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# iPads to Enhance User Engagement During Reference Interactions

Michelle M. Maloney and Veronica A. Wells

## Abstract

*The University of the Pacific Library's iPad project is a coordinated effort to implement and assess the use of iPads to enhance user engagement during reference interactions. The project aims to enrich reference transactions and increase student interactivity by allowing students to use iPads at the reference desk to search the library's resources concurrently with the librarian. Chapter 2 of Library Technology Reports (vol. 48, no. 8) "Rethinking Reference and Instruction with Tablets" presents a review of the literature that pertains to both the service aims of academic reference and its relationship to technology. The chapter discusses the logistics of the implementation process, including librarian training and the creation of core competencies for iPad use in a reference setting. Findings that were gathered from student and librarian surveys following one semester of project implementation are reported.*

## About the Authors

**Michelle M. Maloney** is a reference and instruction librarian at the University of the Pacific. She coordinates the library's campus outreach program, as well as its virtual reference presence. Her research interests include incorporating emerging technologies into reference and instruction in significant ways; library outreach, especially to diverse and first-generation populations; and assessment of the academic library's influence on student success and persistence. She has a master's degree in library and information science from the University of Illinois at Urbana-Champaign, where she was the recipient of the Bryce Allen Award for Reference Services, and currently serves on ACRL's Future of University Libraries Committee.

**Veronica A. Wells** is the access services/music librarian at the University of the Pacific. Her research interests include incorporating emerging technologies into reference and instruction in a meaningful way, assessment of music information literacy instruction, and best practices for educating faculty and students on copyright law and intellectual property. She is a regular contributor to ACRLog—a blog for academic librarians. A founding member of the Music Library Student Group, an international organization for prospective music librarians, she is currently involved with the Music Library Association and the Music Library Association–Northern California Chapter.

## Introduction

Incorporating the use of tablet computers into the provision of one-to-one reference assistance can be an interesting and effective means of promoting a more user-centered and collaborative interaction, both at the reference desk and beyond. A pilot project at the University of the Pacific found the student response to the use of tablets in reference to be largely favorable, though the librarian response was mixed. The results of this pilot project will primarily illuminate how to effectively integrate tablet computers into work at the reference desk, though mobile use will also be briefly touched upon. Topics covered include librarian training, technological considerations, and assessment.

## Literature Review

One of the principal service aims of academic reference

is to advance students' information literacy and critical-thinking abilities so that they leave a given reference interaction feeling more empowered vis-à-vis their current and future information needs. This is best achieved when the librarian embraces an instructional approach during the reference interaction. Indeed, according to Hinchliffe and Woodard, "When reference librarians approach a reference question with an instructional philosophy, not only do they provide the information that users need, they also capitalize on the opportunity to utilize the experience as a teaching moment."<sup>1</sup>

Within this instructional milieu, Elmborg stresses the importance of students being proactively engaged in the search process in collaboration with the librarian: "In order to practice student centered pedagogies of any type, it is important to understand that control and direction must come from the individual learner, not from outside sources like the teacher or the librarian."<sup>2</sup>

Technologies can help further this collaborative instructional activity, but only if used in a mindful way. Woodard states:

While there is no argument that technology can facilitate the process of transferring facts from one person to another, its integration with learning is best realized when the teacher aims to empower students to think and to solve problems and when technology is used to support student inquiry and collaborative exploration. According to constructivist theory, learning is an active and social process in which students play an active role in building knowledge, discovering relationships among facts, constructing conceptual frameworks that explain those relationships and exploring new arenas.<sup>3</sup>

Reference librarians have seen no shortage of technological advances in communication during the last century, including, to name only a few, the telephone, personal computers, cell phones and SMS text messaging, and the Internet and World Wide Web and all that they have made possible, such as e-mail, online chat, and video conferencing. Through these changes, the profession of librarianship continues to reflexively adapt and evolve—learning from its past so as to harness the best aspects of these new technologies to serve users well. One especially illuminating article in this regard continues to be Kern's "Have(n't) We Been Here Before? Lessons from Telephone Reference," in which she reflects on the history and best practices of this particular form of reference assistance, drawing parallels between it and the evolution of best practices for online chat reference.<sup>4</sup>

