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Using mlearning in the education of radiation science students

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Using mLearning in the Education of Radiation Science Students

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Introduction

Radiation science is a highly visual field that is constantly evolving due to technological advances. Technology has significantly improved almost all aspects of the field over the past 10-15 years. These advances in technology have also played a significant role in the education of radiation science students didactically and clinically.

The enormous increase in the capabilities of information technology provides the opportunity for educators to dramatically change their way of teaching.¹ mLearning or mobile learning involves the use of mobile devices (i.e. personal digital assistants, smart phones, iPhones, iTouch, iPad, laptops and tablets) to enhance teaching and learning. The most significant advantage of mLearning is the mobility of the technology which allows for unlimited, immediate and continuous access to course materials.

The goal of this initial research is to discuss the implementation of mobile learning, specifically through the use of the Apple iTouch, into the education of radiation science students.

Methods

Twenty six students who matriculated into the radiation science programs in the Fall of 2011 were provided with an Apple iTouch to utilize in both the clinical and didactic setting. The primary educational programs and applications investigated along with their usage and student feedback can be found in Table 1.

Table 1: Focus Group Findings

Application	Use	Student Feedback Pros	Student Feedback Cons	Overall impression
Poll Everywhere	<ul style="list-style-type: none"> Utilized in the classroom setting to review case studies & course material using real-time polling 	<ul style="list-style-type: none"> Interactive learning environment Engages students & promotes discussion Immediate feedback 	<ul style="list-style-type: none"> Difficult for distance students to connect Initial issues with technology interface using iTouch 	Overall students felt that this was a beneficial learning tool when used in the classroom.
Skeletal 3D (Figure 1)	<ul style="list-style-type: none"> Utilized independently by students as a study tool for anatomy course 	<ul style="list-style-type: none"> Beneficial app for drill & practice exercises for Anatomy 	<ul style="list-style-type: none"> None given 	Overall students felt that apps that can assist with studying were beneficial; skeletal 3D was one of their preferred applications.
Trajecsys	<ul style="list-style-type: none"> Utilized in the clinical setting as a reporting system 	<ul style="list-style-type: none"> Very useful to keep electronic record of clinical activity Convenient 	<ul style="list-style-type: none"> Screen is too small to use Trajecsys on the iTouch Students were very concerned about the patient/clinical staff perception of using the iTouch in the clinical setting 	The Trajecsys system overall was well liked, although use on the iTouch was not viewed as being beneficial. Students/clinical staff both preferred using the computer; suggested using an iPad.
iRadTech (Figure 2)	<ul style="list-style-type: none"> Utilized in the clinical setting as a resource for students 	<ul style="list-style-type: none"> Useful to use as a review during clinical & before test-outs Helpful when learning new exams 	<ul style="list-style-type: none"> Use of iTouch in the clinical can be viewed as "unprofessional" Easier to talk to a technologist about clinical related questions Internet connection can be limited at various clinical sites 	Overall students felt that the app was useful; although they were unsure if they would be willing to purchase it on their own to use as a reference.
Blackboard (Bb)	<ul style="list-style-type: none"> Utilized both in & out of class as a resource for students to access course information 	<ul style="list-style-type: none"> Useful to access course information & grades Students liked the ability to download presentations from Bb to study using their mobile device 	<ul style="list-style-type: none"> Wireless connection is needed to access on-line information 	The Bb application was one of the top rated applications by the students. They noted the ability to access course information at any given time as a value to them.

