Seton Hall University Libraries

WARNING CONCERNING COPYRIGHT RESTRICTIONS

The information stored in the Electronic Reserve system is protected under the Copyright Laws of the United States (Title 17 U.S. Code) governing the making of photocopies of copyrighted material. While the provisions of "fair-use" apply, the person using the system is liable for any infringement of copyright.

Opening this Electronic Reserve document indicates that you accept these copyright restrictions.
SETON HALL UNIVERSITY
College of Education and Human Services
Department of Education Leadership, Management and Policy

K-12 QUALIFYING EXAMINATION

ELMP K-12 DOCTORAL PROGRAM

EXAM DATE: NOVEMBER 5, 2010

Directions

Attached please find the Qualifying Exam. There are five (5) sections as outlined below.

- Before you begin, create a header for each page with your student ID number (found on the label of this envelope), the name of the exam you are taking [Qual K12] and today's date.

- You will answer one question in each of the Sections I - IV and all questions in Section V. Based upon your degree, please choose a K-12 or Higher Education question in Section IV (Research).

- When you complete a section, insert a page break before starting the next section.

- Please indicate on each question answered, the number and title of that question. (i.e. Question 2 – Policy, etc.)

In developing your responses, be sure to organize them in a logically coherent way and to make optimal use of relevant current research and literature applicable to each question.

I. CURRICULUM

II. PUBLIC POLICY PERSPECTIVES

III. ORGANIZATION

IV. RESEARCH

V. STATISTICS (Answer ALL questions)
K-12 QUALIFYING DOCTORAL EXAM

I. CURRICULUM

CURRICULUM QUESTION

You are asked to prepare a critique of the following *Educational Leadership* professional journal article, "The Best Value in Formative Assessment". In so doing, be certain to include in your discussion the relationship of this article to current literature and related research on this topic. It is also important to employ the higher order thinking skills of analysis, synthesis and evaluation in writing your critique.
The Best Value in Formative Assessment

Stephen Chappuis and Jan Chappuis

Ready-made benchmark tests cannot substitute for day-to-day formative assessment conducted by assessment-literate teachers.

Recently a school leader asked us to provide an example of a good test item on a formative assessment and then show how that item would be different when used on a summative test. He wanted to explain to his staff the difference between formative and summative assessment. His end goal was for teachers to develop assessments to measure how well students were mastering the content standards that would appear on the state accountability test before the test was given in the spring.

His question reflects the confusion many educators have about formative and summative assessment. This confusion isn't surprising: Definitions of formative assessment abound, resulting in multiple and sometimes conflicting understandings. And in part because of these varying definitions and views, practices labeled as formative assessment in schools today vary widely.

One result of No Child Left Behind has been a surge in student testing—much of it voluntary, going well beyond what federal...
law or state assessment systems require. Many schools and
districts administer tests with names like benchmark, short-
cycle, and interim assessments to predict student performance
on high-stakes tests and to identify students needing additional
help. This increasingly popular level of testing has contributed
to the widening scope of what is called formative assessment.

Testing companies in the K–12 education market, seeking to
support the trend toward more testing, sometimes advertise
products as "formative assessments." This adds to the
confusion by encouraging the idea that it's the test itself that's
formative (Chappuis, 2005).

In reality, this level of testing is often little more than a series
of minisummative tests, not always tightly aligned to what was
taught in the classroom. There is nothing inherently formative in
such tests—they may or may not be used to make changes in
teaching that will lead to greater student learning.

The Difference Between Summative and Formative
What is formative assessment, then? First, it's not a product.
That was the central misunderstanding of the administrator
who asked for an example of a good formative test item. Even
though assessments will continue to be labeled formative or
summative, how the results are used is what determines
whether the assessment is formative or summative.

To begin, let's look at summative assessment. In general, its
results are used to make some sort of judgment, such as to
determine what grade a student will receive on a classroom
assignment, measure program effectiveness, or determine
whether a school has made adequate yearly progress.
Summative assessment, sometimes referred to as assessment
of learning, typically documents how much learning has
occurred at a point in time; its purpose is to measure the level
of student, school, or program success.

