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**Report on Student Learning Assessment
TH 105, Stagecraft, Fall 2006
University of Guam
Troy McVey**

INTRODUCTION

During my Comprehensive Faculty Evaluation System Review for Academic Year 2005-06, I committed to performing a student assessment project on one of my courses for the fall semester of 2006. I choose Stagecraft because, of the Theatre courses I teach, it is the one that deals with the most concrete knowledge, so would have the most measurable outcomes.

The formal assessment method I chose to use was a modification of the Pre- and Post-test model. Typically, I divide my courses into components, and my exams are not cumulative. I had originally intended to give an Entrance exam that was identical to the Final exam, thus making it (the final) cumulative. A colleague in Music, also working on an assessment project, mentioned that he was also taking a mid-term snapshot of data.

I compromised. The Mid-term exam was identical to the Entrance exam, with material and concepts we had not yet covered deleted. The Final included those deleted questions, as well as questions from the Mid-term that students *had not demonstrated mastery* to my satisfaction.

STUDENT GROUPS

For the purposes of this report, I was primarily interested in proving that students were obtaining knowledge they did not have before taking this course. There were nine students in the course, five of whom had never taken a Theatre course before. From informal questioning in class, three of those four were also enrolled in MA 085, the remedial math course, during the semester of this study. This is a relevant fact because to demonstrate mastery of some concepts requires an elementary understanding of geometry and fractions.

Of the remaining four students, all had taken Introduction to Theatre before, which includes a construction crew component, so they had been exposed to stagecraft. Three of those four had also taken a Stage Management course, which covers other areas of technical theatre.

A tenth student started the course, and actually was doing fairly well, but stopped attending after the mid-term exam, so all of his data has been thrown out.

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TEST CONSTRUCTION and SCORING

I do not give answer banks or multiple choice exams in any course and outside of Introduction to Theatre, exams are almost entirely short answer. These exams were completely short answer. There were two basic types of questions asked on the exam: knowledge and application. A knowledge question is simple identification, usually asking a definition for a word, or to identify the parts of an object. An application question requires knowledge of a process—in this case, how to build a particular piece of scenery and how to mathematically compute the size of the components of that piece.

For fairness, the Entrance Exam was not evaluated for a grade. For reasons of weighting, questions on the Mid-Term exam were worth three points and questions on the Final exam were worth four. To simplify the data analysis for this report, I developed the following rubric:

- | | |
|--------------------------|---|
| <i>Correct</i> | An answer is correct if the student used the correct vocabulary and demonstrated understanding of the concept being tested. |
| <i>Partially Correct</i> | An answer was partially correct if the student (1) used the correct vocabulary but did not seem to understand the concept or (2) if the student seemed to grasp the concept, but who lack of vocabulary or supporting knowledge lead to an answer that just wasn't right. |
| <i>Incorrect</i> | An answer is incorrect if the student didn't answer it, answered it sarcastically, or made an honest attempt, but there was no evidence that the student understood the question or how to go about answering it. |

In the chart in the following section, the vertical axis measures the percentage of students who have answered each question correctly. One point was given for those who answered correctly, one-half point (0.5) was given for those who answered partially correct, and no points for those who answered incorrectly.

