iPod Apps, Mobile Learning and Game Dynamics: This Ain't Your Typical Library Orientation

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Introduction

Library orientation typically takes place in a computer lab, where a librarian delivers a PowerPoint presentation and helps students search for information using the library's website. It is not uncommon for students to tune out these sessions, using the computers to check Facebook, or to respond to the traditional lecture format as they always have – by falling asleep. Students sometimes get a walking tour through library spaces, but with class sizes exceeding twenty, it is almost impossible for the librarian to engage more than the three or four closest students.

During two semesters of these traditional library orientation sessions in 2010-2011, North Carolina State University instruction librarians asked students what they still found confusing. The most common answer was "Navigating the libraries' spaces" (44%), in contrast with "Using the libraries' collections" (17%) and "Who to ask for help" (10%). This was unsurprising, given the size and layout of D. H. Hill Library, the main library at NCSU, which sprawls across 200,000 square feet, three wings and nine floors. Complicating this, the first year students participating in these library orientations are usually only three months out of high school and often "admit that they've never visited any brick and mortar library," as one faculty member noted (C. Fedukovich, correspondence, November 23, 2011).

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Existing Library Orientation Activities

New students have several opportunities to learn about the NCSU Libraries. D. H. Hill is included as a stop on campus tours for prospective students, but this is just a brief visit with a five to ten minute talk delivered by a student tour guide. The Libraries also hosts an open house in the first week of classes each fall semester. Attendance is voluntary and 300-400 students, less than 10% of the freshman class, participate. Students may also receive library orientation through one of many pre-college preparation programs that are offered during the summer. Two NCSU reference and instruction librarians, Kawanna Bright and Hyun-Duck Chung, had previously experimented with using games to deliver library orientation in these programs. However, as their game was based on paper clues hidden in the library or distributed by staff at various stations, it required "a significant amount of time and work to plan and implement" and was not seen as being "infinitely scalable" (Bright & Chung, 2011). These library orientation games were therefore only offered to limited groups and did not take place more than two or three times per year, even though their value as an engaging activity was recognized.

Solution/Inspiration: Games and Libraries

Many libraries have experimented with games in their instruction programs to incorporate pedagogical research that points to the need for more active, experiential learning opportunities (McDeavitt, 2011). Building game dynamics into classroom activities can be a way of engaging newer generations of students, who, as game designer Jane McGonigal notes, "crave gameplay in a way that the older generations don't. Most of them have had easy access to sophisticated games and virtual worlds their entire lives.... [It's] a lot harder to function in low-motivation, low-feedback, and low-challenge environments

when you've grown up playing sophisticated games" (2011). McGonigal's observations reinforce the qualitative feedback we have received from faculty members that librarians' interactions with students needed to be more active.

Games provide compelling opportunities to engage students in situated, problem-based learning activities, but planning and implementing appropriate activities can pose a number of challenges. Short, one-shot instruction sessions often do not provide enough time introduce a game, play it, and address problems that were encountered during the activity. Research also indicates that in-class games must be entertaining, but relevant to coursework (McDevitt, 2011).

The NCSU Libraries Mobile scavenger hunt was initially inspired by *Find the Future: The Game,* an interactive mobile-device based experience created to celebrate the New York Public Library's 100th anniversary. It "combines real-world missions with virtual clues and online collaboration" and encourages players to explore the NYPL's collections (Find the Future: the Game). We admired the way this game leveraged mobile technology to lead players around the library where they could explore the spaces and use the collections.

Concept to Pilot

As we started to plan our own technology-enabled scavenger hunt, Apple's iPod Touch seemed a promising tool with a great feature set: web browser, camera, media player, and a multitude of apps for the iOS platform. Not all students own smartphones, nor did we want to ask those who did to download apps or configure their own devices to fit our activity. Additionally, we had access to a pool of iPod Touches in the NCSU Libraries' Technology Lending Service, which we were able to use to pilot our program.

