**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.**

**(a)  Knowledge & conceptual understanding**

*Students will calculate and interpret the percentage increase or decrease of a particular quantitative measure over two points in time*

On both the pre- and post-assessment, students did not demonstrate the ability to calculate the percent increase with the exception of one student on one question on the post-assessment.  However, this student set the problem up incorrectly, and so the answer was negative when it should have been positive

**(b)  Thinking and other skills**

*Students will, in writing, draw one or more conclusions about statistical data given in a table or graph (economic, educational, demographic, etc.) and, using the data provide justification for their conclusions.*

Here, I am reporting on students' reporting of trends - even though the goal listed here was about conclusions.  That is because, on both assessments, they were asked to make statements and them provide examples of those statements from the data. Students did not provide any examples on either assessment for statements that they made, except in one case where the student directed the reader to look at the legend.  This contained the ages of people in the study.

**(c)   Attitudes, values, dispositions and habits of mind**

*Students will identify a pattern in data (or examine a pattern that has been postulated by someone else) and generate a list of possible, plausible reasons for that pattern.*

Here I am reporting on students' identificaiton of conclusions instead of patterns.  That is because, on both assessments, students were asked to give the reasons for the conclusions that they drew (not patterns). On each assessment, only 2/4 students drew conclusions.   It seems that some students were able to draw at least once conclusion and give a reason for that conclusion on the pre-assessment.   However, the majority of them were able to give possible reasons for trends occurring in the data without having properly identified those trendss on the pre-assessment.  On the post assssment, students seemed to offer less plausible reasons for the trends they saw/conclusions that they drew than on the pre-assessment

**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 feel that the assessment instrument was adequate in some ways, and in some ways, it was not.

It did enable me to see whether or not students were able to:

* Calculate percent increase/decrease
* Draw conclusions
* Give reasons that the conclusions drawn may be the case

My pre- and post-assessment, however, did not match the wording of the understandings for Thinking and Attitudes.  In those understandings, where I used the word "patterns" on the rubric, I should have used "conclusions" and vice versa.  I had to take this into account and adjust my responses slightly when reporting on students' responses to the Thinking and Attitudes questions.

I also think that the idea of noticing patterns was underdeveloped.  I only asked students to give "statements" where I should have asked them to give "trends" or "patterns" that they saw.  From this assessment, I can see that students did not fully grasp the understanding of percent increase and decrease.  They also seemed to not have understood the relevance of providing examples of trends that they noticed.  This post-assessment does inform how I can change my teaching for the next semester.

Finally, I feel that the rubric could have been more robust, giving points for other scenarios that the ones which I listed.  Because this was not the case, I needed to create a numerical score in between 0.25 and 0.5 for some student answers.

I will have more informal exercises where students will identify what do we mean by evidence and what do we mean by a trend.  I will create and give to students examples of weak and strong trends and supporting evidence and ask them rate these examples, say which they feel are more informative, and why.

**(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?**

 I feel good about the instructional material that I created for NICHE.  Students responded with understanding to the percent inc/decrease lessons.  However, I see a big gap in the lesson where I asked students to find the percent increase and decrease using diagrams and “friendly" numbers and where I ask them to then analyze data with non-friendly numbers.  I need to provide a more scaffolded approach this year.  Also, some students resisted the diagrammatic approach.  I will have to determine a way to teach this without the diagram feeling like it is an external tool that is being imposed upon them.  Rather, I would like to have the diagrammatic tool be something which is seen as a helpful tool, or one that arises organically from their work.

Having a rubric for the pre- and post-assessment was extrmely helpful in that it gave me a guideline on how to grade.