One of the latest and most compelling technological advances has been the advent of ever more

powerful mobile devices, not only smartphones, but also tablets, which have seen an explosive rise in popularity since the launch of Apple's iPad in April 2010. KQED, the public radio and television affiliate for the San Francisco Bay area, recently featured Harvard education professor Chris Dede on its *Mind/Shift* blog, which covers culture, technology, and the future of learning. Dede "has been working in the field of education technology for decades, and is astonished at how quickly mobile devices are penetrating in (K-12) schools."<sup>5</sup> He states, "I've never seen technology moving faster than mobile learning."<sup>6</sup>

Dede's statements are given further credence vis-à-vis higher education by Johnson, Adams, and Cummins, whose *NMC Horizon Report: 2012 Higher Education Edition* lists tablets in a separate category from all other mobile devices for the first time, proclaiming the "Time to Adoption Horizon" for tablets to be "One Year or Less."<sup>7</sup>

A search of Wilson's Library Literature database using the terms "tablet\*" or "iPad\*" and "reference or research assistance" reveals only a handful of scholarly titles, with most focusing on roving reference. To date, there has not been an article that focuses primarily on using tablets at the reference desk. Thus, this article fills a gap in the literature by providing a perspective beyond using tablets as mobile devices that librarians can use (or have patrons use) away from the desk, instead exploring the "dual use" of such mobile devices as a "second station" for patron use at the reference desk.

## Institutional Background and Opportunity Analysis

The University of the Pacific is a private, comprehensive university that currently enrolls 3,800 undergraduates, 750 graduate students, and 640 first-time professional degree seekers at its Stockton, California, location. The majority of undergraduates reside on the Stockton campus, which, due to both its size and its geographical layout, ultimately promotes a collegial atmosphere where students, librarians, faculty, and staff get to know each other well.

The central reference assistance service point for the campus is located at the university's main library. A team of librarians—six full-time and one part-time—currently staff the main library's reference desk sixty-two hours a week, providing both virtual and in-person research help. Though a well-received and heavily utilized instant messaging (IM) reference presence was launched at Pacific in 2007, 70 percent of the reference desk traffic at the main library continues to be walk-up, in-person queries. This can be at least partially attributed to the friendly nature of the campus, but it is further encouraged by the library through

a variety of outreach measures, including a robust instructional presence in the academic curriculum, as well as the creation of strong co-curricular partnerships. The amount of walk-up traffic, plus a willingness on the part of Pacific librarians to try using tablets at the reference desk (and beyond), provided a fertile environment in which to experiment with the use of this technology.

## Implementation

### Procurement and Logistics

In the spring of 2011, Apple's iPad 2 was released to the public. Its release generated fresh discussion about how these kinds of tablets could be used for teaching and learning. The librarians at the University of the Pacific began to brainstorm ways that iPads could be used as an innovative way to reinvigorate our current reference model. A small group of librarians applied for an internal university grant aimed at supporting faculty with projects related to teaching and student learning. The grant application described how librarians would use the iPads at the reference desk to facilitate more active learning by allowing students to do the searching and navigating with the iPad rather than passively watching the librarian on the computer. The application also contained a year-long implementation schedule as well as a plan to assess the effectiveness of the iPads via a short survey for students. The grant application requested funding for four iPad 2s and covers and was ultimately approved.

