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CLA Report

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Collegiate Learning Assessment Report

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Abstract

This CLA performance task titled: "comparison of online homework environments" was created to help students to prepare for the standard CLA performance task. The performance task required students to provide their opinions on whether or not we should replace a traditional online homework environment by a video game style online homework environment. A set of supporting documents was provided. This performance task was administrated to students who are currently taking STAT 202. The students' work was graded according to the criteria which were provided to students when they were given the assignment.

CLA Project Report
(Please answer each item; 3.c. is optional.)

1. Course information
    a. In what course(s) did you administer your CLA performance task?
    b. Please indicate if the majority of students enrolled in this class are freshmen, sophomores, juniors, or seniors.

    Basic Probability and Statistics: STAT 202-01 and STAT 202-02.

2. Performance task
    a. What was the task?
    b. Describe the documents you included in the task. Why did you choose these specific documents?
    c. To what extent did a successful response to the performance task require students to integrate information and data in both narrative <u>and</u> quantitative forms? Explain.

    Please see attached report.

3. Performance Task Administration
    a. <u>When</u> did you administer the performance task?
    b. Was the student's score on the assessment calculated in the final grade? If yes, what weight did it have?

    March 25, 2009. The assignment will be counted totally 3 credit-points toward students' final grade, depending on their performance.

4. Student Performance
    a. Identify any consistent strengths you found in student performance.
    b. Identify any consistent weaknesses you found in student performance.
    c. (optional) If you reviewed the results with your students, what kind of comments did they make about it? Did they indicate whether they believe their FSU experience is preparing them to take assessments like the CLA?

    Please see attached report.

5. Recommendation and follow up
    a. Knowing that our students' performance on the CLA will be part of our institutional assessment, what will you will do in the courses you teach to address the skills and competencies assessed by the CLA?
    b. What recommendations would you offer for all faculty members?

    Please see attached report.

Please submit your report on your project as soon as possible, but no later than May 1, 2009.

The Performance Task

In this performance task, students were asked to provide their opinions on whether or not to favor in replacing a traditional style online homework environment, CourseCom, with a pioneer style online environment, SmartThink.

I preferred to compare these two completely different homework environments because playing games tended to be fun and attractive; it might mislead some students to directly jump into favor conclusions by first impression. This task required students to stand in a rational base and apply their critical thinking and skills to analyze the supporting documents **(Attachment 1)**.

There are seven supporting documents provided. Here is the purpose of each document:

Document A: It suggested there might be a conflict of interest for Dr. Smith to recommend SmartThink because the sale agency for this new online homework provider was his college classmate. It also provided information of the same costs for the two different environments.
Document B: It informed readers about constant efforts from the Math Department in seeking solutions to improve students' performance. It also mentioned concerns about different online homework environments.
Document C: It provided readers with two tables. The first table contained survey data from six universities/colleges in the US. It reported performance of students who took "College Algebra" Classes. These universities allowed students to voluntarily participate in the online homework provider SmartThink.
Document D: It provided readers with a report saying the SmartThink is a good choice with specific example. Readers were expected not to make favor conclusions based on a specific example or based on a report that might be for the advertisement purpose.
Document E: It provided a chart from 25 universities regarding the performance of CourseCom. Readers were expected to identify the holes in the information from this chart and they should not simply judge the performance of CourseCom by this chart. Missing information includes: a). Levels of universities might be different, b). The performance of students enrolled or not enrolled might have not been separated, c). The information about class materials (books, assignments, chapters) and requirements were not provided, etc.
Document F: It provided a chart generated from Document C table 1. Readers were expected to identify that the reasonable columns to be used in generating this chart should be the second and the fifth column (but not the third column). Therefore, when the number of students enrolled in the SmartThink was considered, the percentage of students receiving grade "A" wasn't changed at all.
Document G: This document collected three abstracts searched from the database. The three documents provided some extra information that compared SmartThink with CourseCom.

In addition to the performance task set, the students are also provided with the general criteria (**Attachment 2**) that will be used to grade their answers. The criteria are in five different aspects as follows.

