

Assessment

in my

Portfolio

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### From the Categories of Faculty Engagement

- 2. Departmental Engagement
  - Provides leadership in creating or sharing new instructional methodologies and deliveries
    - Devises and shares new methods of delivering content
    - Devises, shares, or implements new technologies

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### Assessment

- The faculty of JCCC have established curriculum-wide student learning outcomes for all students. These outcomes are the heart of a continuous cycle of inquiry, assessment and improvement. Regular assessment of student achievement of these outcomes is used to **develop improvement strategies** and demonstrate our accountability for our students' learning. Assessment produces data that faculty can use to make **evidence-based decisions related to curriculum, instruction** and resources. The assessment process will not be used to evaluate faculty.

- from the JCCC Outcomes Assessment web page, 8/27/2012

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**Does Online Homework Work?**

- Before Assessments or Portfolios
  - Introduced online homework in Business Math
  - Compared results before (Fall 2000) and after (Fall 2004)
- For the Portfolio Evaluation Pilot
  - Introduced online homework in College Algebra (Fall 2007)
  - Studied results in several ways

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**Before-and-After Comparison:  
Homework Completion**

<b>Fall 2000 (n = 32)</b>	<b>Fall 2004 (n = 33)</b>
• 10 homework sets	• 30 redo-able sets
• 3 problems each	• 5 problems each
• Instructor graded	• Computer graded
• 960 expected	• 4950 expected
• <b>total 774 problems</b>	• <b>total 12415 probs</b>
• <b>81% completion</b>	• <b>1504% increase!</b>

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**Before-and-After Comparison:  
Course Grades**

<b>Fall 2000</b>	<b>Fall 2004</b>
• A: 16%	• A: 27%
• B or better: 34%	• B or better: 52%
• C or better: 66%	• C or better: 73%
• D or better: 84%	• D or better: 82%
• F: 16%	• F: 18%

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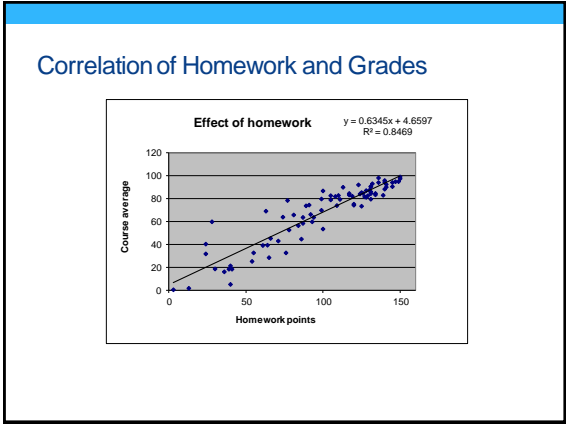
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### Goal 3 from my 2006-2009 Pilot Evaluation

- Use more online homework.
- How might you attain this goal?
  - The college algebra textbook selection committee has just chosen a custom text that includes online homework in the package. Therefore, I will be able to set up online homework for the college algebra class I am scheduled to teach in Fall 2007 using [the commercial product].

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### Goal 3 from my 2006-2009 Pilot Evaluation

- Use more online homework.
- How might you document the pursuit of this goal?
  - A student survey of their reactions to online homework,
  - A comparison of grades between Spring and Fall 2007 in college algebra, and
  - A correlation study between online homework points and course grade in Fall 2007.

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## Comparison: Before and After

### • Spring 2007

- [old textbook]
- 10 paper homeworks, 3 questions each
- No online homework

### • Fall 2007

- [new textbook]
- 4 paper homeworks, 3 questions each
- 22 online homeworks, 5 questions each

Grades	Spring 2007	Fall 2007
A	4	13
B or better	16	18
C or better	21	21
D or better	22	22
F or W	8	8

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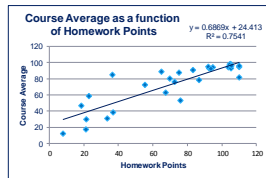
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## Correlation of Online Homework and Grades

- 110 possible points on homework
- 100% possible on course average
- High correlation (0.87)
- One student had perfect online homework, but a low B in the course
- Several students are doing well in course without homework mastery




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## Student Survey: The Statements

Strongly agree, Agree, Neutral, Disagree, Strongly disagree?

1. I **completed** all of the online homework assignments.
2. Whenever my first online homework attempt was less than perfect, I **repeated** the assignment.
3. The online homework **helped** me learn a lot.
4. The problems being asked in the online homework were all fairly **easy**.
5. I had very **few technical issues** with the online homework system.
6. I would like to **use** this online homework system **again**.

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## Student Survey: The Data

Question	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Mean
1. Complete	1	1	1	5	14	4.36
2. Repeat	1	0	1	3	17	4.59
3. Helped	3	3	3	4	9	3.59
4. Easy	2	5	9	4	2	2.95
5. Few tech	0	4	4	6	8	3.81
6. Use again	5	0	5	7	5	3.32

- Completion? Question 1: note 13 actually did do all
- Was it useful? Question 3: many found it unhelpful
- Worth doing again? Question 6: not all agree – class is split
- Technical issues? Question 5: mostly no, but other faculty disagreed

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## Student Survey: Open-Ended Question

- If you had problems with the online homework, please describe the types of problems you had, and how often they occurred.
- There were times on the online homework that it was frustrating to understand **how the computer wanted the answer**.
- **Some answers the computer wanted in a specific way** and the problem did not tell you how it wanted / what form to have the answer in, so if you put it in a different form the computer counted it wrong. The computer was not specific on how it wanted the answer.
- Sometimes **the way the computer wanted the answers** were different from other acceptable forms, but if we e-mailed him he gave us credit.
- The problem I had were **what the computer wanted** and what the teacher show us in class (two different ways). Need to change the program.

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## Student Survey: Open-Ended Question

- If you had problems with the online homework, please describe the types of problems you had, and how often they occurred.
- Operations and certain were sometimes hard to find and the **computer never accepted the form that the correct answer was put in**. Much more time consuming and frustrating than 5 questions should ever be. I hate it and would rather do written homework all the time.
- I thought it would have been better if the online homework had been MC. Thomson Now always **wanted your answer to be submitted exactly the way it had on its key**. I believe MC helps students determine what they are doing wrong so that they can eventually get the correct answer.
- **The problems usually were completely different from the examples given in class**. The examples online had different parts we had to complete that we did not go over in class. I also didn't like how it did not try to help you it just gave you an answer.

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### Student Survey: Open-Ended Question

- If you had problems with the online homework, please describe the types of problems you had, and how often they occurred.
  - Often, I would be kicked out of the program due to the web site having "technical difficulties".
  - Quite often. Wouldn't let me log in. Crashed my computer on an occasion. Redirected me elsewhere. [technical problems]
  - Very minor, not worth talking about. Word problems sucked!!
  - Weak areas were more challenging. Overall the online homework was very helpful.
- Note that 11 of 22 respondents did not answer this question.

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### My Observations

From the data:

- Student success was improved (over previous semester).
- Online homework contributed to success.
- Students were often frustrated over form of answer required. (Good or bad? Is notation important?)

From personal observation:

- Students made different types of errors than previously
- Students were better at notation

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### My Conclusion

- Personally, I felt the use of [the commercial product] was a success. There were places it could be improved (questions could be better aligned with the course, and questions could be rewritten to make the form of the answer clearer).
- But all of that is now moot, as the other faculty in the department felt differently, and the use of [the commercial product] software was discontinued. Some decisions are simply beyond the control of the individual instructor.

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