

# **Student Life Studies**

## **Assessment Boot Camp: Scaling Up Your Assessment**

### **May 2018**

#### **Background**

According to its website (<http://studentlifestudies.tamu.edu/about>), Student Life Studies “provides leadership in assessment and planning to the Division of Student Affairs and to student organizations, maximizing program effectiveness and emphasizing student learning.” Furthermore, the vision of the department is to “create a culture in the Division of Student Affairs that values meaningful assessment, uses results to guide improvement, and articulates contributions to student success.” One goal for Student Life Studies is to educate and develop staff within the Division of Student Affairs about assessment. To accomplish this goal, the department hosted its third Assessment Boot Camp on May 22, 2018.

Assessment Boot Camp: Scaling Up Your Assessment (<https://studentlifestudies.tamu.edu/learning-center/assessment-boot-camp-scaling-up-your-assessment/>) was an advanced half-day professional development opportunity for division staff members. The training focused on determining the most appropriate assessment method, designing good questions, and interpreting analyzed results. Student Life Studies developed the following learning outcomes for the participants attending Assessment Boot Camp:

- Participants will write a survey question aligned to a given program outcome, following best practices.
- Participants will determine when not to use a survey.
- Participants will identify descriptive statistics.
- Participants will interpret statistical results.

Student Life Studies wanted to assess the Assessment Boot Camp participants to understand the effectiveness of the training and determine if the identified learning outcomes were met. This was the third time Student Life Studies assessed this training.

#### **Method and Sample**

Student Life Studies implemented four assessment methods to understand the knowledge staff had before coming to the training, to measure the effectiveness of Assessment Boot Camp, and to gauge the level of satisfaction staff had with the training.

The first assessment method was a pre-test assessment developed using Qualtrics®, survey design software that creates web-based forms and databases. The electronic pre-test survey contained six quantitative questions. The anonymous survey link was emailed to the 18 staff who registered for Assessment Boot Camp on May 15<sup>th</sup>. When the survey closed on May 21<sup>st</sup>, 12 staff had responded to the survey, for a 67% response rate. The results from the survey were analyzed using Qualtrics® analytical capabilities.

Two direct measures were built into the activities during Assessment Boot Camp that focused on participants demonstrating their abilities on each of the identified outcomes. The first curriculum based activity was an interactive game using Kahoot!, a game-based learning platform. The game included five

multiple choice questions developed by Student Life Studies on selecting the appropriate method for a given program or event. Nine teams each with two attendees participated in the Kahoot game, for a 100% response rate. Correct answers were identified and programmed by Student Life Studies; however, a report was provided by Kahoot! for individual team results by each question.

For the second curriculum based activity, participants completed a worksheet through a series of activities to write a survey question, identify the type of analysis for a given example, and interpret analyzed data by sharing some meaning point that stood out. Student Life Studies collected the worksheets from 15 of the 18 attendees, providing an 83% response rate. Staff from Student Life Studies conducted a formal review process of participants' work using a checklist to determine if the intended outcomes were reached.

The final assessment method was an electronic survey using Qualtrics®. The follow-up survey was comprised of one quantitative question and three qualitative questions to understand what the participants learned from the training and their level of satisfaction. The survey link was emailed to 17 staff members who completed Assessment Boot Camp on May 29, 2018. Non-respondents received up to three reminders before the survey closed on June 8, 2018. Of the 17 staff members receiving the survey, 12 took some part of it, yielding a 71% response rate. Student Life Studies evaluated the results using SPSS®, a statistical software package, and Microsoft Excel®.

## Results

Results include means, standard deviations (sd), and frequency percentages for the number of people (n) who responded to the question. For ease of reading, frequency percentages have been rounded to the nearest whole percent, so totals may not add up to exactly 100%. Summary themes for the qualitative questions are included in this report; the full qualitative responses can be found in separate documents. This report is divided into four sections by the different assessment methods: Basic Statistics Pre-Test, Kahoot Game, Curriculum-Based Worksheet, and Participant Follow-Up Survey.

### Basic Statistics Pre-Test

The first question on the pre-test asked those who registered for Assessment Boot Camp what the mean or average was. Table 1 shows that all respondents somewhat correctly answered the statement either by selecting all the options or the definition option. None selected the image option on its own, which displayed the definition.

The mean or average is:	Frequency Percentage
All of the above	58%
The addition of scores divided by the number of scores	42%
$\frac{M + E + A + N}{4}$ <p style="text-align: center;"><b>M=1, E=5, A=10, N=7</b></p>	--

Table 1: Mean (n=12)

When asked if the standard deviation tells how spread out the scores are around the mean, 100% of the 12 staff correctly answered with yes. None selected the no response option. Additionally, 100% of the 11 staff members, correctly responded that a Pearson’s Chi Square test was an association between two categorical variables.