Formative assessment, on the other hand, delivers information
during the instructional process, before the summative
assessment. Both the teacher and the student use formative
assessment results to make decisions about what actions to
take to promote further learning. It is an ongoing, dynamic
process that involves far more than frequent testing, and measurement of student learning is just one of its components.

**Summative Assessment Used in Formative Ways**

Almost any assessment instrument can be used for summative or formative purposes, but some, by design, are better suited to summative use and others to formative use. For example, state assessments, although they may also have some limited formative use, are designed to provide accountability data and to compare schools and districts. Because their primary purpose is summative, the results may not be communicated in ways that teachers and students can easily interpret and work with. Further, the results are often delivered months after the administration of the tests. For these reasons, such state tests usually do not function well in a formative way: They can’t contribute much information to guide day-to-day instruction or help determine the next learning steps of individual students.

**Benchmark assessments,** either purchased by the district from commercial vendors or developed locally, are generally meant to measure progress toward state or district content standards and to predict future performance on large-scale summative tests. A common misconception is that this level of assessment is automatically formative. Although such assessments are sometimes intended for formative use—that is, to guide further instruction for groups or individual students—teachers’ and administrators’ lack of understanding of how to use the results can derail this intention. The assessments will produce no formative benefits if teachers administer them, report the results, and then continue with instruction as previously planned—as can easily happen when teachers are expected to cover a hefty amount of content in a given time.

Teachers also select or develop their own summative assessments—those that count for a grade. Compared with state and district tests, these classroom assessments can more readily be adapted to formative use because their results are more immediately available and their learning targets have been more recently taught. When teachers know what specific learning target each question or task on their test measures, they can use the results to select and reteach portions of the
curriculum that students haven't yet mastered. Carefully
designed common assessments can be used this way as well.

Students, too, can use summative test results to make
decisions about further study. If the assessment items are
explicitly matched to the intended learning targets, teachers
can guide students in examining their right and wrong answers
in order to answer questions such as these:

- What are my strengths relative to the standards?
- What have I seen myself improve at?
- Where are my areas of weakness?
- Where didn't I perform as desired, and how might I make
  those answers better?
- What do these results mean for the next steps in my
  learning, and how should I prepare for that improvement?

For students to make maximum use of these questions to guide
further study, however, teachers must plan and allow time for
students to learn the knowledge and skills they missed on the
summative assessment and to retake the assessment. Lack of
time for such learning is one of the biggest hindrances to
formatively using summative classroom assessments.

Assessment for Learning

When teachers assess student learning for purely formative
purposes, there is no final mark on the paper and no summative
grade in the grade book. Rather, assessment serves as practice
for students, just like a meaningful homework assignment does.
This is formative assessment at its most valuable. Called
assessment for learning, it supports learning in two ways:

- Teachers can adapt instruction on the basis of evidence,
  making changes and improvements that will yield
  immediate benefits to student learning.
- Students can use evidence of their current progress to
  actively manage and adjust their own learning. (Stiggins,
  Arter, Chappuis, & Chappuis, 2006)

Assessment for learning can take many different forms in the
classroom. It consists of anything teachers do to help students
answer three questions (Atkin, Black, & Coffey, 2001):

Where am I going?

- Give students a list of the learning targets they are responsible for mastering, written in student-friendly language.

- Show students anonymous strong and weak examples of the kind of product or performance they are expected to create and have them use a scoring guide to determine which one is better and why.

Where am I now?

- Administer a nongraded quiz part-way through the learning, to help both teacher and students understand who needs to work on what.

- Highlight phrases on a scoring guide reflecting specific strengths and areas for improvement and staple it to student work.

- Have students identify their own strengths and areas for improvement using a scoring guide.

- Have students keep a list of learning targets for the course and periodically check off the ones they have mastered.

How can I close the gap?

- Give students feedback and have them use it to set goals.

- Have students graph or describe their progress on specific learning targets.

- Ask students to comment on their progress: What changes have they noticed? What is easy that used to be hard? What insights into themselves as learners have they discovered?

When students use feedback from the teacher to learn how to self-assess and set goals, they increase ownership of their own success. In this type of assessment environment, teachers and students collaborate in an ongoing process using assessment information to improve rather than judge learning. It all hinges
on the assessment's ability to provide timely, understandable, and descriptive feedback to teachers and students.

