Planning and integrating tablet computing in an accelerated nursing curriculum.

Anthony J. Frisby, PhD  
*Thomas Jefferson University*

Kellie Smith, EdD, RN  
*Thomas Jefferson University*

Kathryn Shaffer, MSN, RN  
*Thomas Jefferson University*

Mary Hanson-Zalot, MSN, RN, AOCN  
*Thomas Jefferson University*

Beth Ann Swan, PhD, CRNP, FAAN  
*Thomas Jefferson University*

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PLANNING AND INTEGRATING TABLET COMPUTING TECHNOLOGY IN AN ACCELERATED NURSING CURRICULUM

ANTHONY J FRISBY PhD
KELLIE SMITH EdD RN
KATHRYN SHAFFER MSN RN
MARY HANSON-ZALOT MSN RN AOCN
BETH ANN SWAN PhD CRNP FAAN
Project Origin

- Educational Technologies Advisory Group
  - Includes one representative and one alternate from:
    - Library
    - Education Services
    - JeffIT
    - JCGS, JMC, JSHP, JSN, JSP, JSPH
Project Origin

- Educational Technologies Advisory Group
  - Charged with reviewing, evaluating and recommending new instructional technologies
  - Was considering how tablet computing could enhance student learning, access to information, and potential for assessment
Project Origin

- Educational Technologies Advisory Group
  - Went from everyone wanting to work with them…
  - Down to nursing alone once we asked for specifics on how it would be incorporated into the program
JSN Background

- Since 1891, Jefferson has educated women and men as highly respected nurse clinicians, educators, and researchers.

- Jefferson School of Nursing offers a distinguished educational program that combines research and technology with compassionate care. We are one of six colleges and schools dedicated to health sciences education and research at Thomas Jefferson University.

- Jefferson’s patient-centered model of healthcare education brings future nurses, pharmacists, physicians, therapists and technologists into the same classrooms and simulated clinical settings. Training together using the latest technologies in realistic environments gives students the knowledge, experience, and mindset to be successful members – and leaders – of the integrated healthcare team.
Pilot Project: JSN FACT Cohort

- The Facilitated Academic Coursework Track (FACT) is for highly talented students who already hold a bachelor’s degree in a field other than nursing. FACT students earn the BSN degree in 12 consecutive months of intensive full-time study.

- Students accepted into this program option are admitted to both the undergraduate and graduate programs. During the program’s undergraduate phase, students earn 55-credits, and an additional 9 graduate credits at JSN. Students are scheduled for theory course content two days per week; and clinical practicum experience 24 hours per week. This schedule allows time to integrate theoretical concepts and constructs into clinical practice. Clinical hours may include evenings and weekends.

- At the end of the program, students take the state nursing licensing exam and if successful, select their specialty area in the MSN specialty they wish to pursue.
Jefferson School of Nursing has included using a personal digital device (qualified smartphone, PDA or iPod Touch) in its curriculum for several years.

These devices are used in the classroom, simulation laboratories and clinical setting.

The content made available on these devices was from Unbound Medicine – Nursing Central. It included:
Premier Nursing Resource

Nursing Central™ is the premier source of disease, drug, and test information for nurses. Five trusted references, including a leading medical dictionary and literature searching, make finding answers and improving patient care easy. Learn More...

Search Nursing Central

Browse

- Davis's Drug Guide
- Davis's Lab & Diagnostic Tests
- Diseases and Disorders
- MEDLINE Journals, Selected
- Taber's, 21st Edition

Nursing Central™ for Mobile Devices

Nursing Central, available for iPhone®, BlackBerry®, Android™ and Windows Phone® is optimized for each platform and features superior navigation, so answers are easy to find at the bedside or anywhere they’re needed.

Download Nursing Central
Project Objectives

1. Evaluate the usability of the iPad as single tool for accessing instructional materials used in the nursing curriculum.
2. Measure student and faculty satisfaction with using the iPad.
3. Measure student satisfaction with wireless access in the lecture hall, simulation laboratories, library and clinical sites.
4. Evaluate use of the iPad as an audience response tool, compared to the use of the handheld "clickers" used the previous year.
5. Evaluate the use of the iPad as a clinical reference tool, compared to the use of the PDD used the previous year.
6. Evaluate the use of the iPad as an assessment tool for exams in Blackboard.
7. Evaluate the usability of the iPad as single tool for accessing instructional materials used in the nursing curriculum.
Project Support

- Chief Information Officer provided funding to help offset the student cost of purchasing iPad2.
- School of Nursing Dean provided funding to purchase faculty devices.
- Education Services and University IT provided support services for faculty and student training and development.
Campus Support Services