Staff were asked about the values on the horizontal axis with a bar showing the number of times each value occurred. Table 2 reveals that all respondents correctly answered the question in some manner. Almost all selected the all of the above option and one person selected “frequency distribution or histogram” which was the written definition. None selected the image of a histogram.

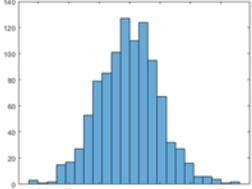
<b>What is a graph of values or observations on the horizontal axis with a bar showing how many times each value occurred in the data set?</b>	<b>Frequency Percentage</b>
All of the above	92%
Frequency distribution or histogram	8%
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Table 2: Graph (n=12)

Respondents were asked about the distribution or how many standard deviations below the mean score for a given example. Again, all the respondents correctly answered the question in different ways, as seen in Table 3. Almost two-thirds selected it was all of the above. Approximately one-quarter selected that it was “1” standard deviation and 9% identified the image that showed this same response. All responses were correct.

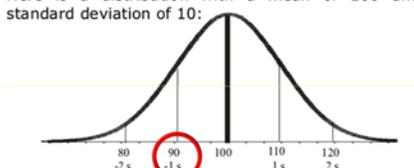
<b>In a distribution with a mean of 100 and a standard deviation of 10, how many standard deviations below the mean is a score of 90?</b>	<b>Frequency Percentage</b>
All of the above	64%
1	27%
Here is a distribution with a mean of 100 and standard deviation of 10: 	9%

Table 3: Distribution (n=11)

The final question was to gauge Assessment Boot Camp attendees’ feelings on using statistical analyses to understand their outcomes. Respondents were asked to respond using a smiley face five-point slider scale to show their level of enthusiasm. Table 4, on the following page, demonstrates that half of the respondents reported being positive about using statistical analyses. Alternatively, 17% rated their feelings of using statistical analyses by sliding the scale toward the very unhappy face.

How do you feel about using statistical analyses to understand initiatives of your unit, program, or departmental outcomes?	Frequency Percentage
5 - 😊	8%
4	42%
3	33%
2	--
1 - 😞	17%

Table 4: Feelings about Statistical Analyses (n=12)

### Kahoot Game

As part of the training, participants learned about various assessment methods and some factors to consider when selecting the best method(s) for their assessment project. Following this part of the training, participants paired up to create nine teams of two and participated in a Kahoot! game. The interactive game consisted of five questions and each one gave a description of a program, student group, or event. Then there were four assessment methods listed and participants selected what they thought was the best tool based on the given description. Teams received points based on selecting the correct answer and how quickly they selected it. The results provided below include the responses based on all nine teams; however, there was at least one team who did not respond in the time provided for four of the five questions.

The first description provided to participants was *“I have an **interactive** program where I spend a brief time presenting content, then ask participants to synthesize the content in a skit/story. The program usually lasts 90 minutes. I hope after completing the program, they will be able to recall three skills.”* Just under half of the nine teams (44%) selected the correct response of observation, and 11% each selected rubric and survey. None selected the incorrect response of focus group. Additionally, one-third did not make a selection.

Participants were given this next description: *“More than half of the student body uses my facility, I want to gauge satisfaction of the few participants who use the facility most frequently. My student workers know most of the heavy users by name.”* Almost all teams (89%) selected the correct option of focus group and 11% selected survey. None selected existing data or observation, which were not correct options.

The next question gave the respondents the following description: *“More than half of the student body uses my facility, I want to gauge satisfaction of the majority of participants who casually use the facility. I only know who they are through analyzing my entry data.”* Just over three-fourths (78%) selected the correct response and said they would use a survey. One team (11%) selected observation and 11% did not make a selection. The two options that were not selected included focus group and pre-post instrument.

*“I advise a student organization. I want to emphasize decision making this year. I want to know if my emphasis/teaching has an impact on their **skill development over the year.**”* was the scenario for the fourth game question. Just over three-fourths (78%) selected the option of a pre-post instrument, which was the correct selection, and 11% each selected observation or did not provide an answer. None selected the incorrect options of existing data or focus group.

For the final description, staff members were given the following information: *“I advise a student group. This year I am going to emphasize students’ ability to engage in effective conflict. Ultimately, I’m not interested in how effective they feel. I want to know they are effective.”* Almost all teams (89%) selected rubric, which was the correct answer. One team (11%) did not answer the question. The three incorrect options were not selected: survey, focus group, and pre-post instrument.

