

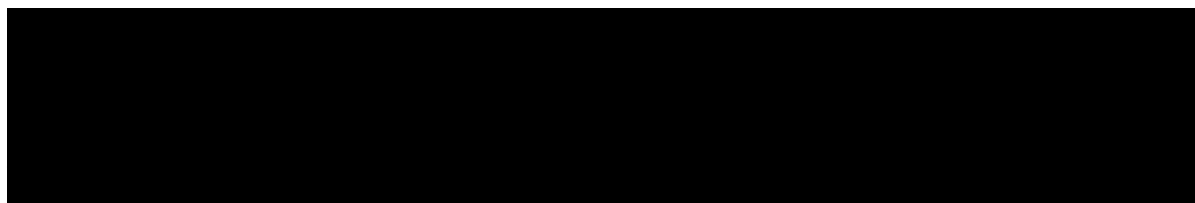
## **The influence of video review and iPad apps to enhance visual analysis of movement of the lower extremity**

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**Background:** Visual analysis of movement is both a quantitative and qualitative essential skill for a physical therapist. Physical therapists are challenged to comment on the qualities of the movement of their patients and also visually estimate the quantity of the joint angles to compare to what is optimally necessary for performance of that motion. The current philosophy for teaching visual analysis to students in the program in physical therapy is that the classroom environment should provide experiences that are transferable and usable in the clinic, and enhance the interaction and intervention with the patient. Despite its importance in the clinic, curricular models for the pedagogy for visual analysis in physical therapy are not explicit. However; insight from other professions has noted the increased effectiveness of visual analysis of movement when video review is available (Knudson, 2000). Technology is now available with the iPad mini and the "Ubersense" app that would allow physical therapists to use video review with slow motion options and joint angle calculations in the clinic to improve their clinical effectiveness in visual analysis of movement with their patients.

**Purpose:**

There were two identified research objectives:



movement.

**Study Procedures:** An IRB was submitted and approval received. Analysis of the data was initiated and is ongoing.

Twenty-two subjects, between the ages of 18–25 years, were recruited from a sample of convenience of students enrolled in the Kinesiology II course in the fall semester of the senior year curriculum in the Program in Physical Therapy at Saint Louis University. With the funds from the CTTL *Try It!* Summer Mini-Grant, 5 iPad minis were obtained. Four additional students who owned iPad minis were willing to participate in the study and were added to the experimental group. 11 students were recruited and placed in the control group. Both groups participated in all of the Kinesiology II labs practicing visual analysis of human movement as taught previously in courses within the Physical Therapy curriculum.

To fulfill the IRB, the lab worksheets were coded by a third faculty member. Discussions between the 3 faculty members involved in the study established a consensus model of scoring the worksheets. Scores were calculated and analyzed. The worksheet scoring had



In Question 4, there was < 10% increase in number of students in the control group and a 50% increase in the number of students using the iPad mini whose perception was improvement.

Q4: Rate your confidence in determining the sequence of the joints or region of the body during the execution of the movement.

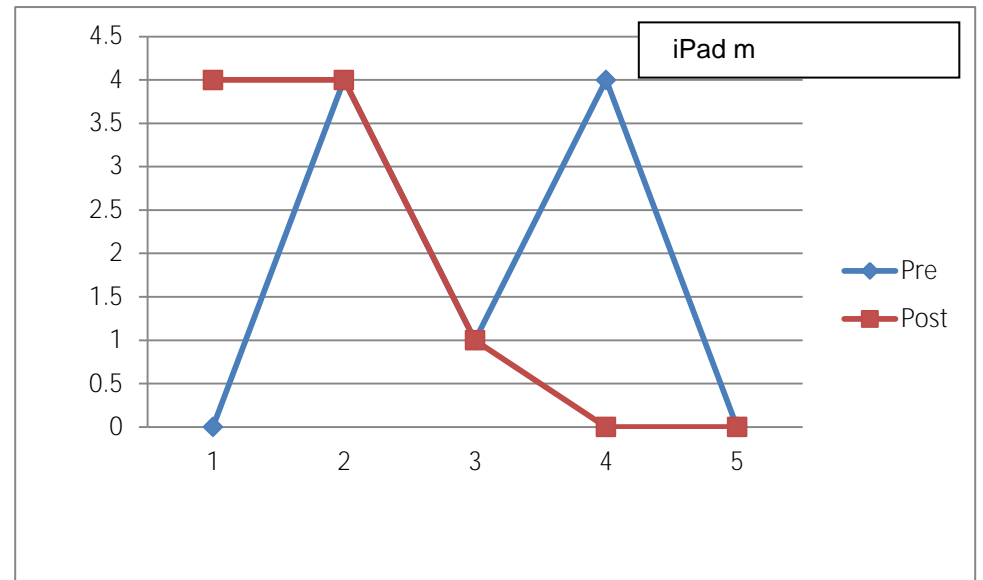
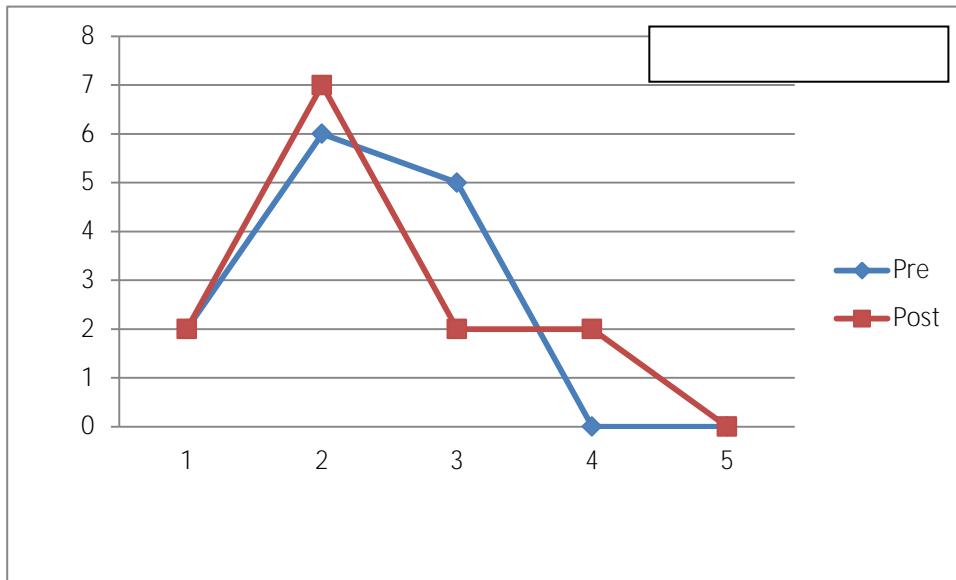


Figure 2

In Question 6, there was < 10% increase in number of students in the control group and 44% increase in the num