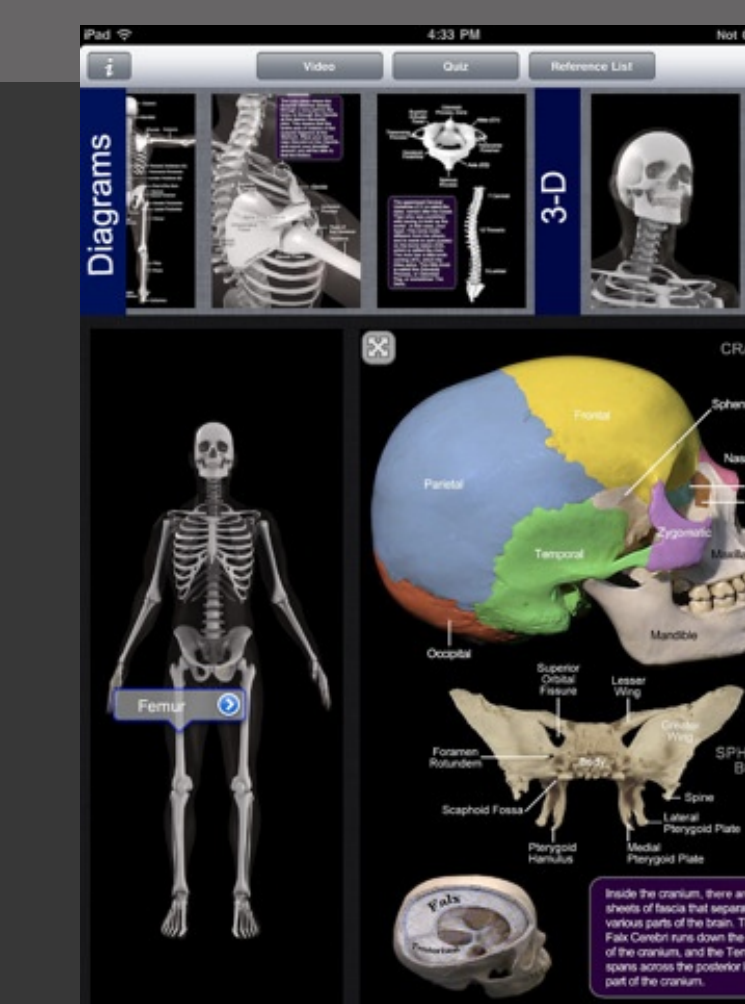


Figure 1. Skeletal 3D Application²

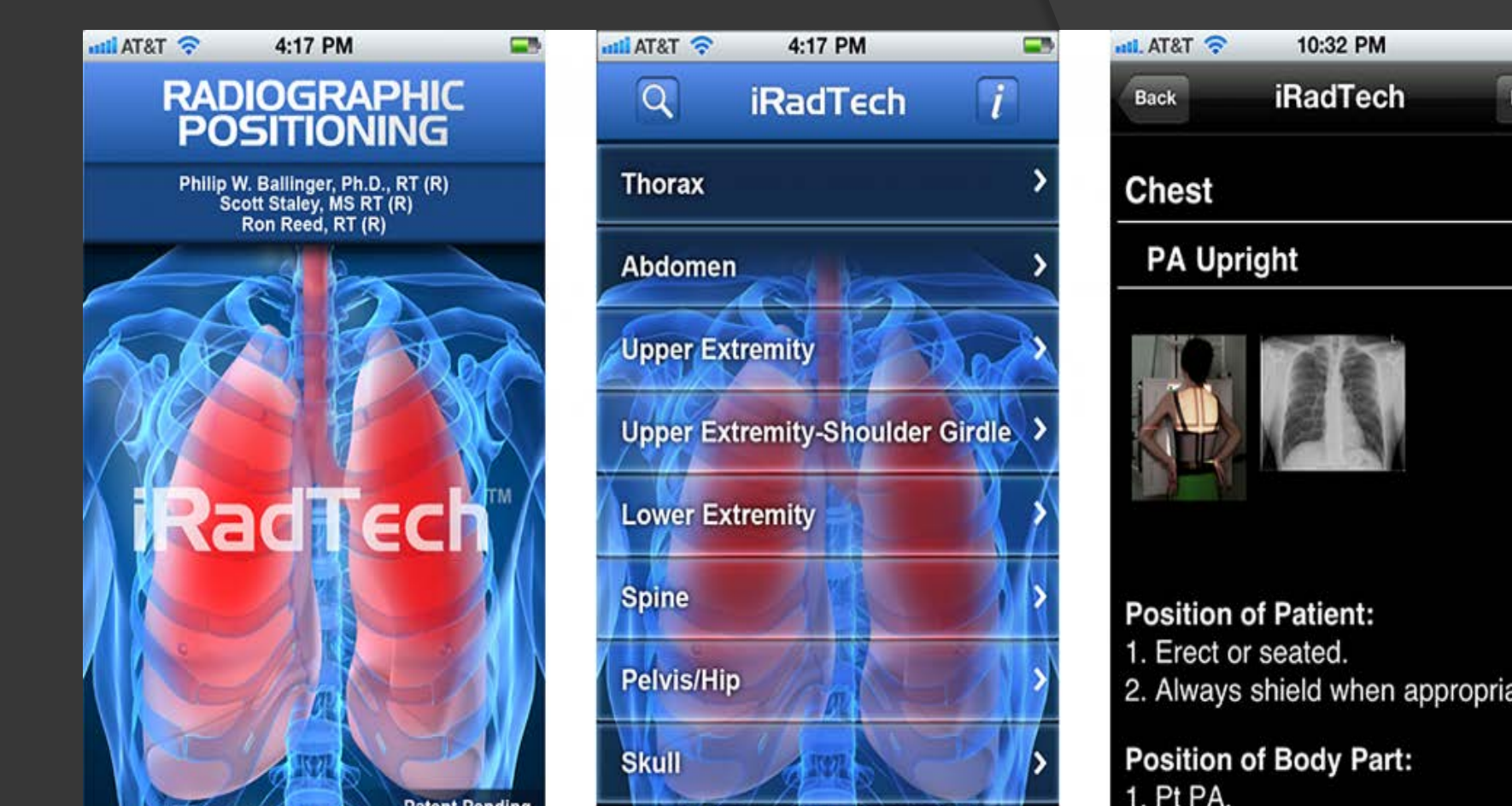


Figure 2. iRadTech Application³

Conclusion

Research on the use of mobile devices has been done in fields such as medicine and nursing; however, there is little research in the field of radiation science. More research is needed to determine how these devices can be used as an instructional aid and competency assessment tool for radiation science students.⁴ This preliminary study provides a platform for further research in this area. Research is currently underway to further explore the specific roles of mobile devices in the education of radiation science students along with the perceptions of student, faculty, and clinical staff on their use.

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