Feedback: The Key Difference
Feedback in an assessment for learning context occurs while there is still time to take action. It functions as a global positioning system, offering descriptive information about the work, product, or performance relative to the intended learning goals. It avoids marks or comments that judge the level of achievement or imply that the learning journey is over.

Effective descriptive feedback focuses on the intended learning, identifies specific strengths, points to areas needing improvement, suggests a route of action students can take to close the gap between where they are now and where they need to be, takes into account the amount of corrective feedback the learner can act on at one time, and models the kind of thinking students will engage in when they self-assess. These are a few examples of descriptive feedback:

- You have interpreted the bars on this graph correctly, but you need to make sure the marks on the x and y axes are placed at equal intervals.
- What you have written is a hypothesis because it is a proposed explanation. You can improve it by writing it as an "if ... then ..." statement.
- The good stories we have been reading have a beginning, a middle, and an end. I see that your story has a beginning and a middle, just like those good stories do. Can you draw and write an ending?
- You have described the similarities between ____ and ____ clearly in this paper, and you have identified key differences. Work on illustrating those differences with concrete examples from the text.

In contrast, the feedback from a summative assessment—whether given in the classroom or in a larger context—tells teachers and students who made it to the learning destination and who didn't. The assessment's coded, evaluative feedback—B+, 84%, Meets Standards, Great Job, Proficient, and so on—
does not identify individual student strengths and areas needing improvement. It does not offer specific information for course correction.

Advantages of Formative Classroom Assessment

Although all formative assessment practices have the potential to increase student learning, assessment for learning in the classroom offers a number of distinct benefits:

- The timeliness of results enables teachers to adjust instruction quickly, while learning is in progress.
- The students who are assessed are the ones who benefit from the adjustments.
- The students can use the results to adjust and improve their own learning.

When we try to teacher-proof the assessment process by providing a steady diet of ready-made external tests, we lose these advantages. Such tests cannot substitute for the day-to-day level of formative assessment that only assessment-literate teachers are able to conduct. The greatest value in formative assessment lies in teachers and students making use of results to improve real-time teaching and learning at every turn.

References


Stephen Chappuis (schappuis@ets.org) and Jan Chappuis (jchappuis@ets.org) work with the ETS Assessment Training Institute in Portland, Oregon (www.ets.org/ati).
II. MORE FOCUSED POLICY PERSPECTIVES

You must respond to any one of the questions listed below. There is no requirement to select a particular question based upon your program (K-12 or Higher Education)

PUBLIC POLICY PERSPECTIVES EXAM QUESTIONS

Directions: Select one (1) of the five questions presented below and respond to it in a coherent essay. Be sure to draw on your knowledge of policy analysis and the literature to frame your basic position, support the position with the best available evidence and to develop your response in clear and coherent prose.

Question #1: Equality

Higher education appears to be more important than ever. In an era of increasing socioeconomic inequality, strengthening the broadening educational opportunity is key not only to economic growth but to narrowing the gap between rich and poor. Please prepare a policy paper to (1) outline the historical trend of inequality in higher education opportunities, (2) discuss the roles of federal and state governments in promoting equal opportunities in higher education, and then focus on describing one major federal or state policy that have aimed at achieving equality, and (3) comment on the impact this policy has had on the equality in higher education. Please consider using data and research articles/reports in your response. Be certain to address all three required elements above.
PUBLIC POLICY PERSPECTIVES EXAM QUESTIONS (Con't)

Question #2: High School Exit Examination Policy

For more than two decades, many states have required students to pass exit examinations to obtain high school diplomas. Assume that you are on the advisory board for a state’s higher education commission, and your state has not adopted such a policy yet. The state policy makers would like you to present a report on the effects of the existing state high school exit exam policies in other states, so as to consider establishing such a policy in your state. Please write up a report to (1) describe the High School Exit Exam policy, (2) discuss how this policy has affected students, and (3) provide suggestions to the state’s policy-makers for an informed decision about the adoption and implementation of the high school exit exam policy. In your report, please use statistics, the historical trend of state adoption of high school exit exam policy, and research evidence on its effects. Address the three required elements above.

