

Abstract

Throughout the literature, there is ongoing discussion about what constitutes student engagement and how it is defined. Most metrics evaluate student engagement through behavioral engagement, rather than including other aspects such as cognitive or emotional engagement (Lester, 2013). Engaging in activities considered to be “high-impact practices” during undergraduate studies is related to academic success (e.g., Kuh, Cruce, Shoup, Kinzie, & Gonyea, 2007; Kuh, Kinzie, Schuh, & Whitt, 2005). The purpose of this pilot study was to examine the relationship between different types of student engagement (i.e., behavioral, cognitive, and emotional) and value-added scores in undergraduate students. Types of engagement (i.e., cognitive and psychological/emotional engagement) were observed through participation in student activities and programs, such as the Leadership Programs (LP) and Greek Life. Scores on the Collegiate Learning Assessment Plus (CLA+) were used to assess value-added, longitudinally comparing the change from students’ first-year and senior-year administrations of the test. We sought to better understand the relationship between different types of student engagement and explore which of those may have influenced the value-added scores in undergraduate students.



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Exploring the Relationship between Types of Engagement and Value-added Scores in Undergraduate Students

In recent years, tuition in higher education has increased substantially (The College Board, 2019; U.S. Department of Education, National Center for Education Statistics, 2019), conceivably leaving prospective students to wonder what they will gain from pursuing a college degree. They may question whether what they learn in classes will help them in the job market (particularly at a liberal arts institution), and administrators and faculty members are tasked with helping students to understand the value of the undergraduate experience. Completing academic requirements and mastering course content are an important part of the equation; however, what students do outside the classroom (e.g., cocurricular activities, community engagement, and social clubs/organizations) may also factor into the value of one’s undergraduate experience. Indeed, engaging in certain types of activities considered to be “high-impact practices” during undergraduate studies has been shown to be related to academic success (Kuh, Cruce, Shoup, Kinzie, & Gonyea, 2007; Kuh, Kinzie, Schuh, & Whitt, 2005). Researchers have long been exploring this phenomenon in an effort to answer the overarching question, “How do the activities that students engage in outside of the classroom influence their academic success, and to what extent?” To help answer this question, it is important to understand what student engagement means and how it has been studied.

Student Engagement

The role of student engagement in academic achievement has been studied for decades in the United States and began picking up momentum in the 1980s, with Alexander Astin’s research on the relationship between student engagement and the educational experience. Around that time educational researchers began identifying “good” educational practices and investigating how they might be related to students’ college experience (Axelson & Flick, 2011). Thereafter, the discussion progressed toward the challenge of defining the various dimensions of engagement, all of which are in continuous need of refinement, as well as how to measure the dimensions of student engagement.

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One example of a measure for student engagement is the National Survey of Student Engagement (NSSE), which solicits self-report information (perceptions) from students about how often they engage in behaviors related to the student experience. Some examples include (but are not limited to) how often they participated in activities, how much time they spend studying or preparing for a course, and their frequency of using various resources on campus. In general, the NSSE focuses on a student's level of involvement as measured by frequency of behavior (i.e., behavioral engagement) and may not account for the emotional or cognitive/psychological aspects of engagement; therefore, it may be helpful to further refine the definition of engagement to better understand what aspects of student involvement may be influencing the student experience (Axelson & Flick, 2011).

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Student engagement is a multidimensional construct, and as such, it is challenging to reduce it to singular dimensions and isolate its effects; they are often interrelated. According to Fredricks, Blumenfeld, and Paris (2004), most conceptualizations of “school engagement” included some combination of behavioral, emotional, or cognitive aspects. Using the Student Course Engagement Questionnaire (SCEQ), Handelsman, Briggs, Sullivan, and Towler (2005) revealed four distinct and reliable dimensions of student engagement through exploratory factor analysis: skills, participation and/or interaction, emotional, and performance (Handelsman, Briggs, Sullivan, & Towler, 2005). Behavioral engagement, therefore, may refer to actions such as participating in school-related activities, studying or completing assignments, adhering to rules of conduct, and involvement in athletics. Emotional engagement typically includes students' attitudes and feelings in relation to the institution, faculty, and other students, and feeling like one belongs in the institutional environment. Cognitive engagement (including psychological engagement) includes student motivation to learn and personal investment in learning. Fredricks et al. (2004) concluded that overall, the construct of engagement is multi-dimensional and warrants further exploration (Fredricks, Blumenfeld, & Paris, 2004). Lester (2013) further emphasized the importance of clarifying and refining the definition of student engagement, in order to better understand its influence on student outcomes (Lester, 2013).

