University Housing Services

The Academic Impact of Engagement in
Engineering and Science College Themed Residential Programming

Assessment Report

Maria Cerce

Choose One: Learning Outcome Assessment

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Date of Report: July 2018

Purpose of Assessment

Dr. Vincent Tinto, an award-winning Professor at Syracuse University, has conducted extensive research on student retention, examining the relationship between level of engagement in learning communities and student attrition or retention. In his article, "From Retention to Persistence," Tinto purposes that institutions of higher education should not only "act to retain their students but also how they should act so that more of their students want to persist to completion." Tinto posits that institutions can significantly influence in the following aspects of student's motivation: self-efficacy, sense of belonging, and perceived value of the curriculum.

University Housing Services has designated College Themed Communities (CTC) that connect students of the same college by providing them a residential space with other students in their academic courses and providing programming or events that engage faculty and staff from that college, as well as, provide unique opportunities to further engage within the academic discipline. CTCs seek to increase students' sense of belonging by helping students create stronger connections to the campus.

In Cedritos, the CTC of Science, and Palmitas, the CTC of Engineering, Resident Advisors organized programs that brought students, faculty, and staff from the same college together. These programs often provided supplies, tools, and guidance for hands on learning activities, which highlighted principles from the students' science and engineering courses, embodying the campus' motto of learn by doing. This overall assessment seeks to show the effectiveness and merit of the 2017-2018 Science and Engineering CTC programming by proving that engagement in programming opportunities positively impacted students' success in the classroom, measured by grade point average.

Division Learning Outcome Intellectual & Practical Competencies

Targeted Learning Outcome

Engage Science and Engineering CTC residents with educationally purposeful activities and experiences outside of the classroom. Connect Science and Engineering students with similar academic interests and career paths. Ensure that programming in the Science and Engineering CTCs is effective, resulting in increased grade point averages to the residents engaged in them.

Assessment Methodology

Assessment Method	Measurement
Gather all RA programming attendance sheets and account for each resident's attendance at CTC programs throughout the 2017-2018 academic year	Measured by pulling a roster of all current residents in both Cedritos and Palmitas that included demographic information such as housing assignment, college, major, and GPA. Each resident's attendance at CTC programming was tracked in an excel report.
Compare data of various levels of engagement, defined by attendance at programs.	The numbers of residents at programs was quantified. Each level of engagement averaged the GPAs of the residents included at that level of engagement. As not all residents were members of science and engineering colleges, or not living in the respective Science or Engineering CTC hall, the overall GPAs (the entire group), as well as the residents in the Science and Engineering Colleges were averaged separately to accurately show the data. Resident Advisors were excluded from this measure.

Results

Cedritos: Science College Themed Community				
# of Programs	**Number of Residents in Attendance**	**Grade Point Average (All Residents)**	**Grade Point Average (Science)**	**Grade Point Average (Engineering)**
0	91	2.73	2.80	2.62
1	26	2.65	2.43	3.20
2-3	31	3.11	3.18	2.95
4-7	26	2.95	2.96	2.86
8-10	8	3.20	3.46	3.79
11+	17	2.87	2.70	3.33

Palmitas: Engineering College Themed Community				
# of Programs	**Number of Residents in Attendance**	**Grade Point Average (All Residents)**	**Grade Point Average (Science)**	**Grade Point Average (Engineering)**
0	46	2.78	3.11	2.79
1	34	3.21	3.16	3.25
2-3	43	2.91	2.40	2.93
4-7	39	3.24	3.65	3.23
8-10	10	3.08	2.49	3.23
11+	16	3.45	N/A	3.45

91 out of 199 or roughly 45% of Cedritos residents did not attend a single program throughout the 2017-2018 academic year. Of those who did attend, Engineering students had the highest average grade point average, especially within the 8-10 program attendance. Those that did not attend a single program had an average 2.73 GPA, whereas; the average of those who did attend at least one program is 2.84, a .11% difference. 46 out of 188 or roughly 24% of Palmitas residents did not attend a single program throughout the 2017-2018 academic year. Of those who did attend, Engineering students had the highest average grade point average, especially within the 11 or more program attendance. Those that did not attend a single program had an average 2.78 GPA, whereas; the average of those who did attend at least one program is 3.05, a .27% difference. At the highest level of engagement, Engineering students performed better than Science students; whereas, at the lowest level of engagement, Science students performed better than Engineering students.

Conclusion

The results show there is a difference in GPA between those that attended and those that did not attend a program. Those that were more engaged within the College of Engineering, for the most part, did better academically. Some residents from Science were in the Engineering community and vice versa and this may have impacted the effectiveness of the programming in regards to creating a sense of belonging among similar majors. While Science and Engineering are part of STEM, the students in each college have different engagement needs.

Implications for Practice

In future, University Housing Services could be more intentional regarding room assignments, ensuring that only residents of a specific college are in the corresponding CTC. This can often times be difficult, so it could be effective to have a wing designated for non-Science or non-Engineering students, so that, we can provide programming that engages our residents along their academic interests outside of the classroom. We could also track the specifics of each program and specifically design them to benefit the majors of our students, making sure that we have a program that corresponds to the majors of each of our residents and assessing the effectiveness of each individual program to specific learning outcomes of the program. Before the start of Fall semester, I will run a report that shows the numbers of residents in each major, along with the colleges. During RA Training in August, my Resident Advisor team will review this data prior to planning our semester programming. We will create learning outcomes for each program, as well as a means of assessing each program. This data will be accessible to the team for future programming. We will also refer to the satisfaction survey in regards to improving programming marketing and selecting times that are more convenient for student attendance. Each semester, we could run a report regarding class times of our residents and offer more programs during the times they are not in class or engaged in club activities. Additionally, we could provide other opportunities for engagement that may not include RA planned activities or programs. For instance, we could allocate study room space for weekly board game nights/days that are advertised in advance. Attendance could be tracked by a Front Desk Attendant or Resident Advisor, so that we could assess various levels of engagement within the residence hall. If we continue conducting intentional interactions, we will make sure that they are being tracked in a way that is easy to assess later in the larger context of CTC effectiveness in student success via GPA and overall retention or persistence. Also, we will collect qualitative data, a task that FDAs could assist with.