- Classroom and library support are provided by AISR (Academic & Instructional Support & Resources)
- JeffIT is our infrastructure group responsible for wireless network, desktop computers, enterprise systems, etc.
- Together this group tested the wireless availability in the classrooms and identified where increases in services would be needed (everywhere!)
- Additional access points were installed in the classrooms and a support team of personal from both groups would be available on the first and second days to help make sure students were able to get the iPads onto the network, sign into the email and Blackboard accounts, and provide help with any apps the students were having trouble with.
Faculty Support

- Timing – iPad2 just released
- User Manual
- Setup (campus wifi network, e-mail, calendar, etc) and ongoing support/troubleshooting
- Meaningful Use – everybody hopes for it
  - Instant access to text books
  - Include searching web in class activities
  - TurningPoint for interaction and attendance
  - Drug dosing calculations
  - Heart sounds
  - Testing
  - Clinical companion resource
Student Support

- iPad distribution with the bookstore
- Orientation workshop and User Manual
- Getting onto the wireless network
- Setting up email
- Configuring the TurningPoint and Nursing Central applications
There’s an app for that…

- Required
  - Nursing Central (purchased by students)
  - Kaplan (via Safari)
  - Elsevier’s Vital Bookshelf (for ebooks, app is free)
  - TurningPoint ResponseWare (paid for by JSN)
There’s an app for that…

- Recommended by us
  - Find my iPhone/iPad (free)
  - DropBox (free)
  - NCLEX-RN Quiz Cards ($2.99)
  - Blackboard Mobile Learn (free)
  - MedLab Tutor (free)
  - Mnemonics ($1.99)
  - Pages ($9.99)
  - Keynote ($9.99)
  - iStethoscope Pro ($.99) or iAuscultate ($.99)
  - iAnnotate ($9.99) or Noterize (free)
Also Required/Recommended

- Passcode Lock (required)
- Wallpaper image with name and contact information (recommended)
- Erase Data on 10 failed passcode attempts (required)
iPad Launch Site
Student Organization

Mon, May 16, 2011 -- Welcome to FACT Class of 2012!

Posted by: Karen Papantrat
Video Demonstrations

- Video Demonstrations
  - Installing iTunes
  - Launching iTunes
  - Editing a photo for your lock screen wallpaper
  - Setup your lockscreen
  - How to setup Find my iPad
  - Registering your ResponseWare Device: [RegisteringTPResponseWare_demo.zip](#) (Package File)
Discussion Groups: Support

Welcome FACT Class of 2012,

Post your questions here!

Need an answer to your questions? Post questions here and read through the postings for more valuable information! This iPad student-to-students support site offers you an opportunity to use the discussion board format to help you to become familiar with iPad technology, and get quick answers and information from your colleague related to the iPad, electronic information, e-books, app, resources and more for your iPad.

How to post to the DISCUSSION BOARD:

Select the highlighted word link "FORUM", which will launch you into the discussion board. To submit your answer, select "ADD A NEW THREAD" and then, type in your response and then, be sure to click on "SUBMIT". To view your fellow student responses click on the response and read. You may chose to reply to their response by selecting the “Reply” tab at the bottom of the screen and then "SUBMIT" to post it or cancel.

How to send a group or individual EMAIL:

Go the the "Communication Tab," left hand side, under tools. Select "send email" to all users or to selected users.

A special recognition and thank you to the FACT student "super-users" who volunteered to assist and help guide their fellow students!

Rick McEwan
Amber Tran
Tony Pinto
Chamaio Cheyenne-Rindge
Eric Elencko
Christina Furia
Tiffany Fearone

Karen Papastrat, Asst. Dean Senior Level
## Discussion Groups: Apps

<table>
<thead>
<tr>
<th>Thread</th>
<th>Author</th>
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<tbody>
<tr>
<td>Love Notarize</td>
<td>Jillian Bird</td>
<td>5/24/11 9:27 PM</td>
</tr>
<tr>
<td>RE: Love Notarize</td>
<td>Anne Spiegelman</td>
<td>6/4/11 9:18 PM</td>
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<tr>
<td>RE: Love Notarize</td>
<td>Jillian Bird</td>
<td>6/5/11 10:36 PM</td>
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<td>RE: Love Notarize</td>
<td>Jillian Bird</td>
<td>6/5/11 10:37 PM</td>
</tr>
<tr>
<td>RE: Love Notarize</td>
<td>Jillian Bird</td>
<td>6/5/11 10:37 PM</td>
</tr>
<tr>
<td>Applications that may peak your interest</td>
<td>Amber Tran</td>
<td>5/30/11 12:23 PM</td>
</tr>
</tbody>
</table>
Evaluation