The app SCVNGR seemed like a good all-in-one solution for scavenger hunts, but we had trouble prototyping with it, because SCVNGR charges organizations to build hunts. It also favors using GPS technology, which doesn't work well within buildings, and we planned to do our scavenger hunts all within D.H. Hill Library. We continued looking for an app that included a points system, answer submission, auto-scoring, multimedia and camera integration but were unable to find one.

Not finding an all-in-one solution, we refocused on the key components of our proposed scavenger hunt: a set of clues, a map, a way to submit answers, and some way of keeping score. From these components we moved toward a hybrid approach, which made use of multiple apps as well as print documents. In this way, our scavenger hunt became a mix of high and low-tech.

Although we had initially planned for a Fall 2011 pilot, one enthusiastic instructor offered her summer-session Communications class for our trial run. We quickly assembled our prototype and ran our first scavenger hunt in June 2011 for a class of 23 students. After a relatively smooth and successful first effort, we reported out to our department heads and advocated for dedicated resources for the project. We used the lessons we learned from this initial implementation to streamline the scoring, provide better instructions for the students, and improve some of the task clues. With a dedicated set of iPods and a successful pilot under our belt, we pitched the scavenger hunt to instructors in the First Year Writing Program as a library orientation option for ENG 101: Academic Writing and Research. ENG 101 is as close to a universally required course as we have at NCSU. The Libraries has enjoyed a long, productive relationship with the First Year Writing Program, one of the largest requestors of library orientations and information literacy sessions. The NCSU Libraries Mobile Scavenger Hunt went live in August 2011.

How the Scavenger Hunt Works

The First Year Writing Program instructors were enthusiastic about the new library instruction option and in the last two semesters, the majority of scavenger hunts have been scheduled for ENG 101 classes of 18 to 22 students. Classes meet in a library classroom where librarians introduce the activity and divide students into teams of four or five. Each team receives an envelope with a sheet of 15 questions about the library and its services, a map of the library, and an iPod Touch for entering clue answers. Librarians briefly introduce the iPod Touch, pointing out the relevant apps (Evernote, Clock, Camera, Safari) and explain the rules of the game, while students practice using the iPod and entering a note in Evernote. The student-teams are then released into the library for 25 minutes to find the answers to 15 questions, which they submit as text or photo notes in Evernote. Among the questions they are asked are:

- Look for the journal *The World of Music* on the Libraries' website. Is it available in print, online, or both?
- Find the book *Drummin' Men: the Heartbeat of Jazz* in the stacks. Upload a photo of it.
- The FAQs on the Libraries' website are a great source for quick answers about the library's services. Search the FAQs to find out how many times undergrads can renew a book.
- Don't be afraid to ask for help! There's a whole team waiting to assist you from starting your research to finishing your bibliography. Break the ice by snapping a picture with a librarian.

While the students are exploring the building, library staff members monitor a "master" Evernote account which has access to all the teams' notebooks. As they see answers come in, they manually count points for the teams. This has been streamlined somewhat by using a GoogleDocs spreadsheet to keep track of points.

At the end of the allotted 25 minutes, the iPod timers ring and students return to the classroom, where librarians run a slideshow of the photos students took, review the correct answers to the questions, reveal the scores, and award prizes to

the winners.

Initial Preparation

The initial preparation for the scavenger hunts -- writing the clues, configuring the iPods, setting up the Evernote accounts -- was somewhat complicated and time-consuming, but setting up for each subsequent scavenger hunt requires only a minimal amount of work. For each of ten teams/iPods we:

- Created free Gmail accounts
- Opened Apple/iTunes accounts (Keeping track of all account log-ins is important!)
- Configured iPod settings to restrict distracting activities (e.g., YouTube) and optimize for the scavenger hunt context (e.g., brightness and sound all the way up, no auto-lock).
- Downloaded necessary apps (Evernote and WolfWalk) and bookmarked the Libraries' mobile website

Once the iPods looked and acted the way we wanted, we saved a backup image in iTunes. Libraries with technology lending programs will likely be familiar with this process.