Once the four iPads were purchased, the librarians began experimenting and getting acquainted with the devices. They quickly realized that sharing four iPads among all librarians would be difficult. Determining who would be accountable for charging, software updates, and security of the iPads, as well as a desire to allow each librarian to personally customize his or her iPad, were among the issues considered. The inclination to have a one-to-one ratio of librarians to iPads was further borne out in the literature, most notably in an article by Lotts and Graves, who state, "Ideally, each librarian at Morris Library would have their own iPad. This would obviate the need for constant account management. It would also give librarians the freedom to explore apps and customize their iPad to their individual needs."<sup>8</sup> In order to maximize the potential of the iPad project, a proposal was submitted to the library dean for the purchase of six additional iPads. Four of these iPads went to librarians, one went to the Systems and Technology department, and one went to the Health Sciences branch, located on the north side of the university, to be used by the Health Sciences library assistant for questions received at this branch location.

### Creation of "iPad Core Competencies"

The iPad implementation team consisted of two librarians who volunteered to take the lead on the training, implementation, and user assessment of both students and librarians in relation to iPad use. In order to ensure that each patron would experience the same level of service and assistance with the incorporation of iPads, the team created a list of iPad core competencies for academic librarians (appendix 2.1). The core competencies include basic skills that every iPad owner should have, such as adding bookmarks and downloading applications. Additionally, librarian-specific skills were encompassed in the core competencies. These included using the library's website, using the library's catalog, and viewing and downloading full-text PDF articles from common interdisciplinary databases, such as Academic Search Complete and ProQuest Newsstand.

The iPad implementation team decided to leave it open to the individual librarian to explore and download iPad applications, such as EBSCOhost and Naxos Music Library. The team surmised that within the context of a typical reference interaction, iPads would mainly be used for searching resources available from the library's website. Because most Pacific students do not yet own tablets, it was posited that it would be pointless to instruct them on how to use applications when they would not generally have access to the applications on their own.

### Training and Working with Students

Each librarian received one-on-one training from the implementation team. Training lasted about an hour to an hour and a half depending on the librarian's experience and comfort level with the iPad. During the training sessions, the iPad implementation team took the librarians through the list of core competencies. Additionally, a LibGuide was created in order to assist with basic issues, such as connecting to the Internet and how to most easily employ the student survey mechanism.

The training also emphasized that the iPad should be introduced into the reference interaction only when the librarian believed its use would augment the user experience and make good use of patron time. For example, asking a patron who is in a rush and who is unfamiliar with tablets to use it for a "known item" query would not be an ideal use of the technology. However, having a patron with fewer time constraints and some familiarity with tablets (or, if unfamiliar, at least a willingness to try them out), using the iPad for in-depth database searching, where multiple search strings are brainstormed and tried in collaboration with the librarian, would be a more advantageous means of use. After completion of the training but prior to the official launch of the iPad project, the

librarians were encouraged to bring their iPads to the reference desk to test them out with students. In February, the iPad project was officially launched.

## Assessment

### Student Responses

In order to understand the students' experience in using the iPads at the reference desk, students were asked to complete a survey following the reference interaction. The survey was created using a Google Docs form and was filled out on the iPad. The survey contained only five questions and included an optional space to provide additional comments. After completing the survey, students were offered a candy bar for their participation. Survey data were collected over the course of the spring semester. A total of twenty surveys were received.

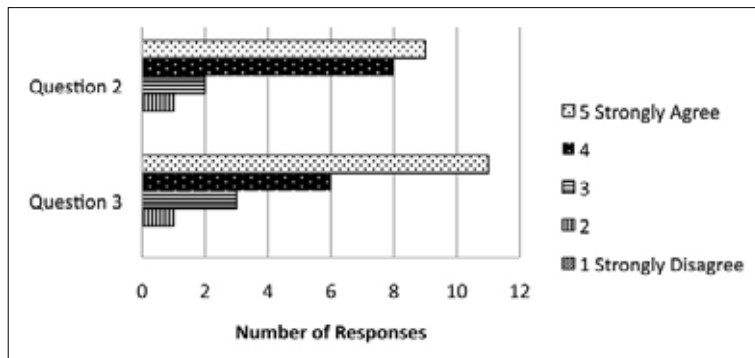
Students answered the first three questions using a scale from 1 to 5, with 1 being Strongly Disagree and 5 being Strongly Agree. These questions were:

1. Did the librarian assist you with finding useful information related to your question?
2. Did using the iPad help you find information for your paper or project?
3. Does the option to use an iPad at the reference desk make you more likely to return to the librarian for research assistance?