Evaluation of Evidence	Analysis & Synthesis of Evidence	Drawing Conclusions	Acknowledging Alternative Explanations/Viewpoints	Written Communication

Performance Task Administration

Two different sections of STAT 202 students were required to work on the performance task. All the students in my class have never participated in CLA before, so the format was completely new to them.

The students were told that the assignment will be counted totally 3 credit-points toward their final grade, depending on their performance. According to CLA, each student is given 90mins to work on the task. Since the class time for each section is 50mins, the students were given materials to prepare for their answers outside the classes.

Student Performance

Students' work was graded according to a detailed criteria sheet created based on the general criteria (see attachment 3). The grading sheet is provided here:

Online Homwork Alternative Choice Score Sheet	Evaluation of Evidence	Analysis & Synthesis of Evidence	Drawing Conclusions	Acknowledging Alternative Explanantions/Viewpoints	Written Communication
Question 1:					
Question 2:					
Total					

The performance was similar and only one section students' grades were provided in this report. Their average grade is 61.85 out of 100.

The strengths that our students shown are that, most of them were able to pinpoint the relevant documents. For example, they understood that document E was most important in answering the first question, and document C, and F were important to answer the second question. In addition, most students were able to catch the obvious information, such as the cost for the two online homework environments were the same. Mst of them understand that Document G provided some extra information about the difference of the two homework environments.

The common problems with students answer are a). Most of the students did not clearly provide their answers to the questions. b). Many students provided both the strength and limitation with each question. c). Most students stayed in the surface of the information provided.

Recommendations and follow up

The CLA performance task format requested students to state "what are the strengths and/or limitations …" It requires students to provide a 'yes' or 'no' answer to each question with reasoning; however, the question format seems has confused most of our students. The performance task that I have administrated has shown that our students needed more practices in order to perform better for current question format from CLA; In addition, we need to help students to understand the requirements clearly and help them to perform better in analyzing the supporting documents.

It might be helpful to have students revised their answers for each performance task. Intensive practice will also help students to be alerted that there is possible misleading and missing information in the materials provided.

I plan on giving this assignment again to STAT202 students next semester, and ask students to revise their answers after a detail explanation.

Attachment 1
Performance Task

Performance Task Prompt

You are a committee chair of the Statistics course and you are responsible to provide advices to the Department Chairman, Dr. Brown, regarding the class materials and resources to be used in the classes. The new semester is starting in a month. The students are required to work on their homework through an online homework provider. Last semester, we were using CourseCom, which provides traditional style homework. Overall, the students' performance, judged by their final grades, is still a concern to the department. Now, a professor in the department, Dr. Smith, proposed to switch to an entertaining, video game playing style environment homework provider, SmartThink.

Dr. Smith claims that "students did not perform well with CourseCom, therefore it is not a good choice." He supported his argument with a chart that shows students' final perform grades were not improved despite the increasing percentage of students using the CourseCom in the 25 universities surveyed (see document E).

Dr. Smith said that "Smart thinking provides video game style homework, which efficiently improves student' performance, therefore we should shift the online homework provider from CourseCom to SmartThink."

The Department Chair want to make sure the best online homework provider that will maximize students' performance (to improve the students test grade) will be used, so has asked you to analyze the strengths and/or limitations of Dr. Smith's main points. Answer the two questions below.

Questions

Dr. Smith claims that "students did not perform well with CourseCom, therefore it is not a good choice." What are the strengths and/or limitations of Dr. Smith's position on this matter? Based on the evidence, what conclusion should be drawn about Dr. Smith's claim?

Dr. Smith claims that "SmartThink provides video game style homework, which efficiently improves student' performance, therefore we should shift the online homework provider from CourseCom to SmartThink" What are the strengths and/or limitations of Dr. Smith's position on this matter? Based on the evidence, what conclusion should be drawn about Dr. Smith's claim?

Note: You should have (7) documents (labeled A-G) that are the key sources of evidence you have at your disposal to respond to the Chair. Please check now to ensure you have all seven documents.

