Audio Technology Assessment Report
Spring 2018

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1   INTRODUCTION

Florida SouthWestern State College's Music Department employs a pre/post-test disposition survey as a means of assessing learning in MUM 2601C *Recording Techniques (II)*. The Audio Technology Program initiated AY 2017-2018 is currently in its first semester of developing an assessment to support the program's growth and further develop and enhance student learning. This assessment was developed and piloted in this term, Spring 2018. This report provides analysis of both the results of the assessment, as well as the assessment tool, in an effort to fine-tune the piloted assessment package.

For additional detail or further analysis not provided in this report, please contact Dr. Joseph F. van Gaalen, Director of Assessment & Effectiveness (jfvangaalen@fsw.edu; x16965).

2   ASSESSMENT TOOL

The assessment method utilizes a disposition survey administered as a pre-test and post-test to gauge growth in varying topics associated with the course outcomes. The disposition survey consists of 10 questions, each intended to be rated on the same scale as shown below:

- Strongly Agree
- Moderately Agree
- Agree
- Somewhat Agree
- Disagree

The questions used in the disposition survey are designed to ensure that by the end of term, students will have a strong knowledge of the core concepts of the course. The course outcomes for MUM 2601C applicable to this assessment are as follows:

1. Apply knowledge of microphone, monitor, amplifier design through appropriate setup.
2. Describe and apply knowledge of signal flow and processing.
3. Demonstrate recording, mix down and mastering processes.
4. Describe aspects of digital and physical music recording production, manufacture, and distribution.

The survey prompts of the disposition survey are shown below:

1. Rate your experience with a mixing console.
2. Rate your experience with recording equipment direct to hard drive and direct to DAW.
3. Knowledge of recording room acoustics, diffusion vs. absorption and what frequencies are affected.

4. General differences in tonal quality as it relates to microphone proximity (placement).
5. Recording vocal tracks, miking techniques, and track capturing.
6. Recording Acoustic Guitar tracks, miking techniques, DI, and track capturing.
7. Recording Bass Guitar tracks, miking techniques, DI, and track capturing.
8. Recording drum / percussion tracks, close and far miking techniques, multiple vs. zone miking, and track capturing levels.
9. Recording electric guitar tracks, close and far miking techniques, multiple mics vs. DI, software modeling, and track capturing levels.
10. Rate your knowledge of microphone types, and the instruments that they should be used on.

3 ASSESSMENT RESULTS & RECOMMENDATIONS

3.1 ASSESSMENT RESULTS

For the spring 2018 assessment, 12 artifacts were collected from the MUM 26001C pre-test and 10 from the post-test, accounting for 10 common artifacts between the pre-test and post-test. Results of pre-test and post-test by ordinal response percentage is shown in Figure 1 below. Increases in positive response are visible for all questions and exhibit exceptional growth. Only question 1, "Rate your experience with a mixing console" exhibits a growth of less than 80%. Questions 1, and 3-9 exhibit growth from negative responses to positive responses. Questions 2 and 10 exhibit growth originating with more neutral responses. From an individual perspective, an interpretation of these values would mean students enter the course with some confidence in recording equipment and microphone types and then exhibit growth. In all other areas, students exhibit limited confidence upon entering the course and then exhibit growth.

	PRE-TEST					POST-TEST					CHANGE				
	More negative			More positive		More negative			More positive		Negative	Neutral	Positive		Scale
1	75%	0%	0%	25%	0%	0%	10%	0%	30%	60%	-65%	0%	65%		90%
2	17%	8%	67%	8%	0%	0%	0%	0%	50%	50%	-25%	-67%	92%		60%
3	50%	42%	8%	0%	0%	0%	0%	10%	30%	60%	-92%	2%	90%		30%
4	50%	17%	33%	0%	0%	0%	0%	0%	20%	80%	-67%	-33%	100%		0%
5	50%	8%	33%	0%	8%	0%	0%	10%	20%	70%	-58%	-23%	82%		-30%
6	42%	42%	8%	8%	0%	0%	0%	10%	40%	50%	-83%	2%	82%		-60%
7	42%	33%	17%	8%	0%	0%	0%	10%	20%	70%	-75%	-7%	82%		-90%
8	58%	25%	0%	17%	0%	0%	0%	0%	40%	60%	-83%	0%	83%		
9	45%	27%	9%	0%	0%	0%	0%	0%	40%	60%	-73%	-9%	100%		
10	33%	25%	42%	0%	0%	0%	0%	0%	70%	30%	-58%	-42%	100%		