Question #3: Dimensions of Power

Understanding how “power” is obtained and used in school systems is an important part of a school administrator’s knowledge base and skill set. Identify, explain and discuss Fowler’s “Three Dimensions of Power” and what implications these dimensions have on a school administrator’s influence and ability for developing and implementing new policy. Be sure to consider all important stakeholders within a school district.
PUBLIC POLICY PERSPECTIVES EXAM QUESTIONS (Con’t)

Question # 4: Demonstrate your understanding of policy analysis

Directions: you must answer parts A and B and either C or D or E

A. What is your “working definition” of policy? In preparing your definition please define and distinguish between “Policy Analysis” and “Policy Advocacy”.

B. Education leaders should have a good understanding of policy that affects education, broadly speaking. Briefly defend this assertion in 2 to 3 paragraphs

Answer ONE of the following: either part C or D or E

C. Theorists often refer to various models for understanding the policy process. These models include: Institutionalism, Rationalism, Group Theory, Elite Theory and Incrementalism. Identify the characteristics of these models and your assessment of the strengths and weaknesses of these models in understanding policy development and implementation. In preparing your response you may find it useful to prepare a table to structure your response.

<table>
<thead>
<tr>
<th>Policy Analysis Model (prepare response for 3 of these models)</th>
<th>Identify / explain characteristics of model</th>
<th>Identify / explain strengths and weakness of model in helping education leader understand the development and implementation of education policy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Institutionalism</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rationalism</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Group Theory</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Elite Theory</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Incrementalism</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

OR
D. Some theorists speak of the "layered" concept of policy. What do you understand about this idea? Provide examples of at least 3 layers of policy and of some policy "instruments" that might be used by actors at that layer.

OR

E. Some theorists speak of the policy process or policy cycle. Chose one (there are several) policy processes or cycles. State the steps and explain briefly each step, including why the step is important. (This could be arranged as a table).

Question # 5: Cell Phone Policy

You are a newly appointed superintendent of schools for a suburban, middle class school district of roughly 5000 students. Currently, there is no district policy for student possession and use of personal cell phones when in school and on school grounds. Basically, cell phone usage by students, either in the classroom or in the halls, has been dealt with arbitrarily on a case-by-case basis by HS teachers and administrators. Needless to say, this has created numerous problems and issues with student deportment during the school day. Consequently, the BOE has charged you with developing district policy for student cell phone ownership and practice while on school grounds. Employing one of the several theories of the policy process or policy cycle, state the steps and explain how you would analyze, review and suggest possible policy changes concerning the district’s cell phone policy.
Bolman & Deal developed a conceptual framework, organizational frames, to facilitate the analysis of organizations. The four frames they advanced were influenced by the research and theories of a myriad of authors. The frames are not real in the empirical sense but attempt to provide the conceptual framework to analyze and discuss organizational behavior. In your opinion, how effective are they in promoting a deeper understanding of organizational behavior? What advantages and disadvantages do they present in understanding organizational behavior? In your response, be certain to cite the relevant research and related literature.
K-12 Qualifying Doctoral Exam

IV. RESEARCH

RESEARCH EXAM QUESTION

Choose **ONE** of the general research topic areas listed on the next page and develop a research study that addresses the topic. As you explain the study, be sure to include each of the following:

- **A statement of the “problem” you intend to investigate.**
  The problem statement should define the scope (magnitude) and the precise nature of the problem (dilemma, phenomenon of interest), as well as the usefulness of framing the problem in this form.

- **Research questions that derive logically from your problem statement.**

- **A coherent research plan and appropriate methods of data collection.**
  Identify what data are required to answer the questions, the sources of those data, and how the data will be obtained. Justify the effectiveness of this design in addressing the research questions.

  As you explain the data you intend to collect and the methods for doing so, be sure to clarify your strategy for ensuring reliability and validity.

- **Data Analysis Plan.** Articulate your plan for organizing and analyzing the raw data; specify how your analytical approach will address your research questions.
RESEARCH EXAM QUESTION (Con't)

Research Topic Choices

Choose Only One of the Six Choices to Answer
There is no requirement to select a particular question based upon your program (K-12 or Higher Education)

K-12 Research Topic Choices:

(1) The influence of a computerized formative assessment program in mathematics on Grade 8 student final report card grades in mathematics.
(2) The perceptions and understandings of elementary school teachers about co-teaching in an inclusive classroom.
(3) The relationship between Grade 11 student participation in three years of co-curricular programs and Grade 11 grade point average.

