter your basic information and it creates a basic template for the website for you, allowing you to create and edit content in minutes. After you have chosen to register, selected an educational account, and filled in your personal information (email, institution, etc.), the following images (Figures 2-4) show how easy it is to get started:

![Figure 2: Step 1, Signing Up.]

![Figure 3: Step 2, you have the choice to either let the wiki be accessible by anyone (for example, someone searching Google can read your class page) or only for people who you approve.]

Welcome to samplewikipage.pbworks.com

Choose your workspace's security settings
Who can view this workspace?
- Anyone
- Only people I invite or approve

Accept PBworks Terms of Service
- I agree to the PBworks terms of service.

Take me to my workspace
Case Study: Outline of a Project

As a writing fellow, I joined Psychology Professor Irina Sekerina at the start of the Fall 2010 semester to implement an online project for her Cognitive Psychology class that would build a wiki over the course of the semester. We began by choosing a wiki platform, familiarizing ourselves with how it worked, and setting up a basic framework for the students.

After a library session on using our wiki platform (see below), the students’ first task was to choose a topic. During the semester, members of the class, either alone or in groups, wrote short pieces to add to a growing body of knowledge that provided detailed investigations of topics from the textbook.

Professor Sekerina’s detailed syllabus outlined that the project would be broken down into several smaller papers, each with a specialized focus and targeted goal.

Each small assignment is intertwined with the others, ultimately building the larger project in small steps. Breaking down the assignments in smaller, targeted chunks, also called “scaffolding,” seeks to give students mastery over the topic and technology in easy-to-manage steps. Students were allowed to work alone or group author each piece.

Students were following core concepts to Writing Across the Curriculum Pedagogy, particularly Writing to Learn (learning through writing, rather than passive reading) and Scaffolding Assignments (by which a large assignment is broken down into a smaller,
specialized tasks). As a result, students were engaged with the project and course in multiple ways that continued and grew throughout the semester.

For example, students in the Spring semester of Psychology 288 (a course for both majors and non-majors), put the following assignments on the class wiki:

a) Critique a previous wiki
   This small assignment was an engaging first step into the world of wikis. Students looked over another class’s wikis and wrote a short critique of how a topic was presented. This short assignment made students feel like the technology and format of a wiki was something they had a voice in making and judging.

b) Outline the wiki
   After students had formed groups and chosen a topic (with assistance from the professor), their first step was to provide an outline of their wiki. This laid out the foundations of what knowledge their wikis would cover and how it would be organized.

c) Report on a famous cognitive psychologist, with references
   Now that the students had grown familiar with wikis and had crafted an outline, they were ready for their first research-based section of the project. Here, students chose a well-known psychologist whose research influenced their group’s subject.

d) Add multimedia content
   In this assignment, students searched internet sites like youtube.com to find videos, images, and sounds to augment their wiki pages. Many students took to this right away, bringing a variety of video clips into their project, which provided readers with multiple ways to learn about their topic.

e) Annotated Bibliography of the psychologist’s work or subject area
   As the major project of the semester, each group provided citations and notes on five sources relating to their wiki site. With all of the previous work already added, many students found it easy to start on a research assignment, as they already felt familiar with the topic.

f) Revise a previous assignment
   Critical to WAC pedagogy is that the writing process does not end when a paper is handed to the professor. Students were allowed to choose one writing assignment to revise. Allowing students this option meant that they felt responsible for all of their work over the semester, no matter when it had been turned in.

g) Reflection on the wiki
The last writing assignment was for the students to write a short reflection on their experience with the wiki. This provided valuable feedback into how students encountered and worked with the project as a whole (see below for excerpts).

h) In-class presentation of wiki

Finally, each group presented their topic and wiki to the class. In a 15-20 minute presentation, each group discussed their topic, showed video, and took questions. This provided a valuable learning experience for the class, as the presentations took dry information from the textbook and put it into a variety of media that students had earned a degree of mastery over.

Sample Finished Pages

Below are several screenshots of elements from finished student pages from the Spring 2011 semester (Figures 5-8):

![Table of Contents](image)

**Figure 5:** Part of the Start Page for the Cognitive Psychology wiki. Students contributed pages on topics (the first two columns) as well as reports on famous Psychologists (third column). Links highlighted in blue refer to other pages within the wiki.
INATTENTIONAL BLINDNESS

1. DEFINITION
2. HISTORY
3. BRAIN STRUCTURES
4. FAMOUS COGNITIVE PSYCHOLOGISTS
5. CURRENT STATE
6. MEDIA
7. APPLICATIONS

Figure 6: Opening of a student topic page outlining the entry. Links in blue link to sections within the topic.

Figure 7: Sample of a student group’s use of YouTube clips embedded in a webpage above explanatory text.
**BRAIN STRUCTURES**

- **Parietal Lobe**: Near the back and at the top of the head
  - Responsible for:
    * Visual attention
    * Manipulation of objects
    * Integration of different senses that allow for understanding a single concept

- **Occipital Lobe**: The back of the brain
  - Responsible for vision

- **Temporal Lobe**: Side of brain, above ears
  - Responsible for visual perception


Figure 8: An example of a group's use of mixed media, including text, image, and YouTube clip explaining brain structures. All media was researched and found by the groups themselves.

**Professor’s Reflections**

Over the course of the semester, Professor Sekerina noted several benefits to working in a semester-long online collaborative group project:

- **Student Attitude**: “The wiki helped students getting over a common misconception that students typically have about cognitive psychology: abstract, difficult, boring…Even those of them who initially resisted getting involved in cognitive topics couldn't help but getting ‘sucked in.’”

- **The Internet**: “The project capitalized on students' enchantment with technology and harnessed the power of the Internet, Google search engines, Wikipedia, and YouTube.”