| Scale | 0% | 20% | 40% | 60% | 80% | 100% |

Figure 1. Comparison of responses to disposition questions 1-10 based on survey prompt. Questions from left to right (More negative to More positive) reflects the ordinal options "Disagree", "Somewhat Agree", "Agree", "Moderately Agree", and "Strongly Agree."

Another way of looking at these results is by comparing growth from pre-test to post-test from a student-by-student perspective. In other words, instead of reviewing the percentage of those

responding negatively or positively to a particular prompt, we can review growth based on a particular initial response. Figure 2 provides an example of this method of analysis. To interpret the figure, it is important to note that the percentages on the y-axis (0-100%) are not referring to the percentages plotted within the graph. For example, for the prompt, "Rate your experience with a mixing console." approximately 75% of students report in the pre-test "Disagree." All representatives of that 75% (i.e. 100% of the 75%) report growth in the post-test. Similarly, the remaining 25% of students responding to this prompt in the pre-test report "Moderately agree" in the pre-test. In the post-test, 33% (of that remaining 25%) report growth. This figure is useful because it can help the reader understand what 'kind' of student reports growth, where 'kind' refers to how they responded in the pre-test. In short, for the example described above, we see that 100% of students reporting little confidence/experience with mixing consoles report growth following the class. By comparison, only 33% of those initially reporting moderate confidence/experience report growth following the class.
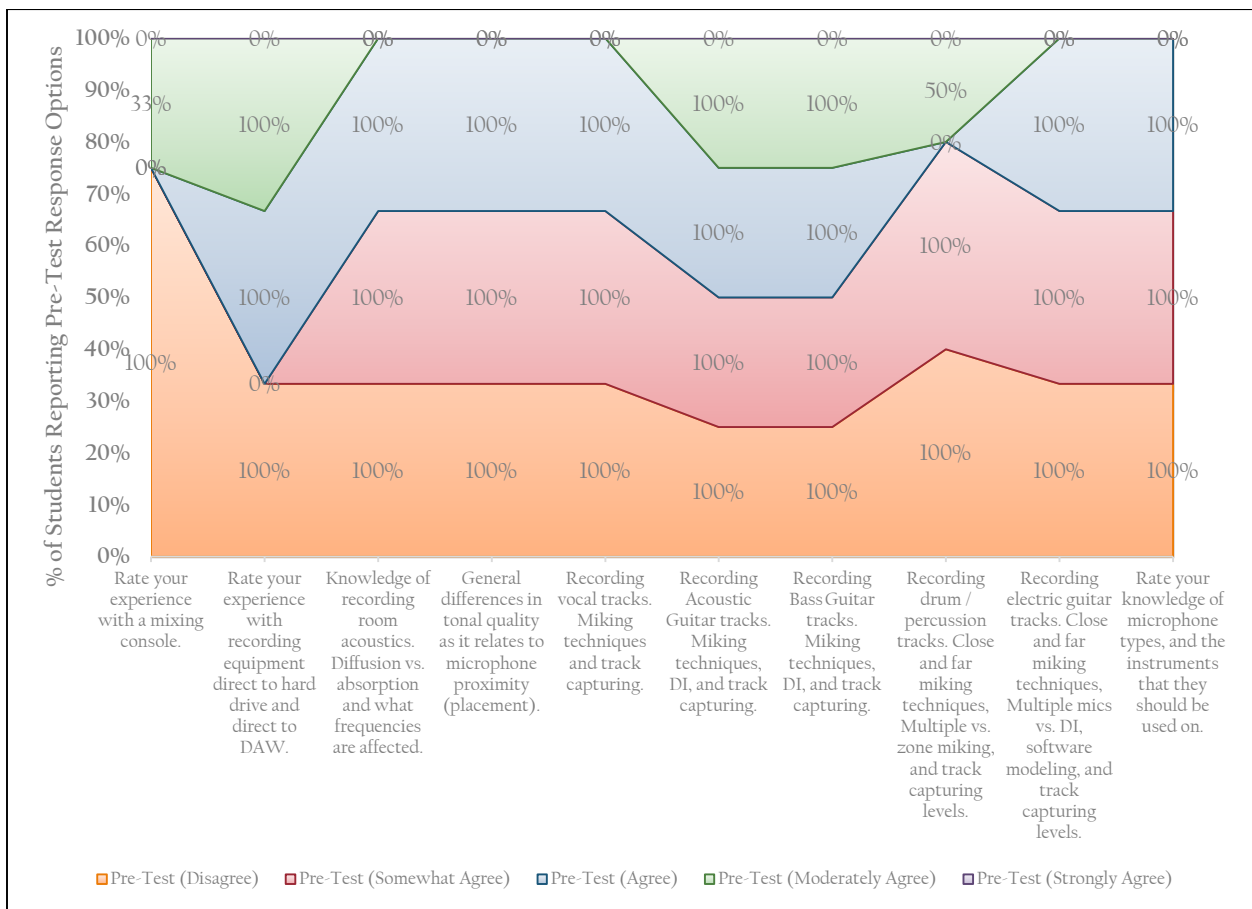