As far as we can tell, defining engagement in terms of participation in programs that are specific to the university is something that has not been attempted. Therefore, in the interest of further exploring this construct, we observed cognitive, behavioral, and emotional engagement as defined by a student's participation in one of three groups: Honors Program (cognitive), Leadership Program (behavioral), and Greek Life (emotional). These engagement groups are specific to the university, although there may be similar programs at other universities. The following sections describe these student activity groups and how each may reflect a different type of student engagement, as defined in this pilot study.

Honors Program: Cognitive engagement. Students who enroll in the honors program must maintain a GPA of 3.5 or above throughout the course of their studies. In addition to completing the requirements of their major discipline areas, they also are expected to enroll in interdisciplinary seminars, engage in advanced inquiry courses, perform civic engagement activities, engage in research, study abroad, learn a second language, and complete additional requirements (e.g. honors portfolio). Student progress is monitored throughout their academic tenure. These students are part of a challenging, high-achievement program and are expected to maintain their cognitive engagement above and beyond the average student.

Leadership Program (LP): Behavioral engagement. The LP is a selective program in which students are expected to engage in several areas on campus and in the community. They must adhere to a higher standard of behavioral conduct, engage in development, leadership, success, and experiential opportunities, and maintain a minimum GPA of 2.75 for the lowest level of scholarship (3.3 for the highest level). At the end of their studies, LP students must submit a portfolio that summarizes and synthesizes the personal importance of engaging in the LP program activities throughout their undergraduate experience. These students are expected to maintain a high level of behavioral engagement throughout the course of their studies.

Greek life: Emotional engagement. Membership in a nationally recognized fraternity or sorority (by the North American Interfraternity Conference, Interfraternity Council, National Pan-Hellenic Council, or National Panhellenic Conference) is referred to as Greek Life on campus. Greek Life activities are student-led with faculty oversight, and members are recruited each year. Student members are expected to maintain a minimum GPA of 2.06 and at least 12 credit hours. Greek Life students are actively involved on campus and in the community. Emotional engagement was observed as membership in Greek Life because students belonging to this group are interpersonally connected within the group through social events, residential living, and service activities.

Institutional Value-Add

Measuring the value of an undergraduate education can be a daunting challenge, as there are a wide range of aspects that can be considered valuable to a student in his or her educational experience and each of these aspects can be difficult to isolate. Aside from the knowledge and skills gained in the classroom, participating in activities outside the classroom may be just as important. Sometimes, measures for student engagement (such as the NSSE) are employed to broaden the picture of the student’s experience and accompany measures of student achievement (e.g., graduation rates and retention, persistence, and GPA). Lodge and Bonsanquet (2014) discussed the difficulty in finding valid (and inexpensive) ways to determine the quality of a student’s learning experience. They noted that institutions often use student opinion or satisfaction surveys to assess the perceived value of their education; however, the quality of learning is far more complex (Lodge & Bonsanquet, 2014).

Other institutions may measure learning outcomes achievement as part of their calculation of institutional value-add, i.e., what students gain as part of their experience at a university or higher education setting. Douglass, Thomson, and Zhao (2012) explored different methods of evaluating learning outcomes, including self-reported student gains and standardized testing. They discussed the wide use of the Collegiate Learning Assessment (CLA) in the United States as a measure of value-add. Indeed, the CLA offers this metric in the institutional reports they distribute; however, the authors argue that using the CLA as the only measure of value-add may not capture the full effect at large and complex universities, noting that it may provide more meaningful information at small, liberal arts institutions (Douglass, Thomson, & Zhao, 2012). In an effort to respond to the increasing need to measure student learning at the institutional level, many institutions (including the institution of the present study) have taken to administering the