Explain the reasons for your conclusions, and justify those conclusions by referring to the specific documents, data, and statements on which your conclusions are based. Your answers to the questions should include the appropriate or necessary evidence (drawn from the included 7 sources of information, labeled Documents A-G) to support your position. Your answers will be judged not only on the accuracy of the information you provide, but also on how clearly the ideas are presented, how effectively the ideas are organized, and how thoroughly the information is covered. While your personal values and experiences are important, please answer all of the questions solely on the basis of the information provided in the documents.

Document A

To: Dr. Smith

From: Pat Simpson

Dear Dr. Smith,

It has been five year since we graduated from Nebraska University. I hope your family is doing very well in Jackson.

I am currently working as a sale agent at ST Inc., an online homework provider company located in Prince. Our product for online homework is called SmartThink.

It has brought to my attention that your department is using online homework provider for student to complete their homework assignments. While this is a good choice, I would like to recommend our product to your department. SmartThink has introduced new concept in doing homework through providing students with video game style homework in a familiar scenario. The cost for accessing the website is the same as CourseCom. I believe professors in your university will be interested in its great features.

If your department interested in exploring our product, I can arrange to visit your university to introduce it in great details. I look forward to seeing you soon.

Regards,

Pat

Document B

The Jackson News

Evening Edition Tuesday September 21, 2001 $1.50

Will online homework improve students' math skill?

By David White

Jackson Township –For a long time, students have been struggled with learning mathematics. Faculty in Jackson Sate University has been struggling to find effective tools to improve their students' math skills.

Amy Jones is a freshman student at Jackson State University. She wants to pursuit a career of Pharmacist; however, her performance in mathematics has become an obstacle in her decision. "I can understand numbers in my regular life; but I just don't get it when the professors put the numbers in a word problem," Amy mentioned, "I have spent hours and hours working on the homework problems for the College Algebra class that I took last semester, but it wasn't very helpful, sometimes I was stuck by one homework problem, and no instant helps is available". She received a "C" as her final grade, which has dragged down her GPA.

To help students like her, The Mathematics Department at Jackson State University has requested students to work on their homework through an online homework provider, CourseCom. CourseCom automatically grades students homework; allows students to work on a similar problem if they make a mistake on a problem; provides students with learning instructions. "The environment for doing homework is improved," Amy commented, "but the homework problems still seemed far from our regular life."

The Department Chairman of the Math Department at Jackson Sate University said: "There are about 50% students like Amy in the Jackson State University. Some students have repeatedly failing the mathematical classes; however, learning mathematics is a necessary to prepare our students for their future career." He encourages his faculty to continuously find efficiency ways to improve their students leaning in Mathematics. Dr. Smith, a professor in the University has recently proposed the university to switch to another homework provider, SmartThink, at the same cost. SmartThink provides students with video game style homework in a familiar scenario. He said: "SmartThink has been very successful in engaging students' interests. However, there is a concern how much benefit students will receive for the education purpose. The University is still weighting over the choice.

Document C

Table 1: Performance grade and online homework providers

The table below presents data from 6 universities/colleges through the US of students who took "College Algebra" Class. These universities allowed students to voluntarily participate in the online homework provider SmartThink. Shown data are 1) the percentage of students enrolled in SmartThink, 2) performance grade (final grade) is shown for students taking the course, 3) number of students taking the course for the semester surveyed, 4) percentage of students received grade "A".

University /College	Percentage of students enrolled in SmartThink	Number of students who took Algebra Class received "A"	Number of student taking "College Algebra"	Percentage of students received "A"
A	10	30	203	15.2
B	25	39	256	15.5
C	39	44	301	14.9
D	63	55	365	15.3
E	81	55	399	13.9
F	85	62	427	14.6

Table 2: Level of students compare to the percentage of students enrolled in SmartThink

University	Percentage of students who are freshman	Percentage of Students in SmartThink
A	31	60
B	21	71
C	5	56
D	18	80
E	25	50
F	38	40

Document D

The HighEd Review

SmartThink provides Successful Online homework

By James King

ST Inc., An online homework provider has attracted growing interests to their product, SmartThink, the online homework service in mathematics. SmartThink introduces new concepts in providing students to work on their homework through a familiar secenario like play a video game. Many students are finding that they are benefited from this entertaining online homework service. Micki Lai thought she would be having a hard time with her college algebra class at the beginning of the semester. During the semester, she was required to complete her homework assignment with SmartThink. Her learning has thus been improved dramatically. She received an "A" as her grade.