Figure 2. Comparison of responses to disposition questions 1-10 based on initial response. Example: For the initial prompt, "Rate your experience with a mixing console." approximately 75% of students report in the pre-test "Disagree." All representatives of that 75% (i.e. 100% of the 75%) report growth in the post-test. Similarly, the remaining 25% of students responding to this prompt in the pre-test report "Moderately agree" in the pre-test. In the post-test, 33% (of that remaining 25%) report growth.

3.2 ASSESSMENT RECOMMENDATIONS

While both the results and confirmation from the faculty administering the disposition survey that students reported a clear understanding when completing the survey support the validity of the results,

it is important to note that the questions, in the manner currently devised, may lead to confusion in future studies. What follows are some suggestions (original in black, suggested in blue) based on standard survey writing techniques to ensure clarity over time (Kuh et al., 2015).

The survey prompts of the disposition survey are shown below:

1. Rate your experience with a mixing console.
    a. Change response options to:
        i. Very experienced
        ii. Experienced
        iii. Somewhat experienced
        iv. Minimally experienced
        v. No experience
2. Rate your experience with recording equipment direct to hard drive and direct to DAW.
    a. Change response options to:
        i. Very experienced
        ii. Experienced
        iii. Somewhat experienced
        iv. Minimally experienced
        v. No experience
3. Rate your knowledge of recording room acoustics, diffusion vs. absorption, and what frequencies are affected.
    a. Change response options to:
        i. Very knowledgeable
        ii. Knowledgeable
        iii. Somewhat knowledgeable
        iv. Minimal knowledge
        v. None
4. Rate your knowledge of general differences in tonal quality as it relates to microphone proximity (placement).
    a. Change response options to:
        i. Very knowledgeable
        ii. Knowledgeable
        iii. Somewhat knowledgeable
        iv. Minimal knowledge
        v. None
5. Rate your knowledge of recording vocal tracks, miking techniques, and track capturing.
    a. Change response options to:
        i. Very knowledgeable
        ii. Knowledgeable
        iii. Somewhat knowledgeable
        iv. Minimal knowledge
        v. None
6. Rate your knowledge of recording Acoustic Guitar tracks, miking techniques, DI, and track capturing.