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Collegiate Learning Assessment Plus exam (CLA+). Collegiate Learning Assessment Plus (CLA+). The CLA+ is a nationally-normed, value-added approach to the measurement of higher-order thinking skills developed by the Council for Aid to Education (CAE) in 2002 (originally known as the Council for Financial Aid to Education, 2018). The CLA+ looks at scientific and quantitative reasoning, critical reading and evaluation, critiquing an argument, analysis and problem solving, writing effectiveness, and writing mechanics with the ultimate goal of providing a summative measure of the value added by the school’s programs. The overarching goal is to offer information that will assist the institution with understanding how well their students are improving over time in comparison with students at other institutions (Klein, Benjamin, Shavelson, & Bolus, 2007).

The CLA+ allows institutions to benefit from a model of continuous improvement by serving as an additional visual tool within the education process. The value-added approach taken by the CLA+ allows institutions to meaningfully relate student growth at their institution to the growth of students across other institutions with a similar entering academic ability (EAA). This offers an equitable account of a school’s contribution to learning and to the development of students’ higher-order thinking skills.

It is important to note that the process CAE uses to calculate the value-added score has recently changed, posing potential challenges for some institutions. Prior to the 2016-2017 academic year, value-added scores for the CLA+ were calculated by obtaining the difference

between an institution's Actual Senior Mean CLA+ Scores and Expected Senior Mean CLA+ scores. Expected scores were determined by the typical performance of seniors at institutions testing similar samples of students. These samples were identified based on senior EAA scores and mean first-year performance on CLA+. Finally, the EAA was determined based on one of three sets of scores: (a) combined SAT Math and Critical Reading, (b) ACT Composite, or (c) Scholastic Level Examination (SLE) scores, as stated in the institutional report drafted and distributed to our institution by CAE. After the 2016-2017 academic year, the methods used to calculate the Expected Senior Mean CLA+ Score changed: the Expected Senior Mean CLA+ Score was then determined by samples identified based on senior parental education scores and mean first-year student performance (of that same year) on the CLA+.

We were interested in how participating in student activities may be related to the success of our students

Each year, we administer the CLA+ to either first-year students in the fall semester or seniors in the spring semester. The spring 2018 administration of the CLA+ was the first longitudinal cohort, i.e., those who took the exam as first-year students in 2014 and were taking it for the second time. This provided us the opportunity to measure how each individual student improved in their academics and account for their level of engagement at the institution. For this particular cohort, the value-add score (as defined by CAE using the calculations noted above) was not available to our institution because we do not administer the CLA+ to both first-year students and seniors in the same year. Therefore, in the pilot study, we used the CLA+ Total Scores at First Year and Senior Year (longitudinal, matched cases) to explore the relationship between specific types of student engagement and institutional value-added scores.

Purpose of Study

We were interested in how participating in student activities may be related to the success of our students, in an effort to further support and promote those practices on campus. In particular, we wanted to explore whether participating in specific programs was related to value-add, as measured by the Collegiate Learning Assessment (CLA+) from the beginning of their undergraduate studies in First Year (Time 1) to their Senior Year (Time 2). The questions that we explored were as follows: Is there a difference in CLA+ scores for students who participate in a particular engagement group and those who do not? How do CLA+ scores vary over time for students who engage in these groups? The results of this preliminary study may offer potentially valuable insights to faculty and staff about how student participation in specific activity groups may have a potential role in their academic achievement and the value-add of attending the university.

Method

Participants

Undergraduate students attending a public liberal arts university were randomly selected to participate in this study and recruited by the Office of Assessment. A total of 200 students completed the CLA+ during their first year as students, and 119 of those students returned to complete the assessment for a second time four years later, in their senior year. After data cleaning for outliers and nonvalid assessments, the final number was 98 students who completed both test administrations. There were 29 male and 67 female students; two students declined to answer. Eighty-two students (84%) identified as "White, non-Hispanic," five (5%) as "African American/Black," two (2%) as "Hispanic or Latino," two (2%) as "Asian," two (2%) as "Other," and five (5%) declined to answer. The sample was similar demographically to the overall first-year student cohort from which they were randomly selected.