Higher Education Research Topic Choices:

(4) Decreases in state funding of higher education—organizational responses.
(5) Diversity of the undergraduate student population.
(6) Graduate-level program quality.
V. INTRODUCTORY STATISTICS
Answer All Questions

INTRODUCTORY STATISTICS QUALIFYING EXAMINATION

Statistical Analysis Questions
Answer all of the following questions and fully explain your rationale for interpreting the statistical information. The following background is provided as a context for all questions and analyses that follow. Any similarities to real programs and or data are purely coincidental and are not intended as factual.

Background:
More and more concern is expressed over the retention of tenure teachers. “in a time of public disillusionment with education and increasing demands on teachers, discourse among educators and policymakers about the emotional and spiritual needs of teachers is an urgent necessity” (Williams, 2003, p 74). Reviewing the issues related to this emerging problem raises myriad concerns over the policies and procedures associated with teacher employment and retention. Additionally, increased accountability for student performance and decreased employment benefits make it increasingly difficult to retain quality tenured teachers. “The ability to create and maintain a quality teaching and learning environment is limited not by teacher supply, but by high turnover among teachers who are already there” (National Commission on Teaching and America’s Future, 2003). There exists a growing desire not only to identify reasons why teachers leave the classroom but also to identify the reasons why successful tenure teachers choose to remain in the classroom.

A study of teachers’ overall satisfaction was completed in an effort to identify the factors affecting teachers’ decisions to remain in the profession. The study was conducted by a group of Seton Hall doctoral candidates who designed the Teacher Satisfaction Survey (TSS) to measure teachers’ satisfaction in their schools. The TSS was administered in 2003-2004 and again in 2007-2008. The variables were measured on a continuous scale, ranging from 1 to 5 with a lower score representing strong satisfaction while a higher score indicates greater dissatisfaction.

References

INTRODUCTORY STATISTICS
QUALIFYING EXAMINATION
FALL 2010

Question #1

Student researchers at Seton Hall University examined the correlation of each of the 21 TSS items with the independent variable which provided a measure of overall satisfaction in the 2007-2008 survey. The largest of the all calculated correlation coefficients depicted the relationship between TSS item U, "I am generally satisfied with being a teacher at this school" and item M "In this school, staff are recognized for a job well done."

Complete a review of the SPSS Pearson Correlation Analysis below. Be certain to report and interpret all the essential components of a thorough analysis including the size of r, the direction of the correlation, the significance and the coefficient of determination (R^2). What does the following output reveal to you with respect to the relationship between teacher recognition and job satisfaction. Please include comments on policy, practice and future research.

<table>
<thead>
<tr>
<th></th>
<th>Agree-generally satisfied</th>
<th>Agree-staff recognized</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agree-generally</td>
<td>Pearson Correlation</td>
<td>1.000</td>
</tr>
<tr>
<td>satisfied</td>
<td>Sig. (2-tailed)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>138</td>
</tr>
<tr>
<td>Agree-staff</td>
<td>Pearson Correlation</td>
<td>.680**</td>
</tr>
<tr>
<td>recognized</td>
<td>Sig. (2-tailed)</td>
<td>.000</td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>138</td>
</tr>
</tbody>
</table>

**. Correlation is significant at the 0.01 level (2-tailed).
INTRODUCTORY STATISTICS
QUALIFYING EXAMINATION
FALL 2010

Question #2

As previously noted, the TSS was conducted in 2003-2004 and then again in 2007-2008, The researchers wanted to know if the mean overall satisfaction score obtained from the 138 teacher respondents in 2007-2008 differed significantly from the mean score achieved in the 2003-2004 survey. The mean score reported from 2003-2004 on item U, overall teacher satisfaction, was 1.35. The overall mean score from 2007-2008 was 1.53.

Please keep in mind this variable is measured on a continuous scale ranging from 1 to 5. In this instance, it represents the extent to which teachers are satisfied or dissatisfied with their jobs. A lower score represents strong satisfaction while a higher score indicates strong dissatisfaction.