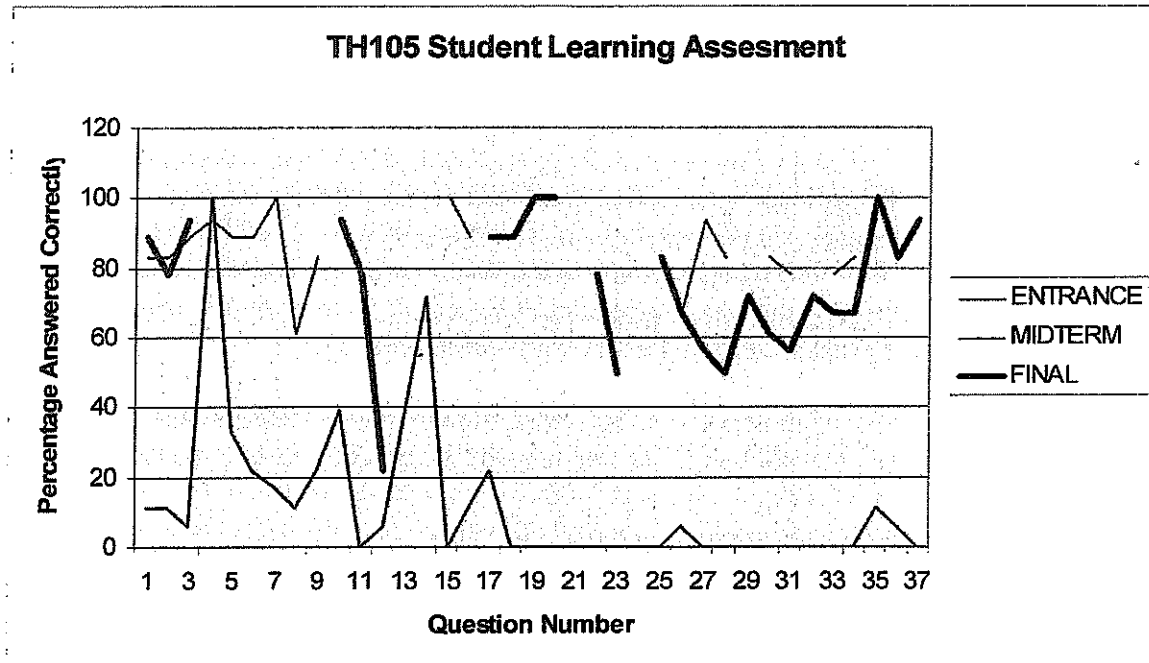
THE RESULTS

The basic hypothesis at the beginning of the semester was simply to prove that students would pass the exams after having done poorly on the entrance exam. *In general, that hypothesis was proven true.* Of the 40 questions on the entrance exam, only two had a correct response rate **higher** than 50 per cent. Of those same questions, when asked after instruction, only **one** had a correct response rate **below** 50 per cent.

I mentioned earlier that the Final exam contained material that students had not demonstrated mastery. The definition I used was a correct response rate higher than 90% on the mid-term. 11 questions were eliminated using this method. I also mentioned that one student unofficially withdrew from the course...his departure skewed this data

somewhat...the correct response rate line moved to 88.9%, and one question that could have been eliminated was actually tested again.

As you can see in the following chart, my method of not asking mastered material does not make for a very pretty chart, but it plain to see that the material was much better understood after instruction.



IMPLICATIONS OF RESULTS

There is one startling result from the data gathered that may impact my teaching. Specifically, this is that some Mid-term correct response rates were higher than the Final rates.

I would think this has mostly to do with the fact that two students, both in MA 085, refused to even attempt the "scary math" portion of the final, even though both of these students had shown adequate success on the mid-term. They knew that they could still pass the class by answering all of the other questions correctly (which they did amazingly well).

There does seem a consistency, though, to many questions that were asked on both post-tests. They retained a more thorough understanding of the vocabulary and concept after immediate teaching that went down after two months.

CLOSING THE LOOP

There are three things about my teaching that this study caused me to re-examine.

Cumulative Testing: It has been my policy not to use cumulative testing, but to instead segment the knowledge areas of my courses. The results of this assessment have reminded me that cumulative exams test *retention* of information, which is the ultimate goal. Therefore, when I structure classes or even update syllabi of old classes, I will strive to organize the course so that the more important knowledge is covered first, to use the continued testing as a reinforcement strategy.

Break in the flow: This particular class is susceptible to interruption from the mainstage productions. Everywhere I have attended as a student or worked on the staff or faculty, the Stagecraft class gets lectures and labs cancelled to work on a production. I conceded to the pressures of the situation, and scheduled work days in on key dates. The justification is that during class, we work on a structured completion of certain tasks, but during crunch time, the work is more varied and working in a pressured situation is a different learning skill.

The first production of the semester did not need any additional days outside of those scheduled in the syllabus. The second production did require two extra work days. I cut a fairly non-essential topic from the syllabus to cover one day, but the other topic scheduled I covered in half a class period, on the review day for the second exam. The score on question covering that topic was a 22% correct response rate.

To fix this situation, I see three strategies: (1) Arrange the syllabus so that the fluff is around more crunch days, (2) Arrange the season so that there is one bigger production, with more time and the second production is a smaller one, so that the pressures of being mid-semester don't conflict with the season, and (3) develop a better Director / Technical Director relationship so that making concessions and "cutting" items for time necessities is a possibility. At this juncture, only option 1 is viable and under my control.

Curriculum Integration: It has been my opinion that we as educators should teach our students whatever support knowledge and processes were necessary to learn the material effectively. In the case of this course, basic math skills. One of our most successful and exciting lectures occurred mid-semester when one of the remedial math students "got" not only the new process of building platforms that people stand on, but also the concept of fractions *and* borrowing from base-16 numbers, as imperial measurement requires you to do. After that successful day, though, we never got back to math until the review day at the end of the semester. I will endeavor to structure this course so that the skill is used more, in an individually accountable way, throughout the semester.