A total of 17 students were identified as participating in the Honors Program (HP). Of those students, 14 were also in the LP and five also participated in Greek Life. Three students were HP only. A total of 33 students were members of the LP. Of those students, 14 were also HP, six were also members of Greek Life, and five were members of all three groups; 13 students were LP only. A total of 30 students were members of Greek Life. Of those students, 11 were also LP, 5 were members of all three groups, yielding 19 students who were Greek Life only. See Table 1 for a summary of how many students engaged in each group.

Table 1.
Number of students in each type of engagement activity group.

Engagement Activity	Honors	LP	Greek Life	No Group
Honors (n=17)	*3	14	5	--
LP (n=33)	--	*13	6	--
Greek Life (n=30)	--	--	*19	--
No Group	--	--	--	18

*Intersections of the same group indicate number of students involved in only that activity

There was considerable overlap in engagement activity participation. In particular, most of the Honors students in this sample were also participating in the LP and/or Greek Life groups. This yielded three students who were HP only, which was too small of a group to compare mean scores. Therefore, we did not examine this activity group (cognitive engagement) further in this pilot study.

Measures

Engagement. Behavioral engagement was observed as membership in the LP, as students are expected to participate in a minimum number of events and activities, as well as adhere to a higher standard of conduct throughout the course of their studies. Emotional engagement was observed as membership in Greek Life (i.e., fraternity or sorority), as students belonging to this group are connected within the group through social events, residential living, and service activities. Students were coded as LP/non-LP and Greek Life/non-Greek Life; they were coded as belonging to a group if they did not also belong to one of the other groups (i.e., LP only, Greek Life only) in an effort to keep the groups independent.

Value-add. The CLA+ specifically measures several learning domains: scientific and quantitative reasoning, critical reading and evaluation, critiquing an argument, analysis and problem solving, writing effectiveness, and writing mechanics. The CLA+ exam is divided into two sections: (a) Performance Task (PT) and (b) Selected-Response Questions (SRQ). The PT presents students with a real-world situation that requires them to address the issue, propose a solution to a problem, or recommend a course of action to resolve a conflict. The PT measures the following constructs, as defined by CAE: analysis and problem solving, writing effectiveness, and writing mechanics. Students are able to use a document library filled with a variety of reference materials to support their responses. The SRQ measures scientific and quantitative reasoning, critical reading and evaluation, and the ability to critique arguments by identifying logical flaws through a series of questions. Like the PT, students have a document library to draw information in support of their answers.

Procedure

The Office of Assessment administered the CLA+ to a random sample of incoming first-year students in the fall semester. Students were solicited via e-mail to register for one of the available time slots. All CLA+ exams were administered electronically in computer labs on campus, with faculty serving as proctors. Students had up to 60 minutes for the PT and 30 minutes for the SR tasks. Test results, including analyses of the PT score, the SRQ score and the total CLA+ score, were delivered to the university after the testing window. Those students were recruited to take the CLA+ for a second time during the spring semester of their senior year, prior to graduation. Student data regarding type of engagement activities was retrieved from the Offices of Institutional Research and Student Activities and matched accordingly.

Study Design

We began this study as a mixed factorial design, with the between-subjects factors being LP and Greek Life, and the within-subjects factors being time (CLA+ Time 1 and CLA+ Time 2); however, due to the small sample and uneven group sizes we have refrained from statements of significance. We have instead reported descriptive statistics of the means for each engagement

group to help shed light on which areas we may wish to further explore with a larger sample. We were interested in exploring the following research questions for this preliminary study:

- 1) To what extent did CLA+ scores vary over time in LP students and non-LP students? For students in Greek Life and non-Greek Life students?
- 2) How do CLA+ scores differ for students who engaged in different types of student activities (i.e., LP and Greek Life) as compared with students who did not engage in those activities?

It was anticipated that CLA+ scores would increase from Time 1 to Time 2, for students who participated in an engagement group. We also hypothesized that CLA+ scores at Time 2 would be significantly different for students who engaged in specific student activities (i.e., LP or Greek Life) and those who did not.

