

Utilization of Digital Video Recorders and DartFish software for Student-Athlete Development and Coaching Education

Professional Development Grant

Alex Binkowski, Assistant Coach, UMass Women's Rowing
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University of Massachusetts, Amherst Department of Athletics

\$6,656.90

It has always been difficult to provide student-athletes in women's rowing with concrete examples of their rowing, both while on the water in real-time and afterwards in a classroom situation. It has also been very difficult to shoot, edit, and produce concrete examples of the rowing stroke for Coaching Education.

Rowing by its very nature takes place in a hostile environment for video and electronics. The student-athlete is in constant motion within a boat with multiple participants. The boat itself is in motion on the water. The person attempting to shoot video is within a different boat that is always trying to maintain speed, distance and space relative to the rowing shell. In the past, cameras and video recorders were too large and cumbersome to place in or on a rowing shell. In the past it was nearly impossible to compare video of student-athletes taken at different times, from different distances, angles, and so forth.

Recent advances in Digital Video Recording, and editing and analysis software, now allow us to overcome these major obstacles. It is now possible to use 'lipstick' cameras and digital video recorders like they have never been used before. It is now possible to provide the student-athlete with a real-time view of their rowing, thus allowing for the first time the opportunity for the student-athlete to self-correct. In addition, this project proposes to use cutting edge editing and analysis software (DartFish) not only for the benefit of the student-athlete, but for the professional development of coaches.

Signatures:

James W. Dietz
Head Coach, UMass Women's Rowing
University of Massachusetts, Amherst

John McCutcheon
Athletic Director
University of Massachusetts, Amherst

Charlena Seymour
Provost and Senior Vice Chancellor for Academic Affairs
University of Massachusetts, Amherst

PROJECT NARRATIVE:

Utilization of Digital Video Recorders and DartFish software for Student-Athlete Development and Coaching Education

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Rowing by its very nature takes place in a hostile environment for video and electronics. The student-athlete is in constant motion within a boat with multiple participants. The boat itself is in motion on the water. The person attempting to shoot video is within a different boat that is always trying to maintain speed, distance and space relative to the rowing shell. In addition, often times this is all taking place on a moving river. In the past, cameras and video recorders were too large and cumbersome to place in or on a rowing shell. In the past it was nearly impossible to compare video of student-athletes taken at different times, from different distances, angles, and so forth.

Recent advances in Digital Video Recording, and editing and analysis software, now allow us to overcome these major obstacles. It is now possible to use 'lipstick' cameras and digital video recorders like they have never been used before. It is now possible to provide the student-athlete with a real-time view of their rowing, thus allowing for the first time the opportunity for the student-athlete to self-correct. In addition, this project proposes to use cutting edge editing and analysis software (DartFish) not only for the benefit of the student-athlete, but for the professional development of coaches.

Utilizing funds from the Professional Development Grant I plan to mount 'lipstick' cameras on the outrigger of a rowing shell, and various other locations in and around the shell, and place the digital video recorder on the footstretchers of the rowing station. In a compact ruggedized unit weighing in at approximately 11lb. this will allow the student-athlete the ability to see themselves rowing for the first time in real-time. There can be no more effective feedback than real-time self analysis by the student-athlete. In combination with video taken from the coaching launch, I plan to discover what combination of camera angles are most beneficial to the student-athlete and to coaches. DartFish software will allow us to edit and analyze digital video of the student-athlete in exciting new ways never done before in rowing. This is the same software utilized by NBC Sports during the most recent Olympic coverage of Diving and Ice Skating. It will be possible to edit multiple videos taken at different times and 'standardize' them for analysis. It will be possible to superimpose video shots of different student-athletes. The software will allow for the analysis of the rigging of a shell in ways that have never been available to the coach or student-athlete. It is a goal of this project to develop a visual catalog of the UMass rowing style to aid in the development and coaching education of our new assistant and graduate assistant coaches.

This project could lay the foundation for a Coaching Education and Development program that eventually would combine resources and faculty from Athletics, Continuing

Education, Kinesiology, and Sports Management. Once the viability of the cameras and software is confirmed it is conceivable that external funding from the following sources could be leveraged; USRowing (the National Governing Body of the sport of rowing in the United States), the United States Olympic Committee, and FISA (the International Governing Body for the sport of rowing); in order to develop such a program.

PROJECT DELIVERABLE / DISSEMINATION OF PROJECT RESULTS:

The project deliverable will consist of four separate but related items. Digital Video of the student-athletes will be presented to the student-athletes on an on-going basis. Both 'raw' and edited versions will be shared with the team as it becomes available, both for the benefit of the student-athlete and for constant feedback on what camera positions and information (in the mind of the student-athlete) is most beneficial. DVD's with examples of their rowing stroke over time will be made for as many student-athletes as possible. I intend to show their development of the stroke, what parts of the stroke they have mastered, and what parts of the stroke still need additional work, along with correct examples of the rowing cycle. A DVD of the UMass rowing stroke will be produced for the benefit of new coaches to our program and for disseminating outside the program. Lastly, the results of the project will be shared at professional coaching conferences by presenting the most effective use of the Digital Video Recorders and 'lipstick' cameras and the DartFish video and editing software.

PROJECT BUDGET:

\$2,000 -A Dell Desktop Computer with the appropriate capabilities to take full advantage of the DartFish Software, the burning of DVD's and the production of the project deliverables.

\$1,099 -A Dell 2400MP Projector for presenting video to the student-athletes, coaches and others.

\$1,500 -DartFish Premium Edition Software

\$1,198 -Two Action Sports Digital Video Recorders from JonesCAM

\$150 -Two Rechargeable Lithium Ion Battery packs with chargers for DVR.

\$409.90 -Two JonesCAM 480EX Cameras

\$300 -DVD's, Digital Video tapes, and Misc. Construction supplies.

Total: \$6,656.90

PROJECT TIMETABLE:

June 2007 Purchase and setup Equipment.

July- August 2007 Trial runs of in-boat system in small boats, and of DartFish software.

Sept.- Nov. 2007 Shoot, Present, and Edit Digital Video of student-athletes to the student-athletes.

Dec. 2007 – Jan. 2008 Present initial results to coaches in-house and at professional coaching conferences.

Jan.- April 2008 Shoot, Present and Edit Digital Video of student-athletes and of the rigging of the boat to the student-athletes.

April 2008 Edit and produce project deliverables.

PRINCIPAL INVESTIGATOR / LETTER of SUPPORT:

My name is Alex Binkowski and I am an assistant coach for UMass Women's Rowing at the University of Massachusetts, Amherst. I am responsible for the recruitment, retention and development of all new student-athletes to the UMass Women's Rowing team. For over fifteen years I have taught in the classroom and on the water. My skills and experiences as an educator have always complimented my coaching and vice versa. In my current position, not only do I teach on the water, but also in a classroom setting outside of the normal practice time. I am submitting this Professional Development Grant Proposal primarily for the development and education of the student-athlete, but it will also have a great impact on my professional development and potentially the broader coaching field. I am fully prepared to take on this project and deliver what is expected of the grant.

Sincerely,

Alex Binkowski
Assistant Coach, UMass Women's Rowing
University of Massachusetts, Amherst