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CLA Project Report

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CLA Project Report

Wu Jing

1. Course information

- a. In what course(s) did you administer your CLA performance task?

I did my CLA performance task in MATH 123-07 College Algebra

- b. Please indicate if the majority of students enrolled in this class are freshmen, sophomores, juniors, or seniors.

The majority of students enrolled in this class are freshmen.

2. Performance task

- a. What was the task?

In order to improve the retention rate, success rate, and graduate rate, Dr. Stones, the chair of the Department of Mathematics & Computer Science at the Gulf State University proposes to adopt MathWorld (a software that the students can use it to do homework online) in all 100 and 200 level mathematics courses.

Dr. Rock, coordinator of 100 level courses, opposes Dr. Stones's proposal. His major concerns are: (1) MathWorld can not take the place of instructors to assign and grade homework; (2) the expense of purchase of MathWorld; (3) the availability of computers with internet access.

The task of this project is to ask the students to write one page of paper to explain why he/she is in favor of Dr. Stones's proposal, or against the proposal, based on the provided relevant evidence.

- b. Describe the documents you included in the task. Why did you choose these specific documents?

Document-A is the course report of MATH 232 Applied Calculus by Dr. John Clinton, coordinator of Applied Calculus in the Department of Mathematics at the River State University. This document shows the ABC rate and DFW rate for the regular sections vs MathWorld sections. This document is very tricky: if the students just look at the chart, they will conclude that regular sections are better than MathWorld sections. But this is not true. Careful reading, critical thinking, analytic reasoning are needed in this document.

Document-B is the statistics on computers and internet of American families and public universities for the states of Florida, Georgia, North Carolina, and South Carolina for the years of 2002 to 2007 released by Washington Institute of Statistics. From this document we see that the numbers of families with computer(s) and internet increase a lot from 2002 to 2007. So do the numbers of computers in public universities in these states. Basing on this document, the students are supposed to

conclude that the availability of computers with internet (Dr. Rock's third concern) for students is a not a big issue.

Document-C is an article about MathWorld from Riverdale Daily Observer. It has the praise from the professors and complaint from students as well. Here critical think, analytic reasoning, and problem solving are needed in order to use this document to support the argument regarding Dr. Rock's concerns.

Document-D is a table of student enrollment vs computers in Gulf State University. This document may be used to be the supporting data regarding Dr. Rock's third concern.

Document-E is a chart from Dr. Richardson about the percentages of AB grades of students doing MathWorld homework vs doing textbook homework in his Calculus classes from 2003 to 2007. Critical thinking, analytic reasoning, and problem solving are needed in order to use this document.

Document-F is a figure of survey on income, tuition, and price of MathWorld by Jackson Survey Company. Critical thinking and analytic reasoning are needed regarding Dr. Rock's second concern in order to use this document.

- c. To what extent did a successful response to the performance task require students to integrate information and data in both narrative and quantitative forms? Explain.

A successful response to the performance task requires students

- (1) Correctly and precisely use evidence to defend the argument;**
- (2) Cite sources correctly and consistently;**
- (3) Organize the argument logically;**
- (4) Present evidence efficiently in support of the argument;**
- (5) Analyze the evidence instead of just simply presenting it;**
- (6) Structure paragraphs effectively and logically;**
- (7) Use vocabulary and punctuation correctly;**
- (8) Write a one page paper.**

The table below summarizes the documents to be used to defend the argument reading Dr. Rock's three concerns:

First Concern	Document-A, Document-C, Document-E
Second Concern	Document-C, Document-F
Third Concern	Document-B, Document-D

3. Performance Task Administration

- a. When did you administer the performance task?

The performance task was administered on March 30, 2009.

- b. Was the student's score on the assessment calculated in the final grade? If yes, what weight did it have?

Yes, the students' score will be calculated in the final grade. The weight is 5%.

4. Student Performance

a. Identify any consistent strengths you found in student performance.

- (1) Students can determine what document is or is not pertinent to the argument.**
- (2) Students are able to select appropriate set of supporting data.**
- (3) Students are able to draw the right conclusion from the provided materials.**

b. Identify any consistent weaknesses you found in student performance.

I found that the students either did not read Document-A carefully or they did not distinguish the different enrollment requirements for regular sections and MathWorld sections.

5. Recommendation and follow up

a. Knowing that our students' performance on the CLA will be part of our institutional assessment, what will you do in the courses you teach to address the skills and competencies assessed by the CLA?

I will have CLA performance task in my MATH 123 College Algebra classes from now on.