For each team/iPod we also created an Evernote account. It is worth noting that Evernote was not designed for this type of activity, but it does serve as an excellent tool to make it happen. We created one Evernote account for us to use as a "master" account and shared each team's Evernote account with the master account.

Last, we set up the documents we use for presentation and scoring:

- A PowerPoint slideshow to introduce the scavenger hunt, including screenshots of the iPod and Evernote
- A PowerPoint template to rapidly create a slideshow of student photos and correct answers to display at the end of the activity
- A Google Docs spreadsheet for scoring. The spreadsheet has a row for each team and a column for each clue. A formula in the spreadsheet tabulates points. Importantly, we have preserved a master copy of this spreadsheet; for each new scavenger hunt, we make a copy from the master.

Setup and Cleanup

Prior to each scavenger hunt, we make sure the packets have clean copies of all the paper documents (clue sheet, map, hint sheet) and check that the iPods are charged and logged into the team Evernote accounts. The librarian who will be introducing the activity opens the two PowerPoint slideshows, logs-in to the master Evernote account, and opens the GoogleDocs spreadsheet on a computer with a projector. The librarian who will be scoring the hunt opens the GoogleDocs spreadsheet on a second computer and logs-in to Evernote either on the computer or on an iPad.

After each scavenger hunt it is necessary to "reset" the iPods, so they are ready for the next scavenger hunt:

- Close all open Safari tabs and clear history
- Delete all photos from the Camera app
- Delete all Evernote notes and empty the trash
- Clean the iPods with a screen wipe
- Plug iPods in to charge
- Check that each packet still has the right paper documents, replacing those that are missing or damaged

Ongoing Maintenance

There is a small amount of ongoing maintenance to support the technical setup described above. Both Apple and Evernote periodically update their software, adding functionality and stability. These updates aren't urgent, but they should be applied when possible.

Results & Feedback

Since the June 2011 pilot, we have facilitated over 90 scavenger hunts, reaching over 1,900 students. Thirty-nine percent of over 200 sections of ENG 101 participated in a scavenger hunt during the 2011-2012 academic year.

After each hunt, we ask students to fill out a brief survey. Over the course of two semesters (Fall 2011, Spring 2012), 89% of respondents said they enjoyed the scavenger hunt; 91% said they learned something new about the library; and 95% said they felt comfortable asking for help in the future (Appendix A).

We also solicited narrative feedback with an open ended "Comments? Suggestions? Room for Improvement?" question. Student responses fell into several categories. The majority of responses were positive:

- "I am surprised how many resources library has. And I will definitely ask an [sic] staff for help in the future."
- "I liked using the Ipod Touch to answer the questions. The creativity points also added to the fun experience."
- "I LOVED this activity! It made going o [sic] the library fun! I also got to meet new people in my class that I didn't already know. NC State's library is soooooo cool!"

Many students indicated that they would have liked more time to complete the scavenger hunt:

- "5 more minutes would have been helpful to complete all of the tasks"
- "I don't think students know enough about the library, especially during freshman year, to complete the scavenger hunt in 25 minutes. It's a pretty big library, and we had to rely on the timing and use of elevators."

Several students commented about the technology, though complaints about the Evernote platform and iPod lagginess ceased with operating system and software updates:

- "The iTouch was lagging and made entering in data frustrating"
- "Evernote is a stable platform, but allowing the team members to use their own cell phones with keyboard that they are comfortable with would be a major boon. Finding a software that allows that would be helpful."

At the end of the semester, we surveyed the faculty, 100% of whom indicated that they believed the scavenger hunt met its objectives to decrease library related anxiety, increase awareness of library resources and services, and aid students in navigating library spaces (Appendix B).

