

Video analysis projects at BSC

Class of 2014
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Background

- Bismarck State College is an "innovative college" .
- Currently only one Physics Professor .
- Physics has tons of contact hours: University Physics meets everyday for 50 mins plus a 3 hr lab.
- I always wanted to introduce my students to research-like activities.

Academic Year 2011-2012

- Just –in time teaching (SmartPhysics) .
- Implemented ICP/21
- Labs: Room for Improvement
- Video analysis projects.
- White-boarding
- Clickers.
- Journals / Critical Incident Questionnaires

Physics Workshops

- I was introduced to video analysis in one of ATE physics workshops for TYC faculty.
- In 2010 I went to a live photo physics workshop in Portland for all faculty.
- The next fall I started video analysis projects and I have not stopped doing them
- Fall gets to be really busy for me and my students.

Video Analysis Projects

- I began talking about these projects from the very beginning of the semester.
- In Fall 2010 there was a two week period at the end of the semester dedicated for projects.
- Our lab has 3 Casio cameras.(EX FH20)
- Students were free to use their own digital cameras or borrow cameras.

A sampling of the projects

- Strike enemy fortifications
- Rebounding fitness balls
- Angular frequency of a spring
- Conservation of energy in an isolated system:
Back-Giants (Gymnastics)
- Conservation of angular momentum
- Happy Ball and Sad ball
- Conservation of mechanical energy
- Inclined Plane
- Pendulum

Remarks about Projects

- It was a very enriching experience for me; am going to do it again.
- The students loved it after it was all done
- It was helpful to embed it in a course and allow for out of class activities.
- “If it’s research for the students it’s research.”
Dwain Desbien.

Some Improvements

- Incorporate better writing and project management.(Martin Mason).