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Data cleaning. Data cleaning involved two steps: (a) addressing extreme outliers for CLA+ scores (dependent variable), and (b) accounting for students who “clicked through” the test (e.g., finished the performance/writing task in less than 15 minutes and/or the selected response task in less than 10 minutes) on either test administration (first year or senior year). The resulting sample was n = 98 students who completed the CLA+ at both Time 1 and Time 2, with both distributions appearing normal in skewness and kurtosis. See Tables 2 and 3 for summaries of data distributional properties of CLA+ scores over time for each engagement activity group.

Table 2
Initial Data Distributional Properties for CLA+ Total Scores, LP and Non-LP

		LP Time 1	Non-LP Time 1	LP Time 2	Non-LP Time 2
N	Valid	13	85	13	85
	Missing	0	0	0	0
Mean		1176.54	1128.48	1226.77	1204.88
Std. Deviation		88.18	131.25	120.94	130.88
Skewness		-.12	-.01	.04	-.26
Std. Error of Skewness		.62	.26	.62	.26
Kurtosis		-.69	-.45	1.57	-.15
Std. Error of Kurtosis		1.20	.52	1.19	.52
Minimum		1015	846	970	875
Maximum		1320	1408	1469	1495

Note. Time 1 is First Year; Time 2 is Senior Year

Statistical assumptions. Because the intended research design was mixed, all statistical assumptions for analysis of variance (ANOVA) would have been applicable to the analysis. We examined the following statistical assumptions: interval level data, independence of groups, normality, homogeneity of variance, and sphericity. The assumption for interval level data was met, as value-added scores refers to the numerical score on the CLA+ at Times 1 and 2; this variable is continuous, with equal intervals between scores and a true zero value (ratio level). The assumption for independence of groups was met for the between-subjects portion of the statistical test, as students were grouped as only one of the engagement groups: Honors, LP, or Greek Life.

Table 3

Initial Data Distributional Properties for CLA+ Total Scores, Greek Life and Non-Greek Life

		Greek Life Time 1	Non-Greek Life Time 1	Greek Life Time 2	Non- Greek Life Time 2
N	Valid	19	79	19	79
	Missing	0	0	0	0
Mean		1176.54	1100.84	1143.04	1128.05
Std. Deviation		88.18	110.02	130.15	125.80
Skewness		-.12	.69	-.25	.24
Std. Error of Skew- ness		.62	.52	.27	.52
Kurtosis		-.69	.22	-.29	-.06
Std. Error of Kurtosis		1.20	1.01	.53	1.01
Minimum		1015	960	846	926
Maximum		1320	1366	1408	1403

Note. Time 1 is First Year; Time 2 is Senior Year

Normality, homogeneity of variance, and sphericity. To test the assumption of normality, descriptive statistics were performed to determine the skewness and kurtosis of the dependent variable (CLA+ scores). The values for skewness and kurtosis were converted into standardized scores by dividing the value by the standard error of the value to see whether it was less than an absolute value of 1.96. This was performed for each engagement at both Time 1 and Time 2, and data were determined to be normally distributed for the dependent variable at all Time points. Next, to test the assumption of homogeneity of variance, a Levene's test was performed and found to be statistically nonsignificant across all groups, with Time 1 as the intercept, meeting the assumption for homogeneity of variance. Finally, the test for Sphericity did not yield a result value because there were only two levels of each independent variable (i.e., LP/non-LP, Greek Life/non-Greek Life). Thus, all statistical assumptions were met for the analyses.

Results

We intended to perform 2x2 factorial ANOVAs (mixed between/within-subjects design), with type of engagement (LP only, Greek Life only, and neither) as the between-subjects factors and CLA+ scores from Time 1 (First Year) to Time 2 (Senior Year) as the within-subjects factor. Because the individual engagement group sizes were too small, we could not examine the differences between engagement groups over time; therefore, we have refrained from statements of significance. The overall sample size, however, was large enough to observe the main effect for Time with adequate power, $F(1, 95) = 7.76, p = .006$, partial $\eta^2 = .075$. This suggested a potential trend in CLA+ scores over time for all students, regardless of engagement group.