One faculty member commented that her students remembered almost everything they learned during the hunt. She emphasized that the "good-natured competition, light-hearted fun, and experiential learning... reaches our student population in a way that typically unidirectional classroom instruction cannot" (C. Fedukovich, correspondence, November 23, 2011).

Conclusion

Running the scavenger hunt at full-steam is staff intensive, consuming 135 staff hours a semester, not including time spent scheduling the events or making process improvements. To reduce the burden on the three original project librarians, we integrated scheduling into the Libraries' instruction request web-form and a departmental administrative assistant calendars both the staff and the classroom. We also recruited other librarians, library school graduate students, and even undergraduate work-study students to help run the hunts. We are also exploring developing a self-paced, asynchronous scavenger hunt, both to alleviate the demand on staff time and to extend the activity to hybrid face-to-face/online classes with limited class-time to devote to the activity and to other campus organizations as an optional enrichment opportunity.

References

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Bright, K.M., & Chung, H. (2011). Library mystery scavenger hunt. In *Let the games begin! Engaging students with field-tested interactive information literacy instruction* (pp. 19-22). New York: Neal-Schumann.

McDevitt, T.R. (Ed.). (2011). *Let the games begin! Engaging students with field-tested interactive information literacy instruction*. T.R. McDevitt (Ed.).

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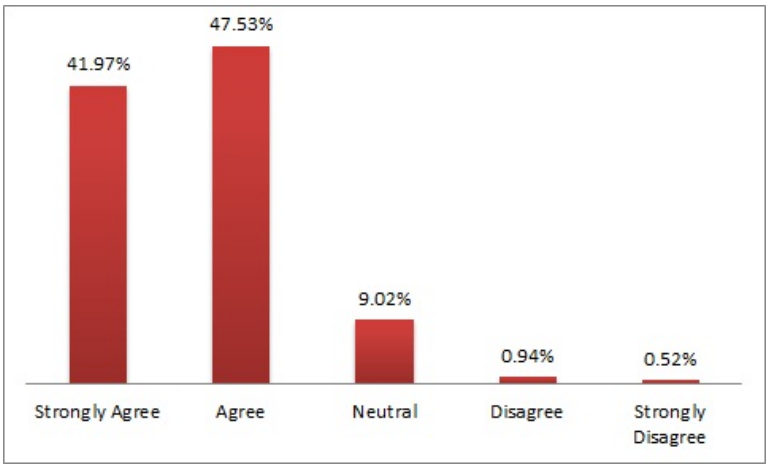
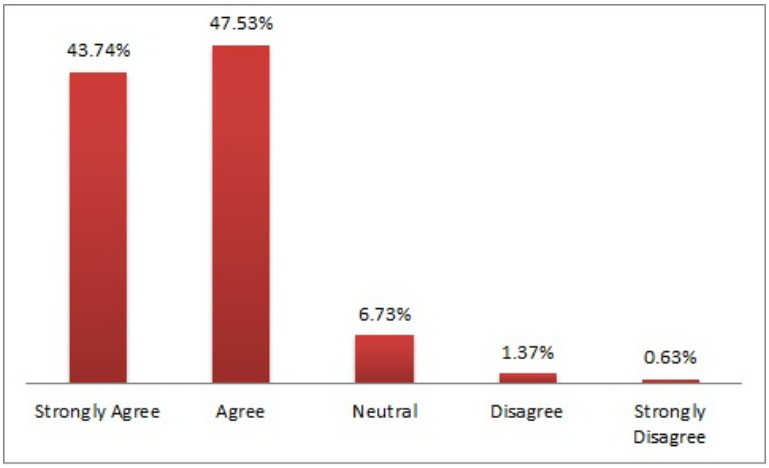
APPENDIX A: STUDENT SURVEY EXCERPTS