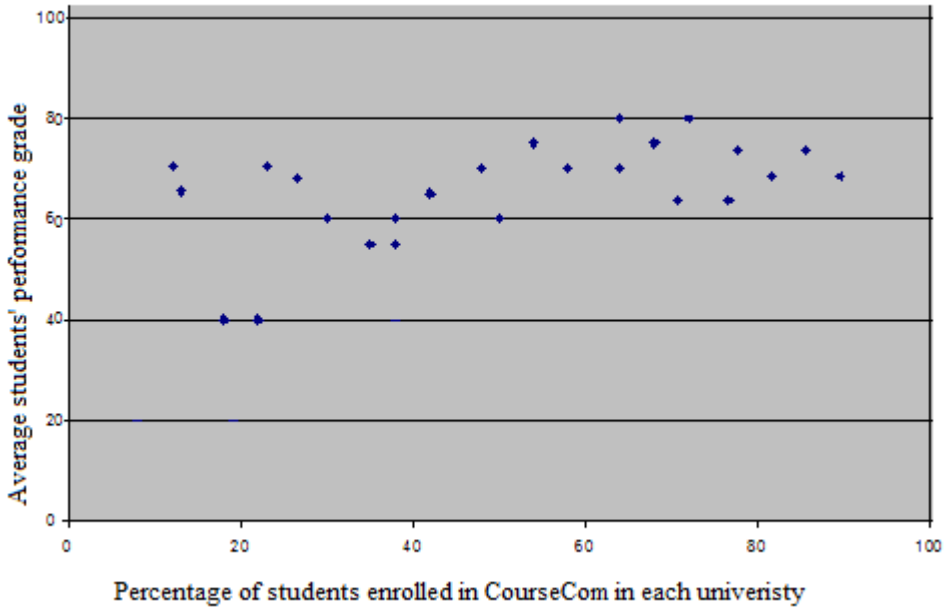
"It was totally fantastic" Micki said. "I can't perform so well if I were not using the SmartThink. I have delayed taking this course for two semesters as I was not good at Mathematics. SmartThink let me able to learn math like working in my daily life, it is like play video game while I did my math homework."

Because of the difficulty with the math learning, students in university has been facing challenge in improving their math skills. Some have been forced to drop out of school. The problem is causing experts to look at ways to address this obstacle in math learning over the country. Jack Tucker stated "I can understand numbers in my regular life; but I just don't get it when the professors put the numbers in a word problem."