After collecting additional data for the specific engagement groups (Honors, LP, and Greek Life), we will explore how CLA+ scores change over time between groups. At this time, however, we may only observe potential trends for the individual engagement groups descriptively. Table 4 summarizes the mean CLA+ scores for LP and Greek Life at Time 1 and Time 2. Figures 1 and 2 offer a visual representation of the means for each engagement group at Time 1 and Time 2.

Upon observing the graph of mean CLA+ scores over time, the LP and non-LP scores seemed to increase in a similar fashion; the lines from Time 1 to Time 2 appeared almost parallel. The preliminary data suggested little difference in average CLA+ scores between the LP group ($M = 1176.54, SD = 88.18$) and the non-LP group ($M = 1128.48, SD = 131.25$) at Time 1 or between the LP group ($M = 1226.77, SD = 120.94$) and the non-LP group ($M = 1204.88, SD =$

The preliminary data suggested little difference in average CLA+ scores between the LP group and the non-LP group at Time 1 or between the LP group and the non-LP group at Time 2

130.88) at Time 2. LP scores were approximately 4.2% higher at Time 2 than Time 1, and non-LP scores were approximately 6.7% higher at Time 2 than Time 1. Perhaps membership in the LP engagement group would not have an effect on how the CLA+ scores changed over time.

Table 4
Means and Standard Deviations of CLA+ Scores for LP and Greek Life across Time

	Time 1		Time 2	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
LP	1176.54	88.18	1226.77	120.94
Non-LP	1128.48	131.25	1204.88	130.88
Greek	1100.84	110.02	1128.05	125.80
Non-Greek	1143.04	130.15	1226.96	123.26

At Time 2, the mean scores for the Greek Life group (M = 1128.05, SD = 125.80) were lower than those not in the Greek Life group

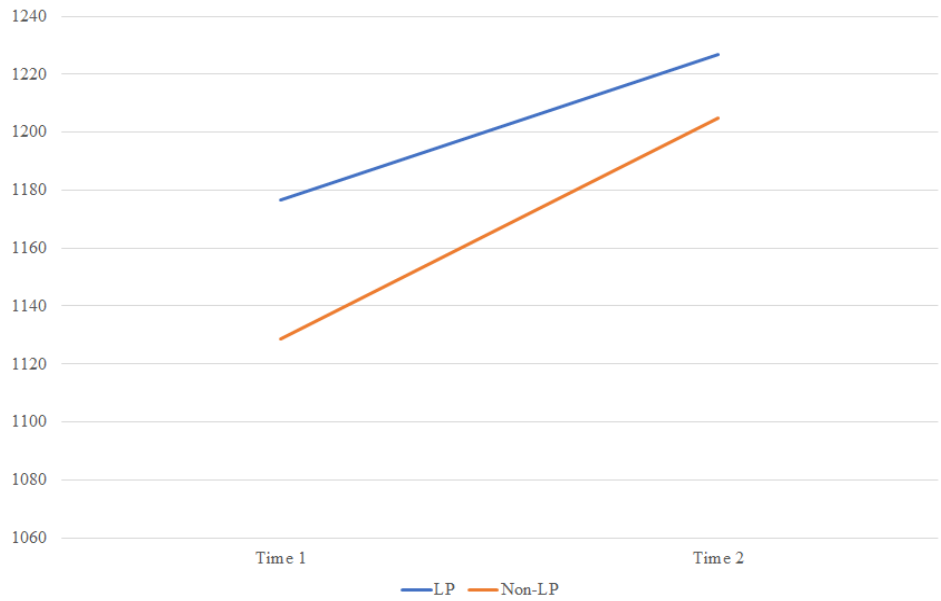


Figure 1. CLA+ scores for LP and Non-LP students from Time 1 to Time 2.

Mean scores on the CLA+ for students who were in the Greek Life group (M = 1100.84, SD = 110.02) did not appear to be different at Time 1 from those not in the Greek Life group (M = 1143.04, SD = 130.15). However, at Time 2, the mean scores for the Greek Life group (M = 1128.05, SD = 125.80) were lower than those not in the Greek Life group (M = 1226.96, SD = 123.26). Greek Life scores were approximately 2.5% higher at Time 2 than Time 1, and non-LP scores were approximately 7.3% higher at Time 2 than Time 1. Perhaps membership in the Greek Life group could have an effect on how the CLA+ scores changed over time. Looking at the two figures comparatively, the mean scores appear to increase differently from Time 1 to Time 2 for Greek Life and non-Greek Life students.