Notably, in response to the first question ("Did the librarian assist you with finding useful information related to your question?"), all students (100 percent) rated it 5, or Strongly Agree. It is unclear how much the use of the iPad itself had to do with this high rating, but at a minimum it shows that all these reference interactions were viewed by the students as highly successful.

Responses varied a bit more for the second question ("Did using the iPad help you find information for your paper or project?"): 45 percent rated it a 5 (Strongly Agree), and 40 percent rated it a 4, while 10 percent rated it a 3, and 5 percent rated it a 2 (see figure 2.1). From the comments, it appears that while some students enjoyed using a flashy new technology, there were issues with ease of use. One student stated, "I thought using the iPad was really cool. However, I feel like it would be a lot faster to get the information using a computer." Another said, "The iPad is a great resource at the desk. My only hope is that Internet compatibility will become better. It would be helpful if all site components were compatible with it, i.e. scroll bars, boxes within boxes, and check boxes."

Similar to the second question, reactions to the third ("Does the option to use an iPad at the reference



**Figure 2.1**  
Student survey responses to questions 2 and 3.

desk make you more likely to return to the librarian for research assistance?") differed: 55 percent said 5, while 30 percent said 4 and 15 percent said 3 (see figure 2.1). In the comments, one student said, "I thought it was really helpful to use the iPad and I have never used one before. . . . I would recommend it to others." The responses to this question lean towards encouraging librarians to continue to use iPads in the provision of reference service.

The last two questions were for demographic purposes:

4. If you are a student, what is your major?
5. If you are a student, what is your current status?

Thirteen different majors were represented in this survey. Twenty percent of the students were business majors, which was the most common. Most of the students participating in the survey (55 percent) were first-year students, which can be partially attributed to the fact that all first-year students are required to take a course entitled Pacific Seminar 2 in the spring semester. This seminar contains a research paper component. These students are strongly encouraged to seek help from a librarian following their in-class library sessions. Seniors (30 percent) were the second-largest group, followed by sophomores (10 percent) and juniors (5 percent).

It is quite reaffirming for our reference program that all the students strongly believed that the librarians helped them with their research. When it came to their assessment of the iPad and its usefulness for research help, students rated it favorably, but not unequivocally so. This mainly appears to be due to the small size of the tablet and technical issues they sometimes encountered.

### Librarian Responses

The iPad implementation team believed it was also important to get feedback regarding training and

implementation from the librarians who participated in the project. Like the student survey, the survey for the librarians was powered by Google Docs. The survey was brought, in its formative stages, to a departmental reference meeting so that librarians could provide feedback on it before implementation. Then, near the end of the semester-long pilot project, librarians were asked to fill out this survey, consisting of six inquiries and an optional seventh:

1. Describe a success you had when helping someone while using the iPad.
2. Describe any problems or issues you had when helping someone while using the iPad.
3. Do you believe you had sufficient training to use the iPad at the reference desk? If not, what did we miss?
4. Do you have any comments on the implementation process? Do you have suggestions for other libraries that want to implement a similar iPad project?
5. Would you suggest that we continue to use iPads at the reference desk?
6. Where do you see iPads (or tablets in general) being used in the provision of reference assistance 3–5 years from now?
7. If applicable, describe other venues where you've used the iPad in the provision of reference assistance.

In response to “Describe a success you had when helping someone while using the iPad,” most of the librarians were able to recount at least one example. One librarian stated, “By having a student practice a search for finding articles with the iPad they said that they would remember how to do a search again when they did not have assistance.” Responses to “Describe any problems or issues you had when helping someone while using the iPad” echoed the students’ comments about problems with consistent Internet connectivity and the belief that using a desktop computer in certain circumstances would have been quicker.

