

# Department of Residence Life Utilities Challenge Spring 2020

## **Purpose of Assessment**

The Utilities Challenge (U-Challenge) is a project where teams of students utilized data about the residence halls to learn about the proficiency of the buildings and propose ways to increase the efficiency in the buildings (<https://reslife.tamu.edu/living/sustainability/u-challenge/>). As part of the project, 4-6 students make up a team, and each team gives a 15-minute presentation about their research and findings discussing the utility systems of the residence halls and suggestions for improving these systems. The Department of Residence Life wanted to assess the students involved in this project to understand their experiences, what they gained from participating, and gather ideas to improve the project in the future. While this was the fourth year for the project, it was the first time Student Life Studies assisted in the assessment.

## **Key Findings with Recommendations**

Student Life Studies identified a few key findings and actionable recommendations for Residence Life based on the results from the survey administered with the students who participated in U-Challenge. However, department staff may identify other findings using their knowledge and understanding of the project. Staff members are strongly encouraged to read all the results and qualitative comments to gain a fuller understanding of students' experiences.

- Students were extremely positive about their experience participating in the Utilities Challenge. Several described it as a great or phenomenal experience. This is further seen through the Net Promoter Score (NPS), which is a customer loyalty metric that gauges how likely a customer is to recommend a product or a service. Given the NPS range of -100 to +100, generally, a score 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 U-Challenge was +51.61 (Image 1).



Image 1: Net Promoter Score

- While students were positive about their experiences, they could also articulate what they gained or learned beyond various aspects of sustainability from their participation. Students reported that they learned how to work on a team, worked with others who are different from them, gained presentation skills, and improved their communication.
- Almost three-fourths of the students (72%) reported that they heard about U-Challenge through bulk mail. Staff may wish to continue this marketing approach. Additionally, staff might consider including student comments in the marketing as well as sharing what skills students often learn.
- Most resources that students utilized were considered useful. The pre-presentation round was rated as the most useful resource. Alternatively, the video of the team presentation was rated as the least useful. Staff may explore options to make this resource more beneficial to students.

## **Method and Sample**

An electronic survey was developed using Qualtrics®, a software program for creating web-based surveys. The survey consisted of 24 questions; 12 were quantitative and 12 were qualitative. Due to branching technology, not all participants saw all the questions.

The web-based survey link was distributed through campus email on April 10, 2020, to students who participated in the U-Challenge program. Up to three reminders were sent to non-respondents before the survey closed on April 20, 2020. Of the 40 students who received the survey link, 33 responded to some part of the survey, yielding an 83% response rate. Student Life Studies evaluated the results using SPSS®, a statistical software package, and Microsoft Excel®.

## **Results**

Results will be reported as means, standard deviation (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%. Tables are in descending mean or frequency order. Additionally, summary themes for the qualitative questions are contained in this report; the entire list can be found in a separate document.

Students were asked which level of the competition they participated in as part of U-Challenge. Just over half (56%) of the 32 students who responded, reported being on a graduate team and 44% said they joined an undergraduate team.

Participants were asked how they heard about the U-Challenge project using a select all that apply format. Table 1 illustrates that bulk email messages were the most effective in reaching students. Those selecting the “other” response option were able to write how they heard about the project. One student wrote that they learned about it through their own research.

<b>How did you hear about the U-Challenge? (select all that apply)</b>	<b>Frequency Percentage [n=32]</b>
Bulk email	72%
Friends/peers	28%
My advisor or a faculty member	16%
Other	3%

Table 1: Marketing

Using another select all that apply formatted question, students were asked to identify the reasons they participated in the Utilities Challenge. Table 2, on the following page, reveals that the most common reasons students participated in the project was for research experience and fun. Students were given the opportunity to write a response for the “other” option and five wrote a comment. Two students talked about learning more about sustainability, the Texas A&M campus, and the energy field. A couple of other students talked about applying what they learned in class and getting a practical application of what they have learned. Other responses included this being a professional experience in problem-solving and that the student has a passion for sustainability.