### Curriculum-Based Worksheet

Student Life Studies led participants through a series of information and activities and staff members completed a worksheet during these activities. These worksheets were collected at the end of Assessment Boot Camp and each was reviewed by two staff members in Student Life Studies. There were four sections to the worksheet based on the learning outcomes developed for Assessment Boot Camp.

Student Life Studies trained participants on several aspects to consider when developing a good survey question. As part of this section, Student Life Studies described the 10 commandments for writing survey questions. After this section, participants were provided a program outcome and a description of the program and were asked to write at least one survey question that would determine if the program outcome was achieved. Student Life Studies reviewed the survey question and response options, if applicable, to determine if the survey question addressed the program outcome provided. Student Life Studies used the 10 commandments as a checklist to determine if participants followed these guidelines for writing a good survey question. Of the 15 responses, 60% accurately wrote a survey question and 40% did not write a question that addressed the program outline provided.

Student Life Studies shared information about descriptive statistics. Participants were divided into groups and given an example of statistical data. Each team was asked to identify the statistical model or analysis, describe the primary components, and when it should be used. The results from each group were shared with everyone. After this section, participants were given a table or chart on the worksheet and asked a question about the image. Based on Image 1, staff were asked which best described the table and then were provided five options in a multiple choice question. The five options included A) Line Chart, B) Frequency, C) Dashboard, D) Crosstab, and E) Standard Deviation. Two-thirds (67%) of the respondents selected the correct option, which was D) Crosstab.

	Strongly agree	Agree	Somewhat agree	Somewhat disagree	Disagree	Strongly disagree
Freshman	18.43%	34.44%	25.98%	12.69%	4.83%	3.63%
Sophomore	18.10%	30.78%	24.63%	14.55%	8.40%	3.54%
Junior	15.08%	29.81%	31.37%	12.82%	6.93%	3.99%
Senior	17.71%	30.45%	26.63%	13.46%	6.80%	4.96%

Image 1: Crosstab

The second question asked staff to select the element of a line chart that makes it unique and were provided four choices including A) Conveys time, B) Compares groups, C) Visualizes standard deviation, and D) Colorful. Staff were given Image 2, on the following page, with this question. Almost all staff (93%) selected the correct answer of conveys time.

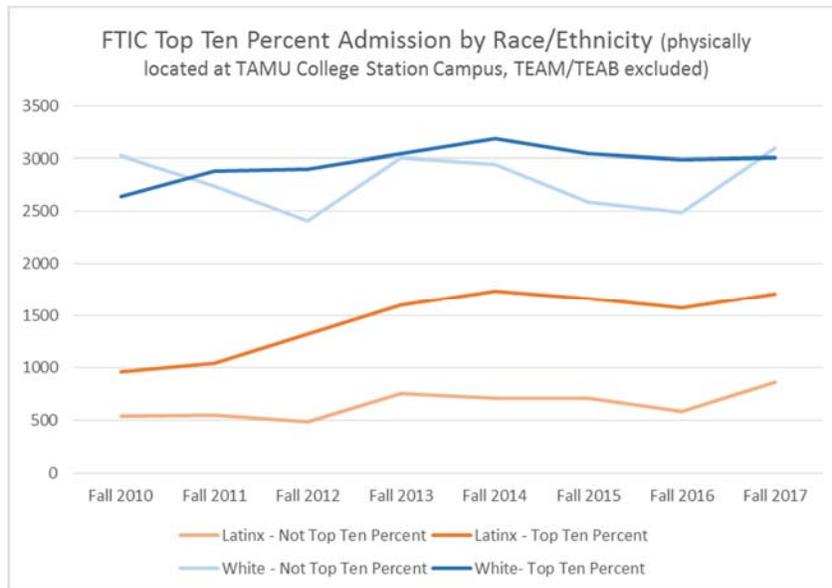


Image 2: Line Chart

In order to provide staff the opportunity to review data to make their own interpretation, participants were given several tables with data from the 2017 SERU climate data. On the worksheet, staff members were asked to identify the data that was most impactful to them based on the SERU analysis that was shared. Student Life Studies reviewed the information staff shared, and 67% provided something that was related to the data that was provided. Most of the staff who did not accurately share something that was based on the data did not write anything or something about not having enough time to completely review the data and identify what stood out to them.

Of the 15 staff members who turned in a worksheet at the end of the training, just under half correctly answered all four questions on the curriculum based worksheet. The number of correct responses can be found in Table 5. Furthermore, nobody missed all four questions.