All the feedback was positive to the question, “Do you believe you had sufficient training to use the iPad at the reference desk?” Suggestions for other libraries implementing a similar iPad program were mostly in regard to logistics, such as Apple accounts. Associating an Apple account with the iPad is necessary for performing updates and downloading applications. Since the library did not have its own Apple account, librarians were asked to either use their personal Apple accounts or create a new one specifically for work. One librarian stated, “I would have been more inclined to experiment with various apps if there was a separate library account with iTunes. I was not comfortable syncing the iPad with my personal iTunes account.”

Reactions were quite mixed to the questions

“Would you suggest that we continue to use iPads at the reference desk?” and “Where do you see iPads (or tablets in general) being used in the provision of reference assistance 3–5 years from now?” Some said that they would like to continue using the device, while one said, “No, unless it is modified to show things better on an iPad than it does on a personal computer.” One believed tablets at the reference desk will become more common, while another stated, “The usefulness of iPads for reference seems better suited to problem-solving away from the reference desk (i.e., when getting a ‘look-up’ question on another floor in the library).”

Lastly, for the question, “If applicable, describe other venues where you’ve used the iPad in the provision of reference assistance,” some librarians recounted successfully using the devices in their office for research consultations as well as in the library stacks to help with looking up a call number.

From the librarians’ perspective, using iPads at the reference desk or for in-office research consultations could sometimes engender especially robust interactions with students. Nevertheless, librarian experiences were not without challenges, such as Internet connectivity issues, library and database pages not always displaying well on the iPad, and having to use their own Apple ID.

While some of the librarians are interested in continuing to use their iPads at the reference desk, the feeling is not unanimous. Perhaps this will change if or when more Pacific students own tablets, the library resources and tablets work better together, and the wireless network issues are resolved. Based on the feedback received, the iPad implementation team at Pacific currently suggests that librarians continue using iPads at the reference desk at their own inclination.

## Conclusion

Tablets will most likely continue to complement, but not supplant, the reference desktop (or laptop) computer in the near future. The University of the Pacific’s iPads at the reference desk program has shown some preliminary success—especially among students seeking research help. However, most Pacific librarians believe that before iPads become a permanent staple of the reference program, more needs to be addressed in terms of tablet interoperability with library resources, as well as Internet connectivity issues. That said, empowering the student to take control of the search process is an important way to support learning at the reference desk, and it has been intriguing to see the strengths and limitations of tablets employed in this manner. Going forward, librarians will be encouraged to incorporate iPads into next year’s reference program

project of exploring opportunities to provide embedded reference and instruction assistance outside of the library. As the librarians who coordinated the effort to experiment with iPads in the provision of reference at Pacific, we look forward to this new endeavor vis-à-vis embedded librarianship and anticipate playing a significant supportive role.

## Notes

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6. Chris Dede, quoted in Barseghian, "Amidst a Mobile Revolution in Schools."
7. Larry Johnson, Samantha Adams, and M. Cummins, *NMC Horizon Report: 2012 Higher Education Edition* (Austin, TX: New Media Consortium, 2012), 14, [www.nmc.org/publications/horizon-report-2012-higher-ed-edition](http://www.nmc.org/publications/horizon-report-2012-higher-ed-edition).
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## Appendix 2.1: iPad Core Competencies

### Basic skills:

- Connecting to the wireless network and troubleshooting basic wireless access issues
- Turning off and restarting the iPad
- Using the keyboard and copying/pasting text
- Rearranging apps as needed
- Taking photos with the camera feature
- Adding bookmarks and adding to home screen:
  - WorldCat
  - RefWorks Mobile
  - Library's website
- Downloading and using relevant apps such as:
  - EBSCOhost
  - Naxos Music Library

- Dropbox

- Adobe Reader

- Security:

- Protecting your privacy and the privacy of users

- "Locking" the iPad with a passcode

### Librarian-specific skills:

- Searching PacifiCat
- Viewing, downloading, and saving PDFs
- Using the interdisciplinary databases such as Academic Search Complete as well as your discipline-specific databases