<b>What were your reasons for participating in the U-Challenge? (select all that apply)</b>	<b>Frequency Percentage [n=32]</b>
Research experience	75%
For fun	75%
Professional presentation experience	63%
Other	16%
Course credit	--

Table 2: Reasons to Get Involved

Respondents were asked to rate a series of resources related to the project. Not applicable responses were removed from the analysis. Table 3 indicates that students generally felt all resources were useful. The pre-presentation round was rated as the most useful; however, this also was the only resource rated at not being useful at all. Students reported the videos of the team presentations as being the least useful.

<b>Statement</b>	<b>Extremely Useful (5)</b>	<b>Very Useful (4)</b>	<b>Moderately Useful (3)</b>	<b>Slightly Useful (2)</b>	<b>Not at all Useful (1)</b>	<b>Mean (sd) [n]</b>
<b>Pre-Presentation Round (doing the actual presentation)</b>	58%	39%	--	--	3%	4.48 (.81) [31]
<b>U-Challenge Google Drive</b>	50%	38%	9%	3%	--	4.34 (.79) [32]
<b>Graduate Assistant Sustainability Coordinator</b>	48%	33%	15%	4%	--	4.26 (.86) [27]
<b>Energy Steward</b>	39%	48%	13%	--	--	4.26 (.68) [31]
<b>Judge Feedback / Rubric</b>	47%	34%	16%	3%	--	4.25 (.84) [32]
<b>Facility and Operation Staff</b>	31%	44%	25%	--	--	4.06 (.76) [32]
<b>Video of Team Presentation</b>	32%	36%	26%	7%	--	3.94 (.93) [31]

Table 3: Usefulness of Resources

Using branching technology, seven follow-up questions were asked to any student selecting that a resource was not at all useful to find out why a student found that resource not useful. Only one resource was rated as being not at all useful by one student; however, that individual did not write a response.

When asked what they learned, if anything, from participating in U-Challenge, 27 students shared a variety of ideas. Many students talked about learning about sustainability or sustainable practices as well as how Texas A&M implements different sustainable measures. Others commented about learning to work on a team, especially working with those who are different than you. A few students mentioned specific skills including problem-solving, presenting, and sharing your ideas.

Students were asked to explain how participating in U-Challenge related, if at all, to their current major and 27 chose to respond. Students talked about their college and major including engineering (electrical, mechanical, energy, and chemical), architecture (environmental studies, sustainable architecture and planning), energy conservation, and bioenvironmental sciences. These students commented about how related the project was to their major by applying real-world data and experiences, saving energy, learning more about the power industry and HVAC technology, and focusing on an area of sustainability. A couple of students indicated the project did not relate to their major; however, they still learned presentation skills, teamwork, and problem-solving.

In two different questions, students were asked to share what they learned, if anything, that they have or will apply to their classes, and what they could apply to their future career or work. For applying what they learned to their classes, 22 students wrote a comment. Several students talked about gaining skills in presenting, researching, working on a team, and managing their time that could be used in all classes. Some reported learning terminology, power systems, creating energy efficient buildings, and reducing building energy. Students also indicated these topics could be applied in engineering classes, architecture classes, and a building energy commissioning class. Twenty-six (26) students shared thoughts on what they could apply to their future career or work. Similar to previous questions, students said they learned how to work in teams, present information, and apply sustainability practices, which they will do in their career. A couple of students commented on learning project management, improving their communication, and gaining industry or real-world experience.

Students were asked if they used their participation in U-Challenge for any of the courses or course credit. All of the 32 students (100%) reported they were not using their participation for a course or course credit, even though a majority were able to articulate how the project related to their major and how to apply what they learned to classes.

Using a Net Promoter Score (NPS) questions, students were asked how likely they would be to recommend U-Challenge to a friend or colleague. Respondents were given the option of zero to 10, with 10 being most likely to recommend U-Challenge 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. The NPS is calculated by taking the percentage of detractors from the percentage of promoters. Results on how likely students were to recommend U-Challenge were positive, as seen in Table 4, in descending numerical rating; 61% of the respondents were promoters, 29% were passive, and 10% were detractors.

