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Navigating the Digital Divide: A Teaching-Learning Initiative with the iPad2

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Background

The use of technology in nursing education has grown exponentially in the first decade of the 21st century. Personal digital devices (PDDs) are currently being used in classrooms and clinical settings for education purposes. At the Jefferson School of Nursing, PDDs were introduced into the undergraduate curriculum more than five years ago. Implementation focused on the use of PDDs by students for referential knowledge. The use of PDDs by faculty varied from course to course along a continuum from faculty not using the PDD to faculty leveraging the device as a teaching-learning tool. Consequently, the variations among PDD implementation were great.

While much has been written to describe how the devices are being used for referential knowledge, there is limited evidence on the academic benefits. In addition, mobile computing options and educational applications have increased in the last five years. It is time to move from the PDD as a tool used solely for accessing referential works, to a tool that comprehensively integrates technology with teaching-learning strategies for the 21st century in all aspects of the undergraduate nursing curriculum.

Infrastructure

The first steps in the iPad2 integration project was securing needed human and technology resources:

- Identifying and establishing required infrastructure and system requirements including campus network considerations such as wireless access spots and upgrades to classrooms, IT support, student access to home computing for syncing, access to iTunes account, manufacturer's service agreement, and device battery life of 8-10 hours
- Securing funding support via grant and university support
- Revising policy and procedures that address mobile computing in the classroom, simulation, and clinical areas in regards to infection control, loss prevention, and password protection
- Purchasing iPad2 devices and service agreements
- Defining required and recommended applications and costs

Vendors

Book and product vendors were essential partners; for example:

- Apple support for training and troubleshooting such as online tutorials, manuals, genius bar
- Book store for purchasing and device distribution, e-text procurement, iPad2 accessories
- E-text publisher for purchasing, downloading, training, and troubleshooting and rights for conversion of clinical nursing skills videos from flash to iPad2
- Clinical companion software, such as medication and laboratory guides, for iPad2 compatibility
- Software apps for the iPad2 to support nursing education

Purpose

The purpose of this poster is to describe the infrastructure requirements and transition process of moving from PDD use for referential knowledge, to the iPad2 offering richer teaching-learning resources in the classroom, simulation/laboratory environment, and clinical setting. Considerations included: 1) preparing an introductory letter to students with system requirements for iPad2 use; 2) developing iPad2 student and faculty user manuals; 3) revising current PDD policies; 4) purchasing iPads and service agreement; 5) identifying and establishing required infrastructure; 6) supporting faculty development and integration needs; 7) securing needed human and technology resources; 8) defining required and recommended applications and their costs; and 9) working with book and product vendors to access educational resources on the iPad2.

Faculty Development and Curricular Integration

An integral step was faculty development and curricular integration such as:

- Planning and conducting a comprehensive faculty orientation
- Developing and distributing a faculty user manual and an initial set-up checklist
- Offering support sessions and as needed 1:1 support and training
- Brainstorming integration techniques such as classroom polling via audience response, computer-based testing on the iPad2, VGA adapter to share screen with class, Face-time technology for live video expert conferencing, interactive lecture content via various apps (med calc conversion, care planning and concept mapping, note taking, journal article searching)
- Supporting simulation/ laboratory/ clinical integration via nursing skill videos, clinical evaluations, clinical companion guides, and referential support
- Developing and administering evaluation methodology (i.e., satisfaction surveys, focus group data)

Student Distribution Plan and Technology Support

An important step in the project was communication and support for students such as:

- Preparing a student introductory letter outlining system requirements, purchasing procedures through the university bookstore, review of expectations, and orientation schedule
- Planning and conducting a student orientation program that included support for 1:1 troubleshooting throughout the semester and academic year and availability of 24/7 IT call center
- Developing and distributing a user manual and checklist
- Identifying student "super users" to facilitate an online discussion forum for support, troubleshooting, sharing best practices and updates
- Developing and administering evaluation methodology (i.e., satisfaction surveys, focus group data)