- **Collaboration**: “Wiki ‘group-think’ invariably produces better results than an individual term paper and makes it legitimate for students to seek help and rely on stronger classmates for tutoring and guidance.”

- **Class climate**: “The students interacted and communicated with each other much more when they worked in groups over an extended period of time.”
Technology: Our work began in August with a survey of available wikis. Although there are many available websites that host wikis, we settled on pbworks.com. Pbworks is easy to use (see our “Links” section) and allows free accounts for educators.

Although the task to learn how to construct a wiki and instruct students in using new technology seemed daunting, it was relatively easy to get started and learn the basics of making a wiki. We began with a class workshop with librarian Mark Aaron Polger (http://www.csi.cuny.edu/faculty/POLGER_MARK_AARON.html), who was familiar and adept at Pbworks. Students quickly caught on.

Advice
Reflecting on the year-long project, Professor Sekerina offers advice in implementing a wiki project:

- Use a syllabus/class materials from a faculty member who has already conducted a wiki-based class and slowly adapt it to his/her needs;
- Make inquiries with the college IT team in terms of selection and technical support for a wiki platform;
- Educate students on advantages of working with wikis so that they buy into it;
- Read a couple of books and attend a few webinars provided by software companies and conducted by faculty actively involved in using wikis in their teaching;
- For CUNY faculty, attend the annual CUNY IT conference (held in December of every year).

Student Voices
Professor Sekerina reports consistent enthusiasm from students, who expressed a distinct preference for working on the wiki project instead of a term paper.

In the reflection section of the wiki, one student commented: “The wiki assignment called for me to go beyond the fundamentals I read about in the text, in regards to our respective topic and allowed me to grasp the concepts a lot better.”

Comparing wikis to term papers, another commented: "Working on the wiki entries was different than writing a paper in the sense that we did not have to get our information and organize all in one big project. These wikis allowed us to get information and slowly finalize our product little by little which proved to be a lot more effective than getting all the information and spitting it back out at the professor in a 10-page term paper."

Another student: “Writing a term paper involves limited time. It's usually done at the end of the semester and a short deadline is given to complete the assignment. Working on a wiki project throughout the whole semester made it much easier. Since the whole project was divided in time, I was able to think through each assignment. I was not overwhelmed
by the amount of work. The work was done step by step which enabled us to create a better organized final product.”

**Bibliography**


This brief overview outlines major concerns of choosing wikis while providing a guide to the three main wikis available for faculty. Brisco provides details on each site’s cost, how the wikis work, as well as pros and cons. Since the article is several years old, some details have changed, but Brisco’s assessments remain insightful and helpful.


Kittle and Hicks look at two online tools for collaborative writing: wikis and Google Docs (which allow users to write and edit on one document at the same time). This article is a useful introduction to integrating wikis into class assignments, both for low-stakes writing and larger projects. The authors provide an overview of Google Docs and wikis, discuss how to use them, and provide sample assignments for both.


Although this article is somewhat out of date given how fast internet technology has been changing, it remains heralded as one of the best introductions to using wikis. Lamb writes in an engaging, user-friendly manner, discussing a range of topics in connection to wikis in education, including pedagogy, practical uses of wikis, website design, and technical considerations. The article also raises and answers key objections and challenges about the academic application of wikis.


Lazda-Cazers, a Professor at the University of Alabama at Tuscaloosa, provides an overview and detailed analysis of her experiment using a wiki for an undergraduate course in Germanic Mythology. Although Lazda-Cazers documents challenges that both she and her students face, she concludes that wikis “allows for the redesign of traditionally lecture-centered humanities courses by fostering active learning and engaging students as producers of learning content rather than passive consumers of expert-to-novice presentations and textbook content” (193). Of particular interest is the detailed reports, rubrics and survey data that Lazda-Cazers includes.

Parker, Kevin R. and Joseph T. Chao. “Wiki as a Teaching Tool.” *The Interdisciplinary*
This article provides a review of the theoretical and practical literature on wikis in higher education. It explores the application of wiki in multiple pedagogical models, as well as discusses potential uses and assignments that faculty can adopt. The extensive bibliography is a particularly valuable resource.


The author documents the use of a wiki project for a Writing in Digital Environments class at the University of Rhode Island. Collaboratively, the class researched, wrote, and edited the Rhode Island section of Wikitravel (http://wikitravel.org/en/Main_Page), a public wiki site. Pennell includes a brief, but expansive discussion of the pedagogy of digital and collaborative writing. The article include screenshots of student work in progress to show the building blocks of a wiki writing project.


Although not directly related to wikis in the classroom, this article demonstrates the broad applications that wikis have within academic environments. In 2006, the University of Houston Music Library adopted a wiki as a platform to internally publish their policies and procedures manual. What had been an unwieldy print manual that required frequent updating, became an easy to use and modify in a wiki environment. The article provides an overview of wikis in similar case studies as well as statistical information of the project’s use. The article’s conclusions suggest that wikis have a broad application to individuals and institutions alike.

Other Resources
Applying wikis to higher education is an ongoing process. Many of the research and experimentation is documented online in the moment. Below are a few resources where you can find news and reflections on wikis.

- Academhack (http://academhack.outsidethetext.com/home/): A blog by David Parry, an Assistant Professor or Emerging Media and Communications at the University of Texas at Dallas. Parry describes the purpose of the blog being “to talk about the intersection of the digital and academia.” Academhack provides news items, reflections on applying new technologies to education, and “how to” tips.

- Profhacker (http://chronicle.com/blogs/profhacker/): A technology blog at the Chronicle of Higher Education. Its authors write in an accessible way about a broad variety of technology uses for research, writing, and the classroom.