The results are printed below. Please present a thorough analysis of the data including comments on policy, practice and future research.

One-Sample Statistics

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Std. Error Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agree-generally satisfied</td>
<td>138</td>
<td>1.53</td>
<td>.81</td>
<td>6.91E-02</td>
</tr>
</tbody>
</table>

One-Sample Test

<table>
<thead>
<tr>
<th></th>
<th>t</th>
<th>df</th>
<th>Sig (2-tailed)</th>
<th>Mean Difference</th>
<th>95% Confidence Interval of the Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agree-generally satisfied</td>
<td>2.589</td>
<td>137</td>
<td>.011</td>
<td>.18</td>
<td>4.23E-02, 32</td>
</tr>
</tbody>
</table>

19
INTRODUCTORY STATISTICS
QUALIFYING EXAMINATION
FALL 2010

Question #3

A related literature review indicated that overall school satisfaction scores differ by gender. The researchers decide to examine whether the average satisfaction scores differ by gender for the 138 respondents in the 2007-2008 TSS. Complete a thorough analysis of this data and comment on what leadership, management and/or policy decisions could be made from this data?

Please keep in mind this variable is measured on a continuous scale ranging from 1 to 5. In this instance, it represents the extent to which teachers are satisfied or dissatisfied with their jobs. A lower score represents strong satisfaction while a higher score indicates strong dissatisfaction.

<table>
<thead>
<tr>
<th>Gender</th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Std. Error Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agree-generally satisfied</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>61</td>
<td>1.56</td>
<td>.89</td>
<td>.11</td>
</tr>
<tr>
<td>Female</td>
<td>77</td>
<td>1.51</td>
<td>.75</td>
<td>8.6E-02</td>
</tr>
</tbody>
</table>

**Independent Samples Test**

<table>
<thead>
<tr>
<th>Levene's Test for Equality of Variances</th>
<th>t-test for Equality of Means</th>
<th>95% Confidence Interval of the Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>F</td>
<td>Sig.</td>
</tr>
<tr>
<td>Agree-generally satisfied</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Equal variances assumed</td>
<td>1.381</td>
<td>.242</td>
</tr>
<tr>
<td>Equal variances not assumed</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Question #4

Since the researchers felt that "staff recognition" was a possible factor related to the issue of overall teacher satisfaction, an intervention program was designed and implemented. Principals of the 138 respondents to the TSS were asked to communicate through comments and/or weekly notes etc. to the participants complementing them on some aspect of their work performance. The researchers designed their own version of the "One Minute Manager." This "staff recognition" initiative was implemented for a period of seven months. At the end of the intervention period, the participants were administered the TSS again. The variable overall satisfaction was measured and is included below.

Please keep in mind this variable is measured on a continuous scale ranging from 1 to 5. In this instance, it represents the extent to which teachers are satisfied or dissatisfied with their jobs. A lower score represents strong satisfaction while a higher score indicates strong dissatisfaction.

The results of this final stage of the study are outlined in the SPSS printout. Please present a thorough analysis of the data including comments on policy, practice and future research.

**Paired Samples Statistics**

<table>
<thead>
<tr>
<th>Pair</th>
<th>Post-test Satisfaction</th>
<th>Mean</th>
<th>N</th>
<th>Std. Deviation</th>
<th>Std. Error Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Post-test Satisfaction</td>
<td>1.43</td>
<td>138</td>
<td>.70</td>
<td>5.99E-02</td>
</tr>
<tr>
<td>1</td>
<td>Pre-test Satisfaction</td>
<td>1.53</td>
<td>138</td>
<td>.81</td>
<td>6.91E-02</td>
</tr>
</tbody>
</table>

**Paired Samples Test**

<table>
<thead>
<tr>
<th>Pair</th>
<th>Post-test Satisfaction - Pre-test Satisfaction</th>
<th>Mean</th>
<th>Std Deviation</th>
<th>Std Error Mean</th>
<th>Lower</th>
<th>Upper</th>
<th>t</th>
<th>df</th>
<th>Sig. (2-tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Post-test Satisfaction - Pre-test Satisfaction</td>
<td>-9.42E-02</td>
<td>.97</td>
<td>8.29E-02</td>
<td>-1.137</td>
<td>137</td>
<td>.258</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

21