

Faculty Innovator Grant 2006  
Center for Learning Technologies

Final Report Form

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Office Phone Number:	683-3545
Project Title: (10 words or less)	Enhancing Motor Skill Assessment through Video Motion Analysis

*Collaborating faculty:*

Faculty Name:	Department	Email Address	Office Phone Number
James Onate	Exercise Science, Sport, Physical Education, and	<a href="mailto:jonate@odu.edu">jonate@odu.edu</a>	683-4351

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1. Describe the specific teaching and learning issues being addressed by the proposal. Physical education students in the early stages of learning movement observation cannot distinguish between quality of movement for assessment of learning objectives. Slow motion observation, including frame by frame and stop action sequences, and split screen observation with a model movement to compare allow the student to pick out key points and improve the observation skills.

2. Describe the revised specific teaching and learning issues being addressed by the proposal (if applicable):

3. Describe the development activities involved addressing the learning or teaching issue.

Students were shown movements in video at live action speed and instructed in the elements of the movement skill that assess movement quality. Then students were shown the same movements in frame by frame speed, picking out key elements in stop action. Then students were shown new movements in split screen with an ideal model to use as a comparison and asked to assess the movements, using both methods.

4. Describe the learning outcomes attained by the project.

In the task of throwing, which was the skill used in the initial classes, there are 5 key components. Three are visual by the naked eye in real time. Two components, both key to building power and skill in throwing, were not visible in real time but were more easily seen and recognized by students in frame by frame. Having a skilled model to compare did not affect the outcome of the assessments. There was a significant difference in students' ability to recognize both humeral lag and torso movement in throwing, both power components in advanced throwing.

5. Describe unexpected outcomes, if any.

None

6. Describe the impact of the completed project on your colleagues, department, college, or community.

The impact of this on colleagues was to encourage them to teach using frame by frame analysis of movement in those courses within the department that use video observation. I am planning a paper for motor developmentalists to encourage the use of this method to recognize those key components that move children to higher developmental levels of throwing

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7. Describe how the project can be a model, template, or prototype for use by other instructors.

When video clips are used, the ability to manipulate them is important in recognizing the key components that must be used to assess and diagnose learning difficulties. Instructors who use only QuickTime do not provide the students with a superior look at those components. Since Dartfish utilizes much clearer images and the ability to draw lines and angles on the screen, students see the differences much more clearly.

8. Describe the technology used to help address the issues described in the proposal. Dartfish ® software and a graphics-enhanced laptop. Dartfish is motional analysis software that provides a much higher level look at video data.

9. Describe products, if any, that are a result of the project.  
None

10. Describe the future plans for this project, if any.  
We will utilize these methods in all the motor development, motor learning, biomechanics and motion analysis coursework in our department. I am planning a paper in the differences in observation methods for publication.

11. Attach a financial report with updated Budget Plan Matrix.

**Final Budget Matrix**

Budget Item (equipment, personnel, software, etc.)	Qty	Total Cost	Source of Funds	
			Amount from FIG	Amount from Other Source
Gateway graphics-enhanced laptop computer	1	\$ 2800	\$ 1200	\$ 1600
Dartfish ® software		\$ 1380	\$ 1380	