- Student Demographic and Orientation Surveys
- Student and Faculty Satisfaction Surveys
- Student and Faculty Focus Groups
- Classroom Observation
- Course Evaluations
Next…

- We are continuing with the FACT program again this year – new ebook provider.
- We are expanding to the traditional undergraduate program (entering students, not required for seniors)
- We are expanding to the DNP
- And we’re moving to an alternative eBook source, Kno.
Next: Changing from Elsevier Vital Source Bookshelf to Kno
Next: Changing from Elsevier Vital Source Bookshelf to Kno
Next: Changing from Elsevier Vital Source Bookshelf to Kno
rational for the ROM exercises, and describe and demonstrate exercises to be performed.

4. Assess patient’s level of comfort (on a scale of 0 to 10 with 10 being the worst pain) before exercises. Determine if patient would benefit from pain medication before beginning ROM exercises.

5. Wear clean gloves if wound drainage or skin lesions are present.

6. Assist the patient to a comfortable position, preferably sitting or lying down.

7. When performing active-assisted or passive ROM exercises (Table 10-2, p. 232), support joint by holding distal portion of extremity or using cupped hand to support joint (see illustration).

STEP 7  A. Support joint by holding distal and proximal areas adjacent to joint. B. Support joint by cradling distal portion of extremity. C. Use cupped hand to support joint.

- Orthodox Jews may not be able to operate a continuous passive motion (CPM) machine during Sabbath and Holy Days.
- Consider the patient’s ability to tolerate the CPM machine.
- Name should be responsible for turning the CPM machine on and off during the Sabbath and Holy Days (Goldstein, 2011).
- Use gender-congruent care to apply elastic stockings and sequential compression devices for women from cultures that emphasize female modesty. Hindus, Muslims, and Orthodox women may not comply with the treatment measures for fear of being exposed to the opposite sex.
- Most elderly Asian, Hispanic, and African women prefer to bare their legs and thighs only to other women.
- Provide for female privacy when assisting patients with ambulation.
- Muslim females tend to be fully covered when in public because of the emphasis on hijab; or female modesty (Simpson and others, 2008).
- Southeast Asian women such as Cambodians, Vietnamese, and Laotians severely restrict exposure of their lower torsos and will only use amulets unless properly dressed.

Skill Performance Guidelines

- Check the physician’s order to determine the patient’s activity level and type of exercises or assistive device.

PROCEDURAL GUIDELINE 10-1 Performing Range-of-Motion Exercises

**Rationale:** To maintain joint motion, prevent stiffness, and maintain muscle tone.

**Equipment**

- No mechanical or physical equipment needed
- Clean gloves (optional)

**Procedural Steps**

1. Review patient’s chart for physical assessment findings, physical therapy, and other medical history.
2. Obtain data on patient’s baseline joint function.
3. Determine the patient’s joint range of motion and provide instructions on how to perform the exercise.
4. Assist patient in a comfortable position, preferably sitting or lying down.
5. Check for any limitations, restrictions, or contraindications that may affect ROM.
6. Begin the exercise by gently moving the joint through its full range of motion.
7. Repeat the exercise several times, gradually increasing the range of motion.
8. If necessary, use assistive devices or modifications to facilitate the exercise.
9. Monitor the patient’s response and adjust the exercise as needed.
10. Document the patient’s progress and any changes in joint function.

**Delegation Considerations**

- The nurse may delegate the task of performing ROM exercises to a qualified individual, such as a physical therapist or a registered nurse.
- The nurse should ensure that the individual performing the exercise is properly trained and knowledgeable about the patient’s medical condition.

**Conclusion**

- Document the patient’s response and any changes in joint function.
- Notify the primary care provider of any significant changes or concerns.
- Encourage the patient to maintain regular ROM exercises as prescribed by the healthcare provider.
- Educate the patient on the importance of maintaining joint mobility and the benefits of regular exercise.

Continued
No way back from here, have to go to table of contents.
Next: Changing from Elsevier Vital Source Bookshelf to Kno

4. Assess patient’s level of comfort (on a scale of 0 to 10 with 10 being the worst pain) before exercises. Determine if patient would benefit from pain medication before beginning ROM exercises.

5. Wear clean gloves if wound drainage or skin lesions are present.

6. Assist the patient to a preferably sitting or lying down position.

7. When performing active-assisted or passive ROM exercises, support joint by holding distal portion of extremity or using cupped hand to support joint (see illustration).