Question	Correct	Partial	%
1	0	2	11.1
2	0	2	11.1
3	0	1	5.6
5	9	0	100.0
6	1	4	33.3
9	1	2	22.2
10	0	3	16.7
11	1	0	11.1
12	2	0	22.2
13	2	3	38.9
14	0	0	0.0
15	0	1	5.6
16	1	5	38.9
17	4	5	72.2
18	0	0	0.0
19	0	2	11.1
20	0	4	22.2
21	0	0	0.0
22	0	0	0.0
23	0	0	0.0
24	0	0	0.0
25	0	0	0.0
26	0	0	0.0
27	0	0	0.0
28	0	0	0.0
29	0	1	5.6
30	0	0	0.0
31	0	0	0.0
32	0	0	0.0
33	0	0	0.0
34	0	0	0.0
35	0	0	0.0
36	0	0	0.0
37	0	0	0.0
38	0	2	11.1
39	0	1	5.6
40	0	0	0.0

ENTRANCE EXAM			
Correct	Partial	%	
0	2	11.1	
0	2	11.1	
0	1	5.6	
9	0	100.0	
1	4	33.3	
1	2	22.2	
0	3	16.7	
1	0	11.1	
2	0	22.2	
2	3	38.9	
0	0	0.0	
0	1	5.6	
1	5	38.9	
4	5	72.2	
0	0	0.0	
0	2	11.1	
0	4	22.2	
0	0	0.0	
0	0	0.0	
0	0	0.0	
0	0	0.0	
0	0	0.0	
0	0	0.0	
0	1	5.6	
0	0	0.0	

MIDTERM EXAM			
Correct	Partial	%	
7	1	83.3	
6	3	83.3	
7	2	88.9	
8	1	94.4	
7	2	88.9	
7	2	88.9	
9	0	100.0	
5	1	61.1	
7	1	83.3	
9	0	100.0	
9	0	100.0	
9	0	100.0	
7	2	88.9	
6	3	83.3	
8	0	88.9	
9	0	100.0	
9	0	100.0	
9	0	100.0	
3	6	66.7	
8	1	94.4	
6	3	83.3	
6	3	83.3	
5	4	77.8	
5	4	77.8	
6	3	83.3	

FINAL EXAM			
Correct	Partial	%	
7	2	88.9	
5	4	77.8	
8	1	94.4	
7	2	88.9	
8	1	94.4	
6	2	77.8	
1	2	22.2	
7	2	88.9	
7	2	88.9	
7	2	88.9	
8	2	88.9	
8	0	88.9	
9	0	100.0	
9	0	100.0	
5	4	77.8	
3	3	50.0	
6	3	83.3	
3	6	66.7	
2	6	55.6	
2	5	50.0	
5	3	72.2	
4	3	61.1	
3	4	55.6	
6	1	72.2	
5	2	66.7	
5	2	66.7	
9	0	100.0	
7	1	83.3	
8	1	94.4	

Question	Still in Math 085					Previously taken TH101					Results		
	EJ	Frank	Jose	Ray	Vic	Kenny	Lee	Tina	Rich	Correct	Partial	%	
1			P	P						0	2	11.1	
2							P	P		0	2	11.1	
3						P				0	1	5.6	
5	C	C	C	C	C	C	C	C	C	9	0	100.0	
6	P	P	C	P	P					1	4	33.3	
9			P					P	C	1	2	22.2	
10		P						P	P	0	3	16.7	
11							C			1	0	11.1	
12					C				C	2	0	22.2	
13	P		P	C		C	P			2	3	38.9	
14										0	0	0.0	
15						P				0	1	5.6	
16	P	P	P	P				P	C	1	5	38.9	
17	P	P	P	C	C	C	P	C	P	4	5	72.2	
18										0	0	0.0	
19		P				P				0	2	11.1	
20			P	P			P		P	0	4	22.2	
21										0	0	0.0	
22										0	0	0.0	
23										0	0	0.0	
24										0	0	0.0	
25										0	0	0.0	
26										0	0	0.0	
27										0	0	0.0	
28										0	0	0.0	
29								P		0	1	5.6	
30										0	0	0.0	
31										0	0	0.0	
32										0	0	0.0	
33										0	0	0.0	
34										0	0	0.0	
35										0	0	0.0	
36										0	0	0.0	
37										0	0	0.0	
38	P	P								0	2	11.1	
39					P					0	1	5.6	
40										0	0	0.0	

