

UNIVERSITY OF LOUISIANA AT LAFAYETTE

STEP Committee

Technology Fee Application

**Technology for Teaching Active and Healthy
Lifestyles**

Title

**Charles “Chuck” Duncan and Ben
Kern**

Name of Submitter
(Faculty or Staff Only)

School of Kinesiology

Organization

Title: Teaching for Healthy Lifestyles Date: June 28, 2018
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ABSTRACT (250 words or less):

Research showing the importance of using technology to teach about physical fitness and physical activity in developing healthy lifestyle practices is strong. Recreation and activity leaders, fitness professionals, and physical education teachers need strong instructional skills along with technology to assist their learning how best to promote lifelong physical activity and health. The School of Kinesiology and the Department of Intramural activities have recently rededicated 108 E in Bourgeois Hall to better facilitate this type of teaching and learning, therefore, the purpose of this grant is to equip that room, approximately 5,913 square feet, with technology to enhance its functional as a teaching space for a range of fitness, physical activity, and physical education courses. The funding will provide multi-media technology, including: (a) large television screens, (b) mobile touch-screen devices, (c) fixed video cameras, (d) mobile adjustable height standing desks, (e) wireless physical activity monitors, (f) fixed speakers, and (g) wireless microphones. Having permanently installed equipment guarantees the space will be viable for teaching and learning for the considerable future and will also provide optimal conditions for using technology in promoting physically active lifestyles. This equipment will potentially be used by each of the five sub-disciplines of the School of Kinesiology, intramural non-credit courses, and other groups requiring the facility. Once equipped, the facility will provide state of the art instruction for the use of technology in physical activity and fitness for future teachers, graduate students, recreation/intramural leaders and other users of the area.

Purpose of grant and impact to student body as a whole:

The requested funding will be used to provide permanent technology equipment to facilitate state of the art teaching in an underutilized space in Bourgeois Hall (108E). Currently, 108E is used only for four KNEA sections per semester along with noncredit Yoga classes, Cheerleading and Karate club practice 2 nights per week. If funded, seven, additional, KNES (205,215, 221, 226, 306, 350, 449, & 459) teaching-oriented courses will utilize 108E as the primary teaching/learning space, along with numerous recreational sports classes to optimize potential use of the space. Each of the KNES courses has an average enrollment of 15-25 students each time it is taught, and recreational sports courses can have up to 30 students per class. Combining the School of Kinesiology and Recreational Sports, we conservatively estimate about 300 students per week or 9,600 per academic year will use the facility. That usage is estimated to increase with instructor training.

While Bourgeois Hall has adequate space for students to be physically active and develop personal fitness, the use of technology in those spaces is minimal. There is currently no space where students can optimally learn to use technology and immediately receive technological feedback (video, audio, and physiological) related to their instruction or personal physical performance. The requested funding will allow students to receive immediate feedback about their performance with regard to instructing methods (audio and visual), physical skill performance, and their personal physiological parameters during activity (e.g. heart rate).

In addition to teacher education students and UL Recreational Sports, many KNES faculty regularly sponsor community service events such as teacher professional development, youth groups, and differently-abled special populations programs that would utilize the space, thus the improvements would benefit community members and garner external support for the university.

Projected lifetime of enhancement:

The projected equipment life is approximately 7 – 10 years. To maximize the life of the equipment we included protective enclosures for sensitive equipment such as LED displays and camera domes in the proposal. A secure storage room (approximately 270 square feet), adjoining 108E, is to be used for portable equipment such as the heart rate monitors, iPads, microphones, processors and receiver. The portable equipment has a projected life of 5 – 7 years. Life for the height adjustable lectern and desks are estimated to be approximately 10 years.

Person(s) responsible for:

- a) **Implementation:** Chuck Duncan and Ben Kern will be the primary facilitators initializing the use of the equipment. However, they will consult with Dr. David Bellar (Chair of the School of Kinesiology) and Mr. David Sutter (Head of Recreational Sports). A new faculty member, Dr. Wes Wilson (Adapted Physical Activity program) will also work closely with Duncan and Kern.
- b) **Installation:** Due to the expertise required to install the equipment, it will be contracted to the company, *GoMedia* (Lafayette, LA), who will also provide the equipment. GoMedia has an excellent reputation for quality equipment provision and installation and has been the preferred company for numerous installations on the UL campus.
- c) **Maintenance:** Basic maintenance and proper storage will be overseen by Ben Kern, Chuck Duncan and Wes Wilson to maximize the life of all equipment.
- d) **Operation:** Instructors for each course using the facility and equipment will be trained prior to using the equipment in order to ensure safe, effective, and proper equipment care.
- e) **Training (with qualifications):** Go Media will provide initial training for use of all of the technology. Chuck Duncan and Ben Kern will provide guidance to instructors on how the equipment can be used to enhance physical activity and health related fitness instruction.

