

Abstract

The transition between high school and college can be a difficult one to navigate and the need for student support to facilitate this transition for new students is apparent. Students who engage in first-year programs such as peer mentorship opportunities are correlated with higher persistence rates, improved GPA's, and increased graduation rates. Peer mentorship can also have a significant impact on students' feelings of connection and belonging to their campus community. While the effects of peer mentorship have been consistent, there has been little information shared surrounding how to implement a peer mentor program in a strategic, structured, and effective way. Thus, the need for a controlled peer mentorship program arose. The peer mentor program titled *Class Leaders (CLs)* was implemented at a medium-sized research university. Data was collected longitudinally that informs the formation of a grounded peer mentorship program. This mixed-methods study assessed the quantitative data on persistence rates (up to 10% difference) and first-term GPA (up to 0.4 difference) of students who had a CL during their first year in college versus those who did not. Differences were statistically significant and included findings for first-generation students. Qualitative data was then collected to examine the impact of the CL program identified by students, instructors, and the CLs who participated in the program. Information is shared outlining the results, subsequent recommendations, and implemented changes over the course of two years (and including recommendations made for year three based on the results).

Keywords: peer mentor, higher education, transition, teaching and learning, persistence

Enhancing Student Outcomes: Evaluating the Implementation of a Peer Mentor Program

The transition from high school to college can be a difficult one for incoming college freshmen. Students who struggle to transition effectively into college whether socially or academically tend to experience higher rates of drop out from their programs. Attrition rates are of significant concern for college campuses (Claybrooks and Taylor 2016; Miller and Lesik 2014; Stewart, Lim, and Kim 2015; Swail 2004, Ishitani and DesJardins 2002; Walsh and Kurpius 2016.). In the initial work on persistence done by Tinto (1975), it was postulated that persistence rates were impacted by a lack of being prepared, student commitment levels, and poor social and academic integration. This original hypothesis by Tinto (1975) has been confirmed in multiple subsequent studies (Baker, Caison, and Meade 2007; Freeman, Hall, and Bresciani 2007; Hallberg, Hallberg, and Sauer 2003; Hausmann, Schofield, and Woods 2007; Mannan 2007; Thompson, Orr, Thompson, and Grover 2007; Woosley and Miller 2009). More recently, it was shown that 60% of full time students within the United States graduate within six years (NCES 2014). The need to decrease attrition rates and improve persistence into future semesters of college for incoming students is apparent.

In addition to the difficulty students experience due to the often more rigorous and demanding college-level learning is that students may experience anxiety asking for help or feel disconnected from their campus community, which may prevent them from seeking out the services they need. For these reasons, the need for colleges to offer programs and support that aid in the transition between high school and college is essential to students experiencing success and longevity in their academic careers (Woosley and Shepler 2011).

Many universities offer first-year programs that are effective in aiding students in this transition such as First Year Seminar (FYS) courses or peer mentors. Although FYS courses

have been widely researched (Permezian and Crede 2016), there is limited research about peer mentor programs including their relationship to student achievement as well as the characteristics of effective programs (Gershenfeld 2014; Johnson, Rose, and Schlosser 2010). This study serves to contribute to the understanding of peer mentor programs in higher education.

Peer mentorship can be defined by having a more experienced student engaging with a less experienced student to focus on performance, academic growth, knowledge, support, and advice (Falchikov 2001; Kram 1985). This mentorship can often have positive impacts on students' performance and satisfaction as they transition to college. However, there has been little to no previously reported results stating what effective peer mentorship programs look like or how to implement peer mentorship in a structured and evidenced based way. Quality peer mentorship can be a tool to offer the support necessary for incoming college students leading to greater retention rates, higher GPAs, and improved feelings of connection between the campus community (Colvin and Ashman 2010).

Peer mentorship has been linked with positive college experiences as students learn from peer-to-peer interactions. Students often look to other students inside and outside of the classroom for guidance and instruction on how to navigate the world around them (Colvin and Ashman 2010). In fact, Hall (2004) found that students who were struggling to transition into college utilized other students as resources for support more frequently than university supplied resources. The need to harness the effectiveness of the support within the peer-to-peer relationship for incoming students is apparent. As a result, peer mentor programs have been established on college campuses to increase involvement and interaction with the campus community (Asbee and Woodall 2000; Hughes and Fahy 2009).