If possible, I would like to introduce CLA performance task in my other 100 level courses so that the students may have more practice to improve their CLA performance.

b. What recommendations would you offer for all faculty members?

In general, in MATH 123 College Algebra classes, the students are required to write a 4 to 5 page research paper either illustrating how he/she used or plans to use algebra in his/her field of study or work, or addressing major findings of famous mathematicians and their applications in his/her field of study or work. About 90% percent of students choose a mathematician to work on. And in most cases, they just copy and paste from the internet. But this time, it is quite different. The students must read the materials, analyze them, and then draw a conclusion. This will definitely help students to master critical thinking, analytic reasoning, and problem solving, and eventually to improve their CLA performance.

Meanwhile, I have learned a lot from the CLA workshops, creating the performance task, and grading student's responses. It's really a wonderful and beneficial experience.

So I would strongly recommend all faculty members to use CLA in his/her lower level courses if possible.

COLLEGIATE LEARNING ASSESSMENT
PERFORMANCE TASK
IN
MATH 123 COLLEGE ALGEBRA

SCENARIO

Dr. Stones is the chairperson of the Department of Mathematics & Computer Science at the Gulf State University. Dr. Stone proposes to adopt MathWorld in all 100 and 200 level mathematics courses. He believes that using MathWorld to do homework will significantly improve the retention rate, success rate, and graduation rate.

However, Dr. Rock, coordinator of 100 level courses, opposes Dr. Stone's proposal. In Dr. Rock's opinion, MathWorld can not take the place of the instructors to assign and grade homework. He also concerns students' expense in order to purchase MathWorld. Availability of computers with internet access is also one of Dr. Rock's major concerns.

PROJECT

Write a **one page** of paper to explain why you are in favor of Dr. Stones's proposal or, just like Dr. Rock, against his proposal.

Your arguments should include the appropriate or relevant evidence (drawn from the included six sources of information, labeled Document A-F) necessary to support your position. **Explain the reasons for your conclusions, and justify those conclusions by explicitly referring to the specific documents, data, and statement on which your conclusions are based.** Your arguments will be judged not only on the accuracy of the information you provide, but also on how clearly the ideas are presented, how efficiently the ideas are organized, and how thoroughly the information is covered.

Again, while your personal values and experiences are important, you must base your response on the evidence provided in the documents.

MATH 232 Applied Calculus (Fall 2007) Course Report

John Clinton

Coordinator of Applied Calculus

Student whose grade is either D or F in MATH 221 Pre-Calculus must register in MathWorld support sections. Student whose grade in MATH221 is either B or A must register in regular sections. Students that earned C in MTH 221 are encouraged to register in MathWorld support sections.

Students in MathWorld support sections are required to attend the additional two-hour support lab each week. In the two-hour support lab, students need to do MathWorld homework under the monitor of their instructors.

The chart below is the DFW rate and ABC rate for MathWorld sections V. S. regular sections.

Grade	MathWorld sections	Regular sections
ABC rate	73.2%	76.7%
DFW rate	26.8%	23.1%

(12/22/2007)

Riverdale Daily Observer

Evening Edition

Tuesday, September 21, 2007

\$1.25

Do Homework Online?

By Jerry Martin

RIVERDALE ----- MathWorld is an online homework, tutorial, and assessment system. With MathWorld, instructors can create, edit, and assign online homework and tests using algorithmically generated exercises correlated at the objective level to the textbook. They can also create and assign their own online exercises for added flexibility. The instructors can even upload their own tests and quizzes to MathWorld. All student work is graded by MathWorld instantly and can be tracked in MathWorld's online grade book. Students can also access supplemental learning aids, such as animations and video clips, directly from selected exercises.

Dr. Sea, Professor in Mathematics, at the River State University, highly praised MathWorld. He said "I think that the students succeed using MathWorld because they get immediate feedback. They are able to rework the problems as many times as they want in order to improve their grades. The reinforcement of working a problem over and over is the key to success in entry-level mathematics courses. Students need immediate feedback, and MathWorld gives it to them."

However, Dr. Sands, one of Dr. Sea's colleagues, did not agree with Dr. Sea. "Though the MathWorld can give the students immediate feedback, students only know their scores, they do not know why they get wrong. The instructors need to tell the students what's the right step. Obviously, MathWorld can not do this!" She said.

Mrs. Water, who failed in College Algebra this spring, also complained that "I don't like MathWorld. First, it is too expensive. I need to pay additional \$56.5 for it. Second, I do not have a computer with internet access at home. Whenever I want to do homework, I have to find a computer with internet. That's not easy. Finally, if my steps are right, while just the answer is wrong, I would not receive any partial credit from it. It's unfair!"