Dr. Chuck Duncan has been a professor in the School of Kinesiology since 2000. He completed the *Quality Matters* training in 2013 and has authored or coauthored 3 previously awarded STEP Grant proposals. Since 2000 he has worked directly with LPSS schools through in-service workshops and as a Professional Development School Liaison at J.W. Faulk Elementary school. He has taught students at the high school, elementary and early childhood levels. Currently he teaches Health & Physical Education teacher certification courses for kinesiology, elementary classroom and early childhood classroom pre-service teachers. “Hands on” teaching experiences in schools and best teaching practices (including use of technology) are emphasized in his courses for future teachers. He has presented and published articles nationally and internationally, and presented on numerous topics at national and international conferences.

Dr. Ben Kern is a former high school physical education teacher, and collegiate strength & conditioning coordinator. He holds a bachelor’s degree in Kinesiology, master’s in Exercise Science, and doctorate in Kinesiology with emphasis in physical education pedagogy. He teaches future fitness and physical activity professionals in Kinesiology skills & techniques courses and prepares future physical education teachers in health/PE methods and teacher internships. He constantly seeks innovative strategies for promoting lifelong physical activity and integrates

technology to improve students' experiences whenever possible. He has received *Quality Matters* training for online and technology assisted pedagogy and taught courses in online and hybrid format, including courses on the use of instructional technology in Kinesiology. He has also presented on technology assisted instruction at multiple professional development conferences and seminars, and published and presented on the topic with national and international organizations.

Purpose and justification for each of the items listed in the Budget Proposal.

Four commercial grade LED displays will be used to display videos and data related to instructional components. There will be one 90" LED for whole group activities at the front of the facility and three 80" LEDs placed on side walls for optimal viewing during small group and individual activities. Each will be covered by protective enclosures for optimal life. Additional equipment is required for mounting and enhanced viewing.

Two camera systems will allow for optimal recording of both whole group and small group activities. Additional equipment is needed for the wireless recording and transfer of video images. Two microphones, one head-worn and one hand-held, will be used to optimize instructor and participant audio during activities, verbal processing and/or feedback. Additional speakers and related equipment are included to optimize audio during activities (instructional, group discussion, etc.). Both the video and audio recordings will be of high quality for developing instructional video and/or collecting data for feedback or research.

Thirty heart rate monitors will be used for monitoring physiological parameters during and after physical activity and can be displayed with individual student codes in real-time on the LED monitors. This will allow students and instructors to objectively monitor physical effort and intensity levels. Data from the heart rate monitors can be stored and used for statistical analysis in research. For example, this equipment would allow teachers to analyze the physiological intensity of different games and activities. Adjustments to instruction could then be implemented to lower or raise physical intensity during activity.

Two iPads (Apple Corp) are included to allow for team teaching and optimal mobility during lessons. The iPads will serve several functions to instructors and students learning to be instructors. Users will be able to control cameras and audio equipment, display teaching materials, and view student heart rate data in real-time.

Eleven adjustable height, roll-away standing desks are included to facilitate group instructional activity before or after physical activity. Students will be able to use personal electronic devices or laptop computers at the desks.

Twelve stability ball chairs are included to optimize alertness during instruction if students choose to be seated. The stability ball chairs were chosen to illustrate how teachers can utilize different strategies during lecture for enhanced attention and increased physical activity when students are primarily sedentary. One adjustable lectern is also included for the principal instructor. The desks and lectern allow for seamless transitioning between different components of a class. An equipment rack is included for proper storage of hardware related to the interaction of all of the technology components.

1. Equipment	\$86,883.00
See attached itemized schedule for each item as estimated by <i>GoMedia</i> .	
2. Software	\$0
3. Supplies	\$0
4. Maintenance	\$0
5. Personnel	\$0
6. Installation Labor	\$32,045.00
<u>TOTAL:</u>	<u>\$118,928.89</u>

Previously Funded STEP projects:

“Enhancing Instructional Skills of Fitness and Physical Activity Professionals Using Multi-media Technology” UL-Lafayette STEP Grant, \$5,953.00, Fall 2017. This equipment continues to be used when mobility is essential. E.G. Outdoor teaching stations and activity and when multiple classes are scheduled at the same time. It is also used to facilitate Teacher Intern use of technology during “student teaching.”

“Flip Camera Technology for Education,” UL - Lafayette STEP Grant, \$2639.00, Fall 2009. After 11 years, 6 of these cameras are still fully functional and being used.

“Polar Heart Rate Monitors,” UL- Lafayette STEP Grant, \$1835.00, Spring 2003. After 15 years, the equipment from this grant is no longer functional.