STEP 7
A. Support joint by holding distal and proximal areas adjacent to joint. B. Support joint by cradling distal portion of extremity. C. Use cupped hand to support joint.

PROCEDURAL GUIDELINE 10-1 Performing Range-of-Motion Exercises

R ruth must be active, passive, or active-assisted. Active movement is exerted by voluntary muscle contraction and may influence the range of motion. Passive movement is performed by the examiner using a combination of passive and active motion. Active-passive movement is a compromise between active and passive motion.

Delegation Considerations

1. Review patient’s chart for physical assessment findings, physician’s orders, medical diagnosis, medical history, and progress notes.
2. Obtain order from primary care provider (PCP). Ensure that the order is clear and specific, including the joint(s) to be exercised, the movement to be performed, and any precautions to be taken.
3. Review patient’s medical history and identify any contraindications or limitations to ROM exercises.
4. Monitor patient’s comfort and adjust exercise parameters as needed.
5. Assess patient’s pain tolerance and adjust exercise parameters as needed.

Equipment

1. No mechanical or physical equipment needed.
2. Clean gloves (optional)

Procedural Steps

1. Identify the affected joint and the range of motion to be performed.
2. Explain the procedure to the patient and obtain informed consent.
3. Position the patient in a comfortable and stable manner.
4. Perform the ROM exercises in a controlled and gradual manner.
5. Monitor the patient’s response to the exercises and adjust as needed.

Continued
rationales for the ROM exercises, and describe and demonstrate exercises to be performed.

4. Assess patient’s level of comfort (on a scale of 0 to 10 with 0 being the worst pain) before exercises. Determine if patient would benefit from pain medication before beginning ROM exercises.

5. Wear clean gloves if wound drainage or skin lesions are present.

6. Assist the patient to a comfortable position, preferably sitting or lying down.

7. When performing active-assisted or passive ROM exercises (Table 10-12, p. 232), support joint by holding distal portion of extremity or using cupped hand to support joint (see illustration).

**STEP 7**

A. Support joint by holding distal and proximal areas adjacent to joint. B. Support joint by cradling distal portion of extremity. C. Use cupped hand to support joint.

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**PROCEDURAL GUIDELINE 10-1**

Performing Range-of-Motion Exercises

**Basic / Safe Patient Handling / Performing Range-of-Motion Exercises**

- ROM exercises may be active, passive, or active-assisted. They are active if the patient is able to perform the exercise independently and passive if the exercises are performed by the patient by the caregiver. In every aspect of activities of daily living (ADLs), encourage the patient to be as independent as possible. Active and passive ROM exercises are encouraged and supervised every day by the nurse. Incorporate active ROM exercises in the patient’s ADLs (Table 10-1, p. 211). Incorporate passive ROM into bathing and feeding activities. Collaborate with the patient to develop a schedule for ROM activities.

**Delegation Considerations**

The skill of performing ROM exercises can be delegated to nursing assistant personnel (NAP). Patients with spinal cord or orthopedic trauma usually require exercise by professional nurses or physical therapists. The nurse directs the NAP by:

- Surrounding the patient closely and ensuring adequate support for each joint being exercised.
- Continuing to exercise joints beyond the point of resistance or to the point of fatigue or pain.
- Discussing the patient’s individual limitations or preexisting conditions such as arthritis that may affect ROM.
- Knowing the patient’s current medical history and any contraindications or limits to exercise.

1. Know the patient’s past medical history. Know why the patient needs assistance with ambulation and any contraindications or limits to exercise.

2. Know the patient’s normal range for vital signs. Vital signs are usually within normal limits, but be alert for variations and abnormal values.

3. Assess baseline vital signs. This determines whether range-of-motion (ROM) exercises are needed and provides a baseline for comparison of joint function after ROM exercises are performed.

4. Assess baseline muscle strength. The patient may need muscle-strengthening exercises before ambulation.

5. Prepare the patient. Make sure the patient is using proper padding. Offer extra padding to assist with pressure distribution and to keep the patient’s skin dry and clean.

6. Address the patient’s fear of falling if possible.

7. Determine the type and frequency of intervention. Activity that is appropriate for one patient may not be appropriate for another. Each patient is different, and the frequency of intervention may vary.

8. Know the patient’s home care plan. The patient may need to continue the exercise regimen or use an assistive device at home.
Next: Changing from Elsevier Vital Source Bookshelf to Kno

- Kno collects the highlights I make and builds a “journal” I can use for review.
Q & A

Contact information:

Anthony.Frisby@jefferson.edu
Kellie.Smith@jefferson.edu