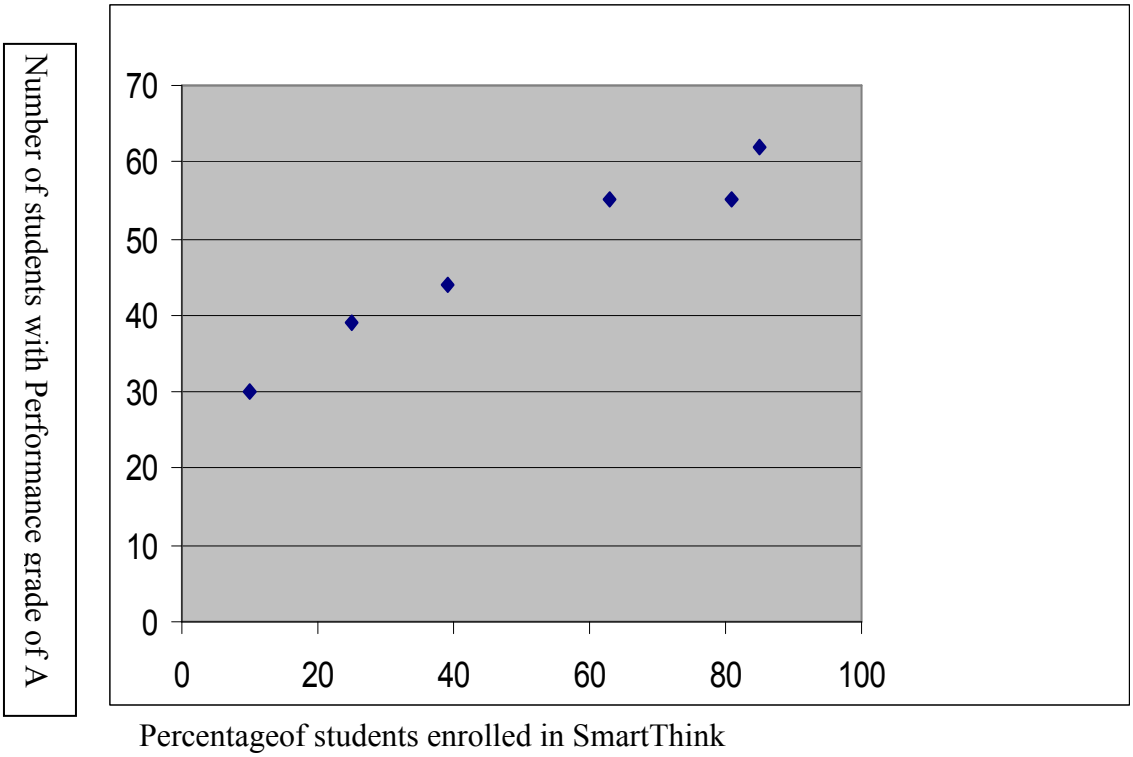
The ST Inc. formed by Chairman of the Math Department at Prince University, Dr. Jones, has been worried about such situation for several years. Dr. Jones and his research have spent several years in studying active methods to incur students' learning interest in mathematics, and have come up with this online tool, SmartThink, to allow students to work on their math homework in an entertaining way. Dr. Jones said: "We designed real scenario with graphic view to entertain students. The students will be able to work on their homework in their favorite environment like playing a Video game. It is like you are shopping, yard working, Chess playing, you name it." The new creative way of doing homework has students interest in mind, and the product has grow dramatically with the market occupying rate dramatically increased by 80% over the year.

Document E

The figure below shows the relationship between the average students' performance grade and the percentage of students enrolled in CourseCom in each of the 25 universities/Colleges Surveyed. Students are allowed to choose either CourseCom or paper-based homework. The average grade in a university is only counting for the students enrolled in the CourseCom.



Document F


Number of students with Performance grade of A
70
60
50
40
30
20
10
0
0
20
40
60
80
100
Percentageof students enrolled in SmartThink

Document G

University Research Abstracts: CatMax Online Search

Search ID: Jack-021111/CLA
Search Date: January 1, 2008
Terms: online homework, SmartThink, Mathematics
3 Items Found
Title: Comparing CourseCom and SmartThink in Mathematical Learning
Author: Cooper, Charles
Abstract: CourseCom is a traditional style online homework provider. SmartThink is designed for students to complete their homework online with engaging environment. This paper compares the detail features and functioning blocks for mathematical courses, such as College Algebra, Trigonometry, Analysis, and Statistics.
Title: Managing the Mission: The Primary Challenge to Online homework provider.
Authors: Lei, Sherry B.; Ken, Kenya.
This study reports the complex issues and challenges faced by online homework providers. Currently there are about 18 online homework providers focused on mathematics through out the US. The study subjects were 420 volunteers from different universities. The subjects were randomly selected to participate in doing their homework with two different online homework providers, SmartThink, and MathLead, a traditional online homework provider. The subjects were designed to work on the same mathematical questions in the college Algebra content. The outcomes shows no significant different in students test grades in two different groups, however, a survey completed by the students shown that those students who favor SmartThink has a higher rate of playing video games. Some students favor MathLead because of it simple working environment.
Title: Is SmartThink the best Choice for Mathematics Homework? Findings from Stanford University
Author(s): Davis, Michael and Martin, Janett
Abstract: In Ohio State University, two groups of undergraduate students who were taking College Algebra class were randomly selected. 200 students voluntarily chose to complete their homework through an online mathematical homework provider, SmartThink, while the other 200 students voluntarily chose to work on their homework on CourseCom. The results shown the students who complete their homework with SmartThink has a higher final grade compared to the students doing homework with CourseCom, although the first group spent an average of about 38mins more than the second group in doing the same assignment.

