

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

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

Does Online Homework Work?

- Before Assessments or Portfolios
 - Introduced online homework in Business Math
 - Compared results before (Fall 2000) and after (Fall 2004)

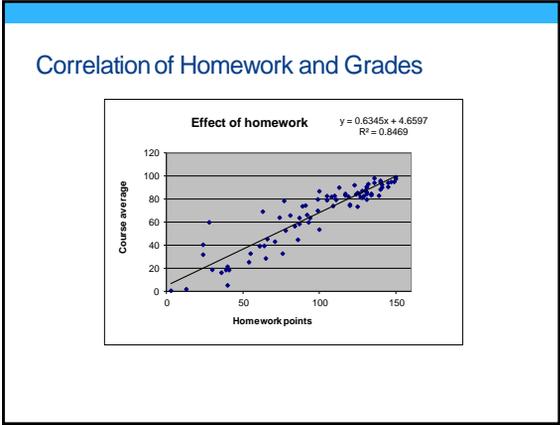
- For the Portfolio Evaluation Pilot
 - Introduced online homework in College Algebra (Fall 2007)
 - Studied results in several ways

Before-and-After Comparison: Homework Completion

| | |
|---|---|
| <p>Fall 2000 (n = 32)</p> <ul style="list-style-type: none"> • 10 homework sets • 3 problems each • Instructor graded • 960 expected • total 774 problems • 81% completion | <p>Fall 2004 (n = 33)</p> <ul style="list-style-type: none"> • 30 redo-able sets • 5 problems each • Computer graded • 4950 expected • total 12415 probs • 1504% increase! |
|---|---|

Before-and-After Comparison: Course Grades

| | |
|--|--|
| <p>Fall 2000</p> <ul style="list-style-type: none"> • A: 16% • B or better: 34% • C or better: 66% • D or better: 84% • F: 16% | <p>Fall 2004</p> <ul style="list-style-type: none"> • A: 27% • B or better: 52% • C or better: 73% • D or better: 82% • F: 18% |
|--|--|



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].

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.

Comparison: Before and After

• Spring 2007

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

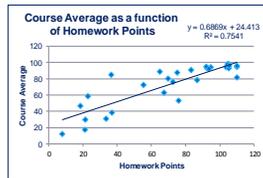
• Fall 2007

- [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 |

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



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**.

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

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.

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.

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.

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

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.
