

Title of Proposal: Sport Science Video Tutorials: *Students Mentoring Students*

Applicants: Dr. Gregory Biren and Dr. Jim McCall

Objectives of the Proposal

Students in the Department of Health and Exercise Science are engaged in a rigorous science oriented curriculum which prepares them for a variety of careers in the field of Exercise Science. Throughout the 19 years at Rowan University, Dr. Biren has found that students have significant difficulties learning and retaining the information they are being taught. The Department has had moderate success helping students through open laboratory experiences, peer tutoring, voice over PowerPoint presentations, and a variety of other teaching methods. Feedback from the students has been clear, they learn best when the combination of technology and peer tutoring are combined.

This project would utilize the creation of student developed video tutorials relating to the content taught in the Exercise Science courses. These videos would provide engaging interactive approaches to learning. The goal is to develop a comprehensive library of short video tutorials that support the content addressed in the Exercise Science courses. These courses include, but are not limited to:

- Structure and Function I and II
- Kinesiology
- Exercise Physiology
- Exercise for Special Populations
- Exercise Prescription
- Nutrition for Fitness
- Human Disease and Epidemiology
- EKG Interpretation and Pharmacology
- Applied Biomechanics

Both Dr. Biren and Dr. McCall have been working for two years with Rowan Global technology to develop a Sport Science website that provides a variety of interactive resources and would be able to house the library of video tutorials. As the website continues to develop, the need for quality video equipment has become evident. The quality of picture and sound is a critical component for student learning. This grant would provide funding for a quality video system that combines the critical components of a clear picture, good sound, and effective lighting.

Description of Specific Innovation

While there are online resources such as the Kahn Academy and youtube, they are not specific to what our students are learning in their courses. The proposed tutorials would review each major concept taught in the above courses. The most important aspect that addresses innovation is that each tutorial would be created by students that have already mastered the course and content.

Faculty would work closely with each student to ensure the content is correct and applicable to critical areas in their future career. For example, blood pressure screening is an essential health indicator and a skill that each student must master. A video tutorial developed by Health and Exercise Science (HES) students would not only demonstrate how to perform blood pressure, but also teach what it is, health issues associated with elevated pressures, and demonstrations on how to communicate findings to future patients and clients. When students are being taught this information by their peers, a greater connection to the content occurs. Students know how students learn best. They will understand approaches that connect with students and approaches that do not.

The innovation extends to the idea that all students in the department will have access at all times to learn any concept taught in any class. They will not have to wait to meet with professors or wait for them to return an email, or for the next class to begin. They will have instant access to support their learning needs.

Scalability

We believe the value of this project is clear in facilitating learning for our students; however, it will support our students in other ways. Each video that a student creates contributes to the portfolio of work they have accomplished throughout their educational career. Students preparing to become teachers in Health and Physical Education will be able to demonstrate to potential employers their ability to teach difficult concepts in a fun, interactive, and applicable way. Students entering the field of Exercise Science will be able to demonstrate to potential employers a variety of knowledge and skills essential for their career, including communication and fitness testing skills. Athletic Training students will be able to demonstrate injury prevention and rehabilitation techniques. Dietetic students will be able to demonstrate nutritional counseling skills.

In addition, these video tutorials will be used to reach out to support the K-12 educational system. Dr. Biren and McCall have provided STEM related experiences in the areas of health, nutrition, and exercise for K-12 school systems in the local area. They have provided educational seminars and workshops to K-12 teachers, students, and parents. Some of the popular seminars have been Sports Nutrition, Supplements, Weight Management, and Developing Safe and Effective Conditioning programs. K-12 students have shown great interest stemming from their personal desire to understand how to improve performance and decipher between what they read and hear versus what is scientifically sound information. While this will remain an important component to what they do, it is limiting in that they can only reach schools in the local area. Therefore, it is essential to provide alternate avenues for K-12 students and teachers to experience Sport Science activities using technology. Allowing outside agencies such as the K-12 school systems access to these video tutorials would have a far-reaching impact.

Adaptability

Dr. Biren and Dr. McCall both have their PhD and professional experience in the field of Exercise Physiology and would be considered experts in this field. However, other faculty in the

Department of Health and Exercise would be able to use this equipment for their field of expertise. The following is a brief list of others that will benefit from this proposal.

- Dr. Sterner and Mann: Athletic Training
- Dr. Freidenreich, Dr. Klein, and Dr. Tenison: Nutrition and Dietetics
- Dr. Uygur: Motor Control and Biomechanics
- Dr. Spencer, Dr. Vaughn, and Dr. Willis: Health Behavior

Assistance Needed from IRT Training and Instructional Support

Workshops and or support on how to develop professional videos, determining what equipment would be best for video development, and how to integrate the videos through the internet would be a very important. Dr's. Biren and McCall are reasonably experienced with video editing and development and feel that IRT support would allow them to reach a professional level.

Plans for Sustaining and Evaluating the Innovation

Dr.'s Biren and McCall have received other small grants to create a Sport Science webpage and provide face to face workshops. This current grant would provide the equipment to move to the next level, moving the information and experiences online. They will continue to apply for grants which will be used to purchase more equipment and improve the quality of video production. As a part of the Sport Science website, each video will link to a survey that will be used to determine the value of the video for the user. Analytics based on user feedback will be used not only to improve the product, but also in the pursuance of future funding.

Budget

Product	Price		Total Cost
Canon EOS M6 (Rode on-camera mic included)	\$ 749.00	1	\$ 749.00
SanDisk 64GB Extreme PRO SDXC UHS-I Memory Card	\$ 32.17	1	\$ 32.17
ikan Small Interview Dual Color Kit with Two iLED312-v2 and One IB508-v2	\$ 899.00	1	\$ 899.00
Pearstone HDD-110 High-Speed HDMI to Micro-HDMI Cable with Ethernet (10')	\$ 7.99	1	\$ 7.99
Impact Filled Saddle Sandbag (15 lb, Orange)	\$ 21.95	3	\$ 65.85
		Total	\$ 1,754.01