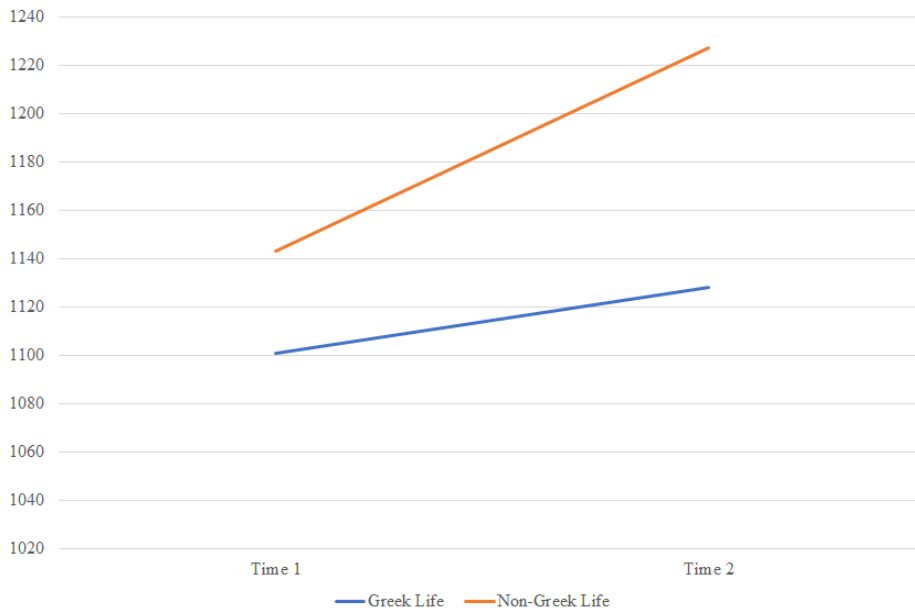


Figure 2. CLA+ scores for Greek Life and Non-Greek Life students from Time 1 to Time 2.

Discussion

This study explored the extent that value-added scores, as measured by performance on the CLA+, varied from First Year to Senior year for students who participated in specific engagement groups on campus. Like many institutions that employ the CLA+, we were interested in the value-add from our institution. Specifically, we were interested in understanding the degree to which specific student engagement activities were related to the success of our students, with the intention of suggesting further support for those practices on campus. The goal was to determine whether engaging in these programs during their undergraduate tenure was contributing to the value-added scores from Time 1 (first year) to Time 2 (senior year) and if scores changed over time differently for different engagement groups.

Overall, students' average scores improved over time, regardless of involvement in an engagement group. That is, scores on the CLA+ improved from First Year to Senior Year for all students. Students in the LP at this institution are expected to engage in program activities throughout their undergraduate studies as a condition of group membership; however, average scores for students in the LP group appeared to increase in a similar manner as those for students in the non-LP group. This finding was surprising because of the well-documented link between behavioral engagement and student success (Kuh et al., 2007; Kuh et al., 2005). To engage academically, a student must invest behavioral, cognitive, and emotional resources (Le, Casillas, Robbins, & Langley, 2005). It is possible, however, that the effect would not be observed due to our definition of value-add (i.e., the change in CLA+ scores from First Year to Senior Year). Perhaps the CLA+ did not capture the type of student gains that could be achieved by participating in the LP due to range restriction. Future research with larger sample sizes will allow us to more clearly observe how scores for LP and non-LP students vary over time.

Similarly, the findings the Greek Life engagement group shed light on potentially unexpected results. While both groups increased their CLA+ scores over time, average CLA+ scores for students in the Greek Life group appeared to increase less drastically than those in the non-Greek Life group. Given that the average Greek Life grade point average (GPA) on our campus is consistently higher than the university average GPA, we expected that active social/emotional engagement on campus might play a role in academic achievement. After all, it has been proposed that emotional engagement precedes, positively influences, and even facilitates cognitive engagement (Fredricks et al., 2004) and that engagement research has demonstrated

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that students who are involved in their academic communities may have positive academic outcomes (Zhao & Kuh, 2004; Mouzakis, 2017). As we gather more longitudinal data in the coming years, we plan to explore this relationship further.