Question	Still in Math 085					Previously taken TH101					Results	
	EJ	Frank	Jose	Ray	Vic	Kenny	Lee	Tina	Rich	Coirect	Partial	%
1	P	C	C	C	C	P	C	C	C	7	2	88.9
2	P	C	P	C	C	P	P	C	C	5	4	77.8
3	P	C	C	C	C	C	C	C	C	8	1	94.4
5												
6												
9												
10												
11	C	C	C	C	C	P	C	P	C	7	2	88.9
12												
13	P	C	C	C	C	C	C	C	C	8	1	94.4
14	C	C	P	C	C	X	C	C	P	6	2	77.8
15	X	P	P	X	X	X	X	X	C	1	2	22.2
16												
17												
18												
19												
20	C	C	C	P	C	C	C	P	C	7	2	88.9
21	C	C	C	C	C	X	C	C	C	8	0	88.9
22	C	C	C	C	C	C	C	C	C	9	0	100.0
23	C	C	C	C	C	C	C	C	C	9	0	100.0
24												
25	P	C	C	P	P	C	P	C	C	5	4	77.8
26	X	X	C	C	P	P	P	X	P	3	3	50.0
27												
28	P	C	C	C	C	P	C	C	P	6	3	83.3
29	C	P	C	C	P	P	P	P	P	3	6	66.7
30	P	P	X	P	C	P	C	P	P	2	6	55.6
31	P	P	X	P	C	X	C	P	P	2	5	50.0
32	P	C	X	P	C	C	C	P	C	5	3	72.2
33	C	P	X	X	C	C	C	P	C	4	3	61.1
34	P	P	X	X	C	C	C	P	P	3	4	55.6
35	C	P	X	X	C	C	C	C	C	6	1	72.2
36	P	P	X	X	C	C	C	C	C	5	2	66.7
37	P	P	X	X	C	C	C	C	C	5	2	66.7
38	C	C	C	C	C	C	C	C	C	9	0	100.0
39	C	C	C	C	P	X	C	C	C	7	1	83.3
40	C	C	C	C	P	C	C	C	C	8	1	94.4

1. In the mainland United States, the most available building material is white pine. It is usually available in grades ranging from A select to No. 2 common. What is the most readily available lumber on Guam and what are the grades it is available in?

2. What are the two most common sizes of lumber used in theatrical construction? How and why is their "real" dimension different than what we call them?

3. How many layers are in $\frac{3}{4}$ " Plywood? $\frac{1}{4}$ " Plywood? What is significant about how the layers are arranged?

5. Draw and identify a Phillips Head screw-head and a Flat Head screw-head.

6. Why would you choose to use a nail over a screw? A screw over a nail?

9. How and why would you use a chalk line?

10. What are the two parts of a staple?

11. Why would you choose to use a circular saw over a saber saw? Vice versa?

12. What does the word "pneumatic" mean?

13. Draw a side view of a step unit, identifying the Riser, Tread, and Carriage.

14. What is the acceptable range in Rise in step units on the stage?

15. Give the "real" length of the following lines, in feet and inches, as if they were drawn in the noted scales.

- _____ $\frac{1}{4}'' = 1' - 0''$
- _____ $\frac{1}{2}'' = 1' - 0''$
- _____ $1'' = 1' - 0''$
- _____ $3'' = 1' - 0''$
- _____ 1:1
- _____ 2:1

16. What types of clothes are appropriate to wear in the shop?

17. In terms of safety equipment, what should you always wear when using power tools?

18. Many adhesives are marketed as glues, such as Elmers Glue-All. What is the difference between glues and adhesives?

19. What are the three most common types of adhesives used in theatre construction?

20. What is a wagon?

21. The last steps in making a soft-covered flat include tightening the fabric. What is this called and how is the solution mixed?

22. What do you put on and take off of an arbor?

23. What is the most important thing to remember when using a Wire Rope Clamp to make a loop in aircraft cable?

24. Why do we attach keystones and cornerblocks $\frac{3}{4}$ " or 1" from the edge of the frame instead of flush with the edge?

25. What is trussing? What are the two types used most often in theatre?

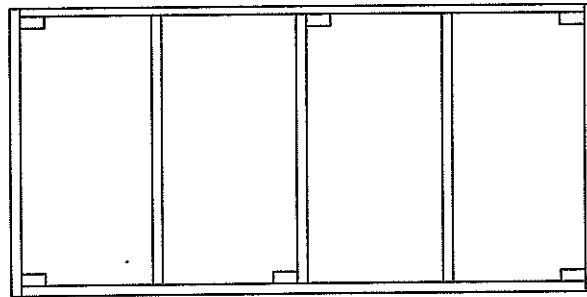
26. At what spacing do we need framing support in a platform or flat?