    a. Change response options to:
        i. Very knowledgeable
        ii. Knowledgeable
        iii. Somewhat knowledgeable
        iv. Minimal knowledge
        v. None

7. Rate your knowledge of recording Bass Guitar tracks, miking techniques, DI, and track capturing.
    a. Change response options to:
        i. Very knowledgeable
        ii. Knowledgeable
        iii. Somewhat knowledgeable
        iv. Minimal knowledge
        v. None

8. Rate your knowledge of recording drum / percussion tracks, close and far miking techniques, multiple vs. zone miking, and track capturing levels.
    a. Change response options to:
        i. Very knowledgeable
        ii. Knowledgeable
        iii. Somewhat knowledgeable
        iv. Minimal knowledge
        v. None

9. Rate your knowledge of recording electric guitar tracks, close and far miking techniques, multiple mics vs. DI, software modeling, and track capturing levels.
    a. Change response options to:
        i. Very knowledgeable
        ii. Knowledgeable
        iii. Somewhat knowledgeable
        iv. Minimal knowledge
        v. None

10. Rate your knowledge of rate your knowledge of microphone types, and the instruments that they should be used on.
    a. Change response options to:
        i. Very knowledgeable
        ii. Knowledgeable
        iii. Somewhat knowledgeable
        iv. Minimal knowledge
        v. None

4 COHORT COMPARISONS

4.1 DUAL ENROLLMENT (CONCURRENT) TO TRADITIONAL COMPARISON

No dual enrollment (concurrent) sections are offered for this course and so no comparison could be completed.

4.2 ONLINE TO TRADITIONAL COMPARISON

No online sections are offered for this course and so no comparison could be completed.

4.3 COMPARISON BY CAMPUS/SITE

The course is only taught at one location (Thomas Edison) and so no cross-campus comparison can be completed.

5 LONGITUDINAL STUDY

The pre-/post disposition survey for MUM 2601C is in its first pilot phase for spring 2018. As further data is collected in coming terms, this section will track achievement through time and highlight strengths, weaknesses and any long term trends.

6 CONCLUSIONS

The Audio Technology Program initiated AY 2017-2018 is currently in its first semester of developing an assessment to support the program's growth and further develop and enhance student learning. This assessment was developed and piloted in this term, Spring 2018. This report provides analysis of both the results of the assessment, as well as the assessment tool, in an effort to fine-tune the piloted assessment package.

A drilldown of results are as follows:
1. For the spring 2018 assessment, 12 artifacts were collected from the MUM 26001C pre-test and 10 from the post-test, accounting for 10 common artifacts between the pre-test and post-test.
2. In a comparison of pre-test to post-test changes in survey responses by question, only question 1, "Rate your experience with a mixing console" exhibits a growth of less than 80%. Questions 1, and 3-9 exhibit growth from negative responses to positive responses. Questions 2 and 10 exhibit growth originating with more neutral responses. From an individual perspective, an interpretation of these values would mean students enter the course with some confidence in recording equipment and microphone types and then exhibit growth. In all other areas, students exhibit limited confidence upon entering the course and then exhibit growth.
3. In a comparison of pre-test to post-test changes in survey responses by initial response, we see that 100% of students reporting little confidence/experience with mixing consoles report growth following the class. By comparison, only 33% of those initially reporting moderate confidence/experience report growth following the class.
4. Some slight re-wording of survey prompts and response options is recommended to ensure clarity of the results going forward.

7 REFERENCES

Kuh, G.D., Ikenberry, S.O., Jankowski, N.A., Cain, T.R., Ewell, P.T., Hutchings, P., and Kinzie, J. 2015. Using Evidence of Student Learning to Improve Higher Education. Jossey-Bass. San Francisco, CA. 275pp.