Score	Percentage	Breakdown for Promoter, Passive, and Detractor
10	39%	61%
9	23%	
8	19%	29%
7	10%	
6	7%	10%
5	--	
4	--	
3	--	
2	--	
1	3%	
0	--	

Table 4: Recommend U-Challenge (n=31)

Students were given the opportunity to explain their 0-10 rating and 23 elected to write a response. Promoters described U-Challenge as a great or phenomenal experience. Some talked about it being great for anyone going into this type of industry; however, others said it was great for anyone regardless of their major. Students shared that they learned or gained skills from this experience. A couple of students stated that they had already recommended the project to their friends. Passive students also described U-Challenge as a great experience; however, they also indicated that it was better for a student going into a related field and that it was time-consuming. These students also talked about learning teamwork, presentation skills, and healthy competition. Those who were detractors felt that the project was not challenging and did not have technical content. They also commented that not everyone on the team takes it seriously and expressed frustration about the regular progress checks and the timeline being imbalanced.

Demographics were gathered from the university student database based on students' university identification number. Table 5, in descending order by the survey respondents for each category, shows the results for everyone who participated in U-Challenge and received the survey, as well as those who responded to the survey. Additionally, students represented 16 majors, which can be found in a separate document. Furthermore, almost half of the students (42%) were from the United States; other students were from India, China, Iran, Republic of Korea, Mexico, Pakistan, Russia, Sri Lanka, and Uganda.

	Survey Population [N=40]	Survey Respondents [n=33]
<b>Classification</b>		
Doctorate	25%	30%
Masters	23%	24%
Sophomore	18%	15%
Junior	18%	12%
Freshman	10%	12%
Senior	8%	6%
<b>Sex</b>		
Female	50%	52%
Male	50%	49%
<b>First Generation Status</b>		
Unknown	45%	52%
Not First Generation	38%	36%
First Generation	18%	12%
<b>Race</b>		
International	40%	46%
Hispanic or Latino	28%	21%
White	18%	15%
Asian	13%	15%
Multi-Racial excluding Black	3%	3%
<b>College</b>		
Engineering	58%	58%
Architecture	15%	18%
Agriculture and Life Sciences	13%	12%
General Studies	5%	6%
Geosciences	5%	6%
Exchange	3%	--
Liberal Arts	3%	--

Table 5: Student Demographics

## **Department Background**

Residence Life provides a variety of housing options for approximately 11,000 undergraduates, graduates, and members of the Corps of Cadets each year. According to its website ([reslife.tamu.edu](http://reslife.tamu.edu)), the vision of the department is “to offer a world class transformational living and learning experience for on campus residents.”

Students apply to participate with U-Challenge in February 2020 as either an individual to be placed on a team or together to build their team. Up to five undergraduate teams and five graduate teams can be selected for the project. In early February, Residence Life hosted a meeting for students selected to participate, where students met their team, learned the rules and deadlines for the project, and were given a description of the utility systems in the residence halls. In early March just before spring break, teams had the opportunity to submit their preliminary findings and give a pre-presentation on these findings to receive early feedback. This process is designed for teams to evaluate their progress, get feedback, and make any changes before the first round of presentations.

The presentations were scheduled for late March and early April; however, after the university moving to online course delivery due to the COVID-19 pandemic, the presentations were conducted using the Zoom platform. The first round of presentations took place at the end of March 2020 where teams delivered their findings to staff in Residence Life and Utilities & Energy Services, who served as judges. After all presentations, four teams (two undergraduate teams and two graduate teams) were selected to advance to the final round. All teams received feedback from the panel of judges on how their presentation could be improved. The final round of presentations occurred in mid-April and the four teams presented to a panel of Texas A&M administrators and staff members from Residence Life and UES.

## **Project Details**

The email distribution of this survey in April 2020 coincided with the move of all courses to online delivery, and shelter at home executive orders caused by the COVID-19 pandemic. This change could have an effect on the survey response rate and the feedback provided by students.

The Department of Student Life Studies provides quality assessment services, resources, and assessment training for departments in the Texas A&M University Division of Student Affairs and student organizations. Services by Student Life Studies are funded, in part, by the Texas A&M University Advancement Fee. Results of this project and other assessment projects done through Student Life Studies can be found at <https://studentlifestudies.tamu.edu/results/>. Additionally, division staff and students can follow Student Life Studies on Facebook.

To work with Student Life Studies for future assessment projects, please fill out the Assessment Questionnaire at <https://slsform.dsaapps.tamu.edu/>.

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