

(1) Please provide your raw assessment data (e.g., number of students who obtained the questions correct; results of scoring rubric, etc.). You may upload this as a separate attachment.

Here is my raw assessment data for the lesson I conducted in my Principles of Accounting II (BTA112) class:

Student	Pre-lesson assessment			Total	Z-score	Post-lesson assessment			Total	Z-score
	Q1	Q2	Q3			Q1	Q2	Q3		
1	0	0	1	1	-1.851	1	2	2	5	0.025
2	1	0	2	3	-0.673	2	0	1	3	-1.007
3	2	2	0	4	-0.084	2	0	0	2	-1.523
4	2	2	1	5	0.505	2	2	3	7	1.056
5	1	2	2	5	0.505	2	1	1	4	-0.491
6	2	2	1	5	0.505	1	2	2	5	0.025
7	2	0	0	2	-1.262	1	0	1	2	-1.523
8	1	2	0	3	-0.673	1	1	1	3	-1.007
9	2	2	3	7	1.682	2	1	4	7	1.056
10	2	2	0	4	-0.084	1	2	3	6	0.540
11	1	0	0	1	-1.851	1	2	0	3	-1.007
12	2	2	2	6	1.094	1	2	4	7	1.056
13	0	2	2	4	-0.084	2	1	3	6	0.540
14	2	2	2	6	1.094	3	2	3	8	1.572
15	2	2	3	7	1.682	2	1	2	5	0.025
16	2	2	1	5	0.505	2	2	1	5	0.025
17	1	0	1	2	-1.262	1	0	2	3	-1.007
18	3	2	0	5	0.505	2	0	1	3	-1.007
19	2	2	0	4	-0.084	3	2	4	9	2.088
20	1	2	0	3	-0.673	2	1	3	6	0.540
21	2	2	1	5	0.505	1	2	2	5	0.025
Mean	1.57	1.524	1.048	4.143		1.667	1.238	2.048	4.952	

(2) Please summarize your assessment results with reference to the three specific learning goals you articulated in each of the three areas including (a) knowledge and conceptual understanding; (b) thinking and other skills; and (c) attitudes, values, dispositions and habits of mind.

To refresh everyone's memory, my QR learning goals are as follows:

1) **Knowledge and Conceptual Understanding:** Students should be able to distinguish between an absolute number and a percentage, and to use absolute or relative numbers to support or refute an argument.

2) **Thinking and Other Skills:** Students should be able to calculate ratios using data from real world financial statements, which contain a great deal of numeric information. They should be able to compute percentages even when the financial statement information is very large (e.g. in millions or billions of dollars).

3) **Attitudes, Values, Dispositions and Habits of Mind:** Students should be able to analyze quantitative information while recognizing the limits of their analysis. For example, Candidate A may complete tax returns at a faster rate than Candidate B while Candidate B may make fewer mistakes. Students should be able to advocate for Candidate A or B while also stating appropriate caveats. Ideally a student will use quantitative analysis to form appropriate questions (e.g. "What is the cost of a mistake?").

Mean scores improved from the pre-lesson assessment to the post-lesson assessment two of the three categories.

For "knowledge and conceptual understanding" (question #1) the mean improved from 1.57 to 1.67 out of a possible 3 points. For "attitudes, values, dispositions and habits of mind" (question #3) the mean improved from 1.04 to 2.04 out of a possible 4 points. The improvement in both these areas was encouraging, although the pre-lesson assessment was lower than I would had expected, and the post-lesson assessment revealed the persistence of a significant deficiency. I view the skill being assessed in question 3 as the main aim of the lesson, and was gratified to see the most improvement in this area.

For thinking and other skills (question #2) the mean decreased from 1.5 to 1.2. It is hard to know what to make of this, especially since I ran the same assessment in another section and saw a significant improvement after the intervention. Students seemed proficient in this particular skill on the final exam, so I'm tentatively labeling it an aberration but plan to test again next term to verify.

*(3) Do you feel that the assessment instrument(s) you used adequately measured whether or not your instructional activities were effective? Why or why not? Please also indicate how you will use these assessment results to improve your instruction.*

I think the assessment instruments measured the effectiveness of the instructional activities with reasonable accuracy, with the caveat that I seemed to find a possible aberration in the results to question two (discussed above). Also, one of the questions in the post-lesson assessment measured discipline specific technical skills (which were part of the lesson being assessed) in addition to QR skills, so the pre- and post- assessments were not precisely parallel.

The main takeaway from the assessment results was that the students need more QR instruction and additional written assessments. My instruction will be improved by refocussing me on these areas.

*(4) Please post your reflections on incorporating the instructional and assessment materials you developed/adapted as a result of NICHE. Do you feel they were helpful and/or effective? How did your students respond to them? Will you continue to use them (both instructional and assessment materials) in the future?*

The NICHE seminar was a transformational experience for me as a new professor, focussing me on the goal of teaching broad QR skills while teaching the fundamentals of my discipline. I plan on continuing to use the assessments I developed as I believed they are helpful and worthwhile exercises, and help me gauge the effectiveness of my teaching. The instructional materials themselves will continue to evolve as I learn what works and what doesn't (based in part on the assessment results).

The students seemed to enjoy the lesson; I may in the future space out the pre-lesson assessment and the post-test assessment.