Innovations in Teaching Using Technology grant 2015

Title of Proposal:
Video Modeling: Applying iPad Technology as an Instructional Strategy for Motor Skill Acquisition for Students with Disabilities.

Courses or curriculum affected:
Teaching Concepts of Adapted Physical Education (HPE 004521). As a component of this course, the Rowan Health and Exercise Science Teacher Certification students enrolled in the course are required to participate in the Rowan University and Kingsway Learning Center (Moorestown) Physical Activity Program. In this program, Kingsway Learning Center students, ages 14-21 who have a range of disabilities, attend a one hour session twice a week and learn motor and sport specific skills and participate in dances, games, and fitness activities. The Rowan students are in the role of instructor as skills are taught and as partners when skills are applied in games, dances, and fitness activities.

Name of applicant:
Dr. Theresa Purcell Cone, Department of Health and Exercise Science

Objectives of the proposal:
- Increase my knowledge and skills and the knowledge and skills of my students to apply technology as an instructional strategy for motor skill acquisition.
- Develop and implement a new course assignment that uses the iPad video modeling strategy as a teaching tool for teaching closed and open motor skills. Video modeling is an instructional strategy in which a student learns to perform a skill by watching a video of a skill demonstration. The demonstration needs to represent the actual skill performed as described in a lesson. The advantage of this strategy is that the student can replay the video for multiple viewings to reference how the skill is performed.
- Assess the impact of video modeling as an instructional strategy for students with disabilities to learn motor skills through video observation.
- Use video modeling as an assessment tool to video the student performing the skill and compare it to the modeled skill.
- The Rowan students will create a video that demonstrates how to perform specific sport skills while adding audio and printed cues. They will use iPad technology as the tool to film themselves or a peer, as the skill demonstrator, and add essential audio and text cues to support the skill technique. In the process of creating the video, they will make needed adjustments to create an effective video considering the environment, lighting, and camera angles that clearly demonstrate the skills, voice volume, and the skill performance sequence that impact the accuracy and effectiveness of the skill demonstration.
- The Rowan students will develop a set of instructions for the Kingsway Learning Center students on how to use the video to learn a skill.
- The Rowan students will develop an assessment instrument to gather information about their video and how it was used and the impact on skill acquisition.

- This instructional strategy will be shared with the Health and Exercise Science faculty and the Kingsway Learning Center faculty as an innovative instructional strategy for teaching motor skills to all students, with or without disabilities.

Description of the Specific Innovation:
Video modeling is an instructional strategy in which a student learns to perform a skill by watching a video of a planned skill demonstration that can be replayed for multiple viewings. This strategy has been used by educators primarily to teach social, daily life, or vocational skills to individuals with autism and intellectual disabilities. As an innovative instructional strategy, video modeling is a promising practice in motor skill learning for students with disabilities. Students can independently learn to operate the iPad to view the skill and the portability of the iPad in a gymnasium or outside facility makes this technology accessible for learning.

Process of Production and Implementation:

- The production and implementation of the iPad video is designed as a new course assignment that introduces iPad technology as a teaching tool for motor skills acquisition. To complete the assignment, students will be organized into a team of three or four and share one iPad to create one video. They will select a skill for the video content.
  - One option is to select a closed motor skill such as an overhand throw or a sport specific skill such as a volleyball serve. Closed skills are performed in a predictable environment with consistency to aid in learning how to reproduce the skill.
  - The second option is to select an open skill that occurs in a game situation such as fielding a ball hit from a bat or dodging a tagger in a tag game. Open skills are performed in an ever-changing environment where students need to make quick decisions to use the skill effectively.
- The Rowan students will develop a detailed description identifying the action sequence needed to perform the selected skill. They will include what happens first, second, third, etc. and what verbal cues (audio prompts) and text cues are needed to support the skill demonstration.
- Using the iPad they will explore the best viewing angle to record and view the essential skill components and how the environment, close ups, lighting, equipment, and space influence the skill performance accuracy.
- The Rowan students will plan and rehearse how they will present instructions and show the Kingsway Learning Center students how to operate the iPad and use the video to view the skill and then practice the skill live.
- The Rowan students will implement their video in a physical activity session with the Kingsway Learning Center students and assess its effectiveness on the student's skill acquisition using the assessment tool they developed. Results will be shared with all class members.

Benefits of Video modeling for students with disabilities:

- Increases focus on the skill performance because students are interested in visual representations as a strategy to gather information. Students can access multiple viewings of the skill to help with processing the sequence of actions.
- Learning through observing a skill is a successful learning strategy for many students with disabilities. The video modeling provides another opportunity for the students to learn through observation in contrast to live demonstration.
- Students can view a consistent repetition of the skill performed and replay the video as many times as needed to observe how to perform the skill.
- Students increase proficiency in performing motor skills and can compare their performance to the demonstration.
- Increases independence as a learner. The students can learn to operate the iPad, choose the number of repetitions, and perform the skill, and return to view the video again.

Required Instructional technology support

Technology support from Rowan would involve assistance with the process of purchasing 5 iPads and the Rowan tech support to help with initial set up of the iPad.

Plans for evaluating and sustaining the innovation

Evaluation:

The success of the innovation will be evaluated using the following criteria:

- The Rowan students have successfully collaborated as a group to plan, create, and implement a video of a motor skill or sport specific closed or open skill. Each group will create one skill video and implement it in the course class session and in the session with the students from the Kingsway Learning Center.
- Each group will complete a report of their development process, implementation procedures, assessment of the effectiveness of the video on learning the skill, and recommendations for changes to the assignment for the Spring 2016 semester.
- As the course professor, I will grade the Video modeling assignment based on the student's assignment report and through my observation of their implementation during the Physical Activity sessions with the Kingsway Learning Center students. I will also conduct informal interviews with the Kingsway Leaning Center students about their perceptions of learning a skill using the iPad. Modifications to the assignment will be made as a result of the Rowan students' recommendations, my observations, and the comments made by the Kingsway Learning Center students.

Sustainability:

This assignment will be piloted during the Fall 2015 semester and fully implemented in the Spring 2016 with the intention that this assignment will continue to develop as a required assignment in future semesters. As the Rowan students and I become more proficient in creating the videos, we will build a resource bank of videos that can be used as models and used to teach a variety of skills with the Kingsway Learning Center students.

Video modeling can also be applied to students without disabilities and the Rowan students will be able to share their experiences through a written report and verbal presentation to students in other classes and to the Health and Exercise Science Club members.

Proposed Budget:

Equipment:	Apple® - iPad® with Retina display with Wi-Fi - 16GB – Black
Source:	Best Buy http://goo.gl/sibsZ3
Quantity/Unit Cost:	5 @ $399.99
Total Cost:	$1999.95