Attachment 2

General Criteria

Evaluation of Evidence: How well does the student assess the quality and relevance of evidence?

Not Attempted 0	Emerging	Developing	Mastering
	1 or 2	3 or 4	5 or 6
	Does not address relevant documents or employs irrelevant documents (or parts of the document). Writes in generalities	Considers some of the evidence, but does not use all of the relevant sources of evidence	Considers all of the evidence, and determines what information is or is not pertinent to the task at hand
	Uses primarily personal experience/feelings/beliefs in lieu of data or evidence; fabricate information as sole means to support positions. Does not distinguish between fact, opinion, and value judgments.	Moves away from egocentric perspective towards a focus on the evidence presented.	Distinguishes between rational claims and emotional ones, fact from unsupported opinion. Is able to avoid purely egocentric perspectives.
	Accepts the data "as is," Does not indicate how the evidence might be limited or compromised.	Claims that the evidence might be limited or compromised but does not explain why	Recognizes the ways in which the evidence might be limited or compromised.
	Accepts illogical or flawed arguments	Mentions deception and holes in the arguments of others	Spots and explains deception and holes in the arguments of others

Analysis and Synthesis of Evidence: How well does the student analyze and synthesize data and information

Not Attempted 0	Emerging	Developing	Mastering
	1 or 2	3 or 4	5 or 6
	Merely repeats information provided taking it as truth; denies evidence without adequate justification	Provides a cursory and superficial analysis of the evidence	Presents own analysis of the data of information(rather than accepting "as is"
	Does not demonstrate an understudying g of the flaws in the evidence.	States that there are errors in the evidence but addresses them generally	Recognizes and avoids logical flaws (e.g., distinguishing correlation from causation)
	Does not make connections among the different documents	Addresses the evidence, but only in the broadest terms; does not point to specifics.	Addresses the evidence and breaks it down into specific, component parts.
	Ignores information and maintains or defends views based on self-interest or	Points out general contradictions, inadequacies, or	Attends to contradictory, inadequate or ambiguous information with

	preconceptions	ambiguities in the information without explaining the specifics	explanation.

Drawing conclusions: How well does the student form at conclusion from his/her analysis?

Not Attempted	Emerging	Developing	Mastering
0	1 or 2	3 or 4	5 or 6
	Conclusions draw heavily or completely on unsupported opinion. Dears unwarranted or fallacious conclusions	Conclusions present a mix of unsupported opinion and evidence from the documents	Constructs cogent arguments rooted in data and information rather than speculation and unsupported opinion avoids overstated or understated conclusions
	Does not use data and information to support conclusion(s) and reiterates a flawed claim make in the task	Selects some data and information to support conclusions, but may also include extraneous or irrelevant data	Selects and strongest and most relevant set of supporting data and information
	Suggests no need for further exploration	Indentifies holes in the evidence	Identifies holes in the evidence and subsequently suggests additional information that might resolve the issue

Acknowledging alterative explanations/view points
Written communication

Attachment 3

STAT 202 Students Test Results

Performance
Grade
73.33333333
51.66666667
60
60
46.66666667
61.66666667
86.66666667
83.33333333
53.33333333
40
83.33333333
51.66666667
48.33333333
51.66666667
43.33333333
55
80
83.33333333

mean grade= 61.85185