955 Surveys Completed

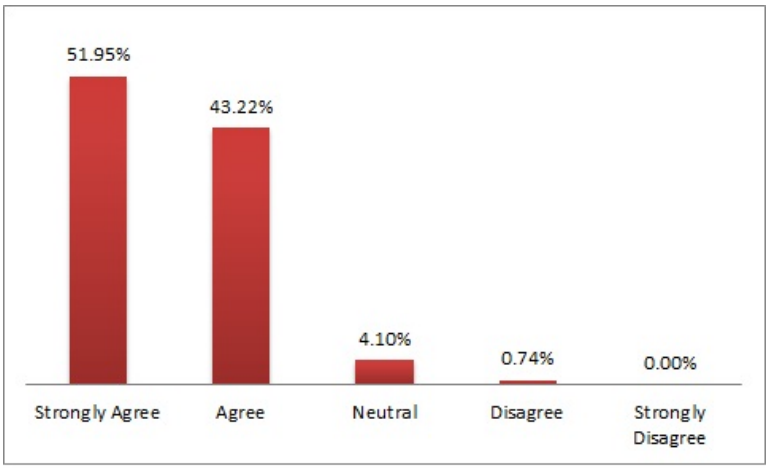
Survey Item 3: This was an enjoyable activity.



Survey Item 4: I learned something new about the library.



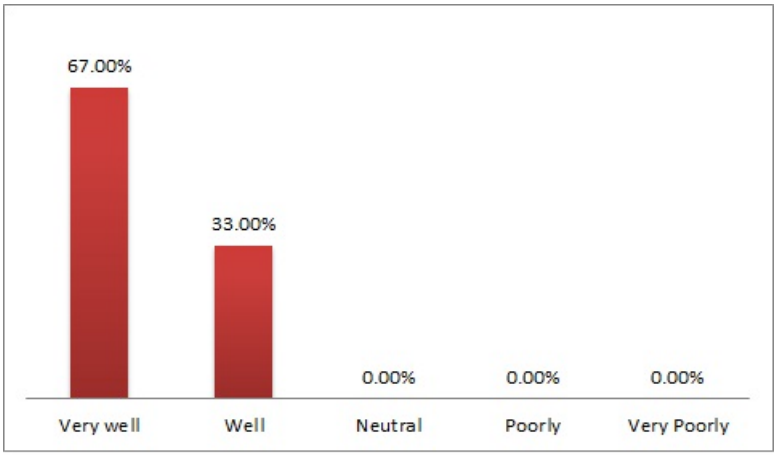
Survey Item 7: I feel comfortable asking a library staff member for help.



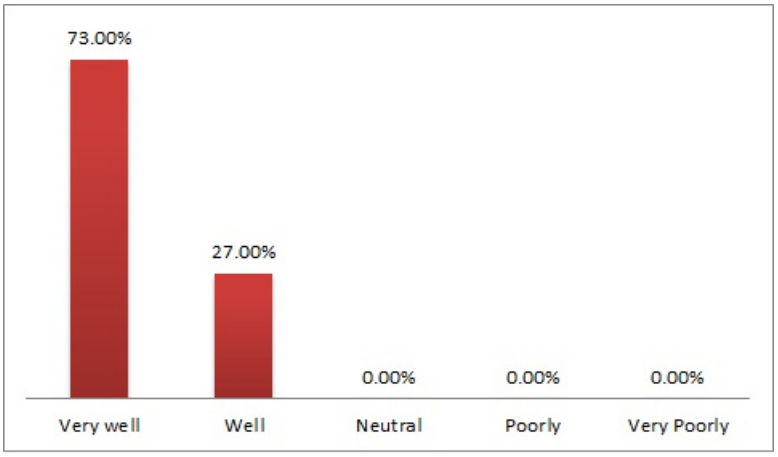
APPENDIX B: FACULTY SURVEY EXCERPTS

15 Surveys Completed

Survey Item 4: How well do you believe the scavenger hunt met its objective to decrease library related anxiety?



Survey Item 5: How well do you believe the scavenger hunt met its objective to increase awareness of library resources and services?



Survey Item 4: How well do you believe the scavenger hunt met its objective to aid students in navigating library spaces?