According to Dr. Holmes, Chair of the Department of mathematics at River State University, MathWorld will still be adopted in several mathematics courses in the next couple of years. So, are you ready to do homework online?

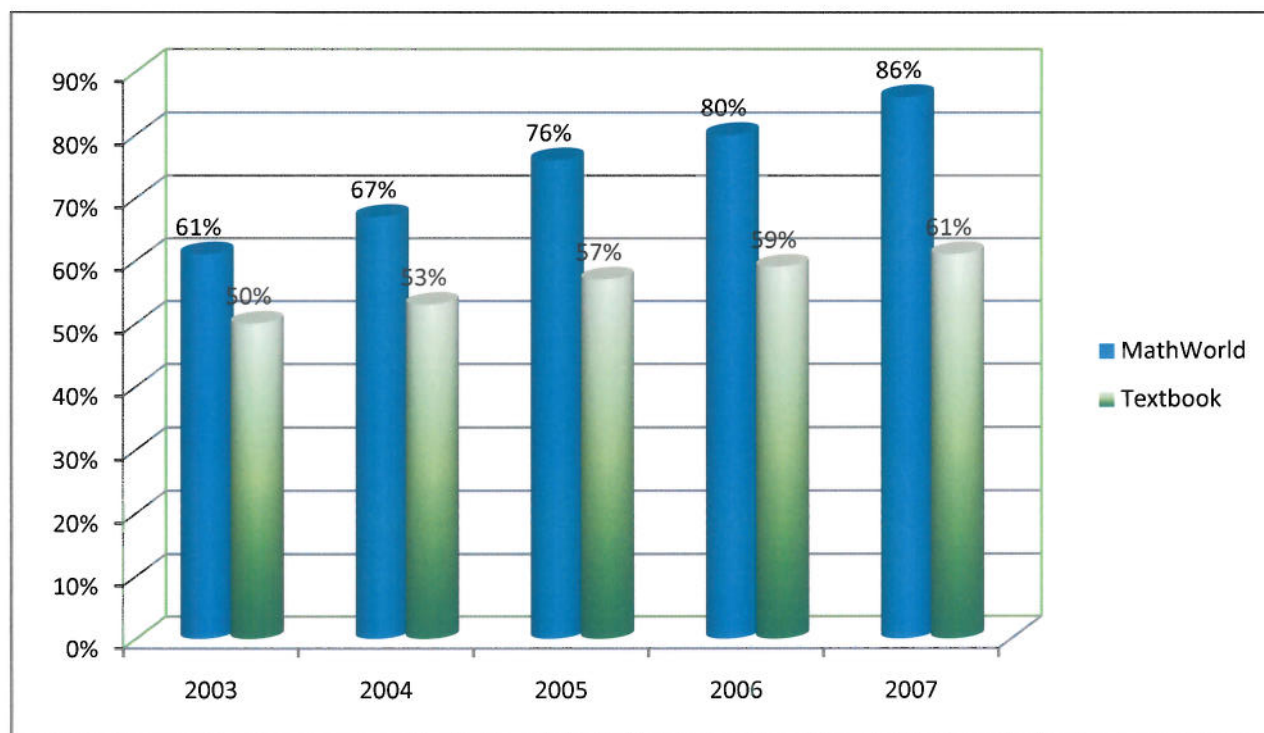
Student Enrollment V.S. Computers in Gulf State University

The table below presents the numbers of students enrolled in Gulf State University and these of computers in labs on campus from 2003 to 2007.

Year	Enrollment	Number of computers in labs on campus	Number of computers per 100 students have
2003	5571	421	7.5
2004	6028	639	10.6
2005	6834	921	13.4
2006	7219	1122	15.4
2007	7392	1365	18.5

Dr. Richardson's Chart

Dr. Richardson has taught Calculus for more than 10 years. Starting from 2003, he began to introduce MathWorld in his Calculus classes. Student in Dr. Richardson's Calculus classes have two options to do homework: do online MathWorld homework, and do textbook homework. The following chart is Dr. Richardson's statistics on the AB grades percentages of students using MathWorld V. S. textbook to do their homework.



Jackson Survey Company

Survey on Income, tuition, and price of MathWorld

The figure below shows the percentages of the average income increase of American families, the average tuition increase for American public universities, and the increase of prices of MathWorld from 2002 to 2006.

