

# Expanding Library iPad Instruction:

## Developing and Analyzing a Mobile Technology Curriculum for First Year Clinical Students

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- **UNTHSC campus profile:** Graduate level degree and professional certificate programs:
  - Texas College of Osteopathic Medicine (TCOM)
  - School of Health Professions (PA and PT)
  - School of Public Health
  - Graduate School of Biomedical Sciences
  - UNT System College of Pharmacy (Fall 2013)
- **Campus enrollment:** As of the Fall 2012 Census date enrollment was 1,908 students.
- **Lewis Library:** At the time of this study, Lewis Library employed 11 professional librarians, one of which was the Instruction Librarian for the campus.

### Setting

1

- **Purpose of Study:** To capture student perception and review the curriculum plan developed to meet the needs of first year clinical students required to purchase an iPad as part of the campus technology bundle for the 2012-2013 academic year.
- **Area of Library Instructional Focus:** In collaboration with the university's IT department, two areas of focus were determined to fall under the instruction purview of the library: **Research** and **Point-of-Care Tools**.
- **Course Development:** A face-to-face course was created to guide users to iPad specific research and biomedical resources, increase proficiency with these tools, and enhance the students' knowledge of research methodology.

### Objective

2

- **Literature Review:** In order to create an effective instructional session and valid research study, a comprehensive review of the current scholarly literature was employed.
- **Institutional Review Board (IRB):** The Instruction Librarian received training in the protection of human subjects and IRB approval prior to teaching the course and administering the surveys.
- **Survey Instrument:** Statistics regarding user experience, training effectiveness, and preliminary mobile usage data were collected and analyzed to determine the perceived impact of device implementation and the inaugural class session.

### Methods

3

- Efficiency in accessing medical information is critical and it is the role of library instruction to assist in this process (Lofin, 1983).
- The evolving role of research libraries will be to facilitate critical thinking and in order to do this, libraries should embrace "the technological tools of information discovery," (Heath, 2009).
- "Librarians have a role in educating not just about information resources but about tools to manage information," (Mu, 2011).
- The emergence of iPad technology in an academic setting was apparent by the 2010-2011 year. That year, about half of the students at Stanford's School of Medicine stopped using their university-issued iPads after the first few weeks of the semester. This led instructors to rethink their approach and search for unique and creative ways that mobile technology could improve the student experience, (Fischman & Keller, 2012).
- Utility of iPad technology in medical schools and with clinical students can include unique approaches to areas of study such as anatomy because of the capability of students to "draw and annotate structures with their fingers." The portability of these devices allow for review of complex procedures bedside, (Fischman & Keller 2012).

### Literature Review Summary

4

#### Curriculum Design Steps=1 Hour Class Session

1. Participated in Abilene Christian University's Connected Open House: April 5, 2012
2. Reviewed the ACU 2010-2011 Mobile-Learning Report
3. Collaborated with UNTHSC IT Department
4. Curriculum and Class Session Development:
  - Analysis of Lewis Library mobile optimized resources for research and patient care
  - Mobile technology, tablet, and iPad training for library staff
  - Division of course material, including instructions for downloading relevant apps, into two distinct course modules: **Lewis Library Research Resources** and **Point-of-Care Tools**
  - **Surveys attempted to measure if there was:**
    - An increase in familiarity with mobile technology
    - Understanding of information literacy concepts
    - Comprehension of search strategies
    - Awareness of library resources
    - An increase in familiarity with Lewis Library's website
    - Difficulty accessing the wireless student network
  - Incorporated information literacy, basics of database searching, and evaluating sources of information into course content
5. Course sessions included:
  - A tour of the Lewis Library website
  - Introduction of recommended mobile-optimized resources and the Mobile Health Research Guide
  - Installation/usage instructions for point-of-care apps such as DynaMed and Micromedex

#### Summary of Survey Results

**Statistically significant results:** All subjects (n=15) stated they were not familiar with medical apps and performing scholarly research on a mobile device prior to the class session.

Student perceived understanding increased significantly following the class with all students indicating they **"agree"** or **"strongly agree"** with a statement on the post assessment about their knowledge from attending the course.

**80% of attendees** had previous experience with mobile technology. Among those, most **(75%)** have or currently use another Apple product.

**More than half** of the attendees had questions about the library that they would use the iPad to look up, including hours and class offerings.

#### Summary of Student Comments

*"I would like to know more about the regulation of medical apps. You mentioned how to evaluate them for quality, but can anyone develop a medical app?"*

*"You showed us several PubMed apps and how to use them. Is there one that is better than another?"*

*"Couldn't log on to wireless network."*

*"Very informative class!!!! Will there be more like it later in the program?"*

5

6



- **Small sample size:** n=15 out of > 350 incoming clinical students
- **Low overall student participation:** Non-mandatory class offerings
- **Timing:** These optional classes were held on the last "free" Friday before the semester began
- **Program infancy:** No longitudinal data for comparison
- **Limited evaluation:** A more comprehensive analysis of student competency and skills improvement would be needed to further explore instructional impact
- **Lack of blended instructional delivery (i.e. Blackboard LMS):** Only held campus sessions

### Limitations

7

- **Suggestions for Practice:** Due to time constraints and other variables, library instruction must continue to expand the curriculum that includes mobile technology as mobile device use by clinical and public health graduate students increases.
- **Increase student attendance** by considering it to be a prerequisite to receiving the device.
- **Longitudinal Statistics:** Comparisons of library website access from a mobile device before and after iPad implementation as well as further development of instruction sessions, curricular design, and instructional impact are areas to explore with future research.

### Conclusions and Future Study

8

Lewis Library Mobile Health Research Guide and Scholarly Repository Links  
<http://library2.hsc.unt.edu/sp/subjects/guide.php?subject=MobileHealth>  
<http://digitalcommons.hsc.unt.edu>



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