According to a 2009 College Senior Survey reported at the Higher Education Research Institute (Franke, Ruiz, Sharkness, DeAngelo, & Pryor, 2010), 17.5% of graduating college seniors report having joined a fraternity or sorority. As discussed in a recent article by Even and Smith (2018), these national organizations often outline goals for their membership such as the “intellectual development of members, the cultivation of leadership skills, and citizenship” (Even & Smith, 2018, pp.1). Why then, with these national membership requirements and with the observed academic performance of our Greek Life students, do our results demonstrate that Greek Life participants scored significantly lower on the CLA+ than non-Greek Life participants during their senior year when their first-year scores were not significantly different? Perhaps the low-stakes nature of taking the CLA+ at this institution played a role. Finney, Sundre, Swain, and Williams (2016) noted that test-taking motivation had an effect on estimates of value-add, in that a student’s motivation influenced their performance on a test after taking other variables into account (Finney, Sundre, Swain, & Williams, 2016). This phenomenon may apply to the present study because completing the CLA+ was not a requirement at this institution, and the results did not become part of students’ academic records.

It is important to continue specifying the type of student engagement being examined, rather than grouping participation in activities under the umbrella of “student engagement”

Study Limitations

The specific engagement groups were small in size, which presented challenges in capturing interaction effects and between group effects. This sample represented the first grouping of longitudinal data at our institution, and we hope to obtain larger sample sizes in the future to allow for more powerful analyses. Also, students were not required to take the CLA+ as part of their academic studies. Motivation (or lack thereof) to perform well on the test may have influenced the outcome at either test administration (Williams, 2015). Although the sample of students who were recruited to take the CLA+ was random and generally reflected the composition of the student population at this institution, the test was still considered to be low-stakes.

The current study was performed at an institution using existing data and groups for engagement, defining types of engagement and value-add in a very specific way that may not be applicable to all institutions. The method we used to determine value-add may not have fully captured the particular effects of these specific student engagement activities; however, in explicitly describing the type of student engagement being explored in this study, it may contribute to the literature by examining how different types of engagement play a role in institutional value-add.

Conclusions and Future Directions

Depending on how one defines engagement (cognitive, behavioral, emotional, etc.), student participation in such activities may have a different influence on institutional value-add. It is important to continue specifying the type of student engagement being examined, rather than grouping participation in activities under the umbrella of “student engagement.” Doing so may help to improve our understanding of how high-impact practices support student success. Other activities that may be interesting to explore as subtypes of student engagement might include athletics, student government, service organizations, and cultural clubs.

Due to the very small sample size of the Honors Program group, we were not able to explore the potential effect of cognitive engagement in this study. As our sample of longitudinal data increases over the coming years, we would like to examine how CLA+ scores vary over time for Honors versus non-Honors students. Further, we would like to continue exploring the potential role of participating in LP and Greek Life on student achievement. Upon gathering enough data for adequate sample sizes of groups, we plan to perform a 3x2 mixed factorial analysis of variance (ANOVA) to explore how student performance on the CLA+ varies over time for different engagement groups.

We were initially interested in triangulating these findings with NSSE data; however, we did not have an adequate number of matched cases, as we cannot control which students complete the NSSE or are randomly selected to take the CLA+. Because the manner in which value-added is measured by an institution may not fully reflect gains in the student experience, it may be helpful to take student perceptions into consideration. Also, our method of calculating value-added scores (i.e., using longitudinal data to see the change in scores from Time 1 to Time 2) is different than that of CAE's calculation for value-add (which takes parental level of education into account). Therefore, we may wish to perform a comparative analysis of methods for calculating institutional value-add, noting the potential difference and implications of each method. Finally, in examining the data and results we would like to further explore the impact of students entering the university with college credit (as defined by the number of advanced placement/dual-enrollment credits) on institutional value-add.

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