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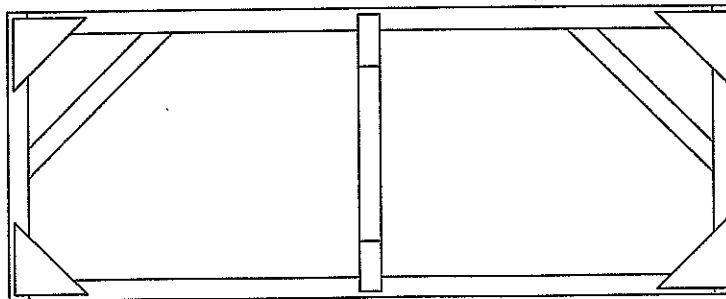
27. Please draw the staple pattern for the following joints.



28. Identify the following drawing and label the parts.



29. Identify the following drawing and label the parts.



All of the following questions ask you to write a cut list for the piece of scenery listed. Please note what type of lumber you are using. For example, 4' - 0" x 8' - 0" Platform would yield a cut list like this:

All 2x4:
2 @ 4' - 0"
3 @ 3' - 9"
2 @ 7' - 9"

30. 4' - 0" x 12' - 0" Theatrical Flat

31. 4' - 0" x 12' - 0" Studio Flat

32. 4' - 0" x 6' - 0" Platform

33. 3' - 6" x 10' - 3" Theatrical Flat

34. 5' - 3" x 9' - 6" Studio Flat

35. 2' - 6" x 7' - 9" Platform

36. 6' - 0" x 12' - 0" Theatrical Flat

37. 5' - 0" x 10' - 0" Studio Flat

38. What are the five most commonly used knots in rigging?

39. What is the rhyme that tells you how to tie a Bowline?

40. If you need a shackle, a d-ring plate and turnbuckle, what are you trying to do?

1. In the mainland United States, the most available building material is white pine. It is usually available in grades ranging from A select to No. 2 common. What is the most readily available lumber on Guam and what are the grades it is available in?

2. What are the two most common sizes of lumber used in theatrical construction? How and why is their "real" dimension different than what we call them?

3. How many layers are in $\frac{3}{4}$ " Plywood? $\frac{1}{4}$ " Plywood? What is significant about how the layers are arranged?

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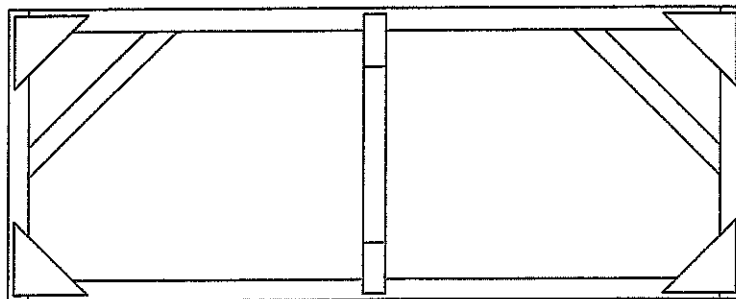
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 Toggles: 3 @ 3' - 9"
 Stiles: 2 @ 7' - 9"*

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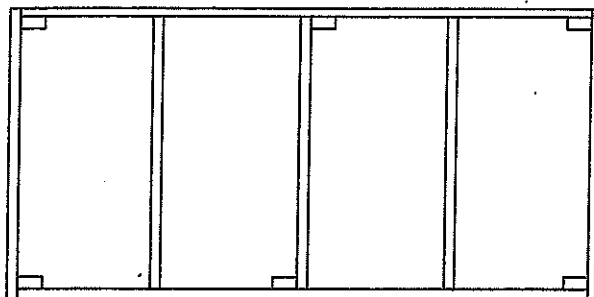
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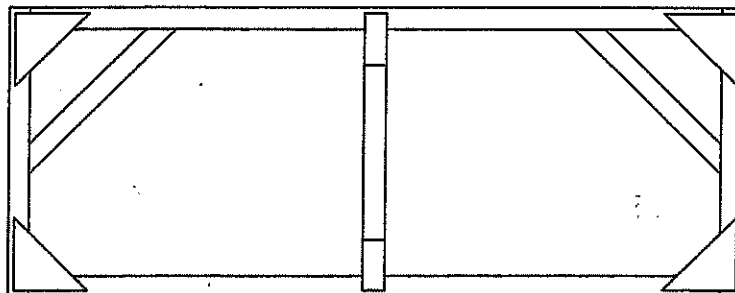
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