Correct Responses on the Worksheet	Frequency Percentage
4	40%
3	27%
2	20%
1	13%

Table 5: Number of Correct Responses (n=15)

### Participant Follow-Up Survey

Staff members were asked to share what they took away from attending Assessment Boot Camp and 12 shared a response. While several topics were shared, the ones that were expressed by multiple respondents included using assessment tools beyond a survey, understanding different statistical analysis, and showing data in different ways. A couple of staff members also mentioned learning how Student Life Students can help staff in the division and networking with other colleagues.

When asked for suggestions for future Assessment Boot Camps or information they would like to see covered, 10 staff shared a comment. There were several wanting to understand statistical analysis and maybe having a Mathematics or Statistics Boot Camp in the future. Other ideas included designing assessment instruments beyond a survey, providing an overview of assessment software (SPSS, Atlas, etc.), writing assessment reports, sharing information, and building dashboards. One respondent shared that he/she was overwhelmed and confused by the activity using the cards with different statistical analyses. Another staff member commented that he/she liked the project development in the Assessment Boot Camps from previous years. There were a couple who shared what they enjoyed about Assessment Boot Camp and felt that the audience interaction and the Kahoot! game should continue to be incorporated.

Using a Net Promoter Score (NPS) question, participants were asked how likely they were to recommend Assessment Boot Camp to colleagues. The NPS is an index ranging from -100 to +100 and measures the willingness of someone to recommend a product or service to others. Respondents were given the options of zero to 10 with 10 being most likely to recommend ABC to others. Scores of a nine or 10 are promoters, a score of seven or eight are passives, and scores six and below are detractors.

Just over half (58%) of the Assessment Boot Camp participants were promoters, 33% were passive, and 8% were detractors. Given the NPS range of -100 to +100, generally, a positive score or anything above zero is considered a good score. Anything at +50 is considered excellent, and above +70 is considered "world class." The Net Promoter Score for Assessment Boot Camp was +50.

Respondents were provided the opportunity to explain their zero to 10 rating for recommending Assessment Boot Camp and 11 wrote a comment. There was one comment from a detractor who indicated that the first part of the training was about an eight but that he/she understood very little of the last half and that some of the exercises were not helpful without the context. There were three comments from those who were passive. These comments stated the information was helpful and beneficial and that they would recommend it to others with less assessment experience. However, one person also noted being overwhelmed with the details of the statistical analyses in a short amount of time. The seven comments by promoters described Assessment Boot Camp as having good information, solid material, and very informative. Others shared praise for Student Life Studies staff, enjoyed the learning opportunity, and were appreciative of the training being engaging.

### **Conclusions, Recommendations, and Action Plans**

Generally, participants learned the intended outcomes identified for Assessment Boot Camp; however, there were some variations for the different outcomes, as seen below. Additionally, two-thirds of the participants were able to accurately respond to half of the four questions on the curriculum based worksheet.

- Participants will write a survey question aligned to a given program outcome, following best practices.
  - 60% of the participants accurately wrote a survey question.
- Participants will determine when not to use a survey.
  - 78% - 89% accurately selected the right assessment method for four questions; however, for one question only 44% accurately selected the correct option.
- Participants will identify descriptive statistics.
  - 67% correctly identified the first statistical analysis and 93% responded correctly on the second.
- Participants will interpret statistical results.
  - 67% of the participants could interpret statistical results when looking at the SERU data.

Assessment Boot Camp participants seemed positive with their experience at the training and the overall Net Promoter Score was a +50, which is considered excellent. Staff shared that they appreciated the interactive activities during the training and felt the content was important and relevant. However, some staff reported being overwhelmed and confused with the second half of the training when covering statistical analyses. Staff expressed wanting more information related to understanding statistical data better. Student Life Studies staff may want to consider offering more training options on this topic in the future.

Staff seemed to understand when to use different assessment tools, but also reported wanting more information on designing assessment instruments beyond surveys. While Assessment Boot Camp: Scaling Up Your Assessment talked in general about different assessment tools, the focus on designing questions was geared towards surveys. The department might look at future training sessions that go into the actual design process and things to consider for assessment tools that are not surveys.

Department staff members are encouraged to share the results from this assessment with stakeholders. To lead by example, Student Life Studies staff may wish to specifically share with the Assessment Boot Camp participants what improvements will be made based on the results and the plan to share results with each identified stakeholder.

While themes for the qualitative questions were summarized, staff are also encouraged to read all comments to have a complete understanding of responses.

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