Mentorship can aid in helping students feel connected to others leading to a higher sense of attachment and investment in college (Evans and Peel 1999). Additionally, it can allow for new students to gain access to resources, support, engagement opportunities (Clark and Crome 2004, Pope and Van Dyke 1999) and increase the time and energy that students spend on their academic careers (Astin, Alexander, Wogelgesang, Ikeda, and Yee 2000). These interactions allow students to feel a sense of investment in their college activities ultimately leading to greater successes in performance and perseverance through college.

This is in stark contrast to higher education settings where historically there has been a separation or disconnect between faculty and students. Students came to class, faculty taught on a specific subject, and students left until the next class. Faculty were responsible to teach and provide students a grade with minimal emphasis on building personal relationships with students. Faculty were not trained to consider the intersections of life systems at play that impact freshmen college students' lives and adapt lessons to help freshmen work through the conflicting demands of those life systems. This method to approaching higher education did not enhance positive retention rates in higher education. As researchers began understanding learning in more depth and started looking into techniques that produce higher student performance, a call for a transformation in the university educational system took place (Chory and Offstein 2017).

In the 1980's, education advocacy groups pushed for reform in university teaching and focused on active learning, diversity, and community involvement (Brint 2011). It was believed that getting students engaged and focusing on adapting learning techniques to meet students' needs was an important facet of positive student outcomes. Incorporating a peer mentor program within the first year meets this call to action and accomplishes many of these goals.

In the face of a changing university setting, peer mentorship programs aim to teach students applicable and necessary information for success in their college career. Mentorship also breaks down the barrier between students and can provide accessible student interactions that can serve as a guide toward how to navigate college life successfully. Mentors who take an active approach to teaching success strategies rather than adopt a “sink or swim” mentality for college freshmen may see improved feelings of connection, self-efficacy, and motivation for persistence. Studies show that faculty involvement in the first year improved student engagement, and also that “high-impact” learning improves student achievement, retention, and attainment (Brownell and Swaner 2010; Kuh 2008; Kuh, Kinzie, Schuh, and Whitt 2005; Rhoades 2012). With the implementation of effective peer mentorship programs, not only are faculty inherently more involved in their students’ transition, but mentors are also. This “high-impact” learning experience can be beneficial for incoming college freshmen as they now have increased access to both faculty and other students across campus.

While there is a recognized benefit for all students to engage in a peer mentorship program throughout their first year, one particular subset of students may be particularly impacted by mentorship. First-generation college students are a population increasing within university settings (Petty 2014). In 2014, 15.9% of the post-secondary student body in the United States was considered to be first-generation college students (Irlbeck, Adams, Akers, Burris, and Jones 2014). Due to systemic issues impacting success and persistence including but not limited to a lack of familial mentors, first-generation college students are at an increased risk for drop-out during their first year. Almost half of first generation college students leave before graduation and of those, 60% leave after their first year (Engle and Tinto 2008). Effective programming that increases persistence rates, particularly for first-generation students who are at

an increased risk for attrition is essential (Mahan, Wilson, Petrosko, and Luthy 2014). The need to look at the impact of peer mentors on first-generation students is imperative to understand how higher education settings can minimize the anxiety surrounding first-generation students seeking necessary help and resources and improve their feelings of connection to their campus. With increased resources and connection, persistence rates may be improved.

While the impact of a peer mentor has been shown to improve connection and persistence into future semesters, administrators also must be aware that the implementation of a peer mentor program may come with resistance from students as well if training and support for mentors, students, and teachers is lacking (Colvin 2007b). Therefore, there is a need for a roadmap on how to most effectively implement a peer mentorship program. Ineffective implementation may overshadow any potential positive effects.

Purpose

In this study, the effects of a new peer mentorship program initiated at a medium-sized research university in the mid-west were assessed over the course of two years. Through the university, the Class Leader (CL) program was implemented within an introductory level general education course to provide peer mentors for new students. Sections were assigned CLs who were responsible for a variety of actions including leading icebreaker activities, providing personalized anecdotes about their experiences as a new student, coordinating activities outside of the classroom to promote connection, and being available as a resource for students to use if they had questions or were struggling. This paper addresses the impact of CLs on persistence rates, GPA, and provides interview evidence of the students' experiences of having peer mentors. This mixed-methods study combines quantitative data as well as a qualitative review from students and Class Leaders with feedback on how the CL program was received. The

longitudinal data informs future changes to the Class Leader program to strengthen the effectiveness of the program from year to year.

Methodology Rationale

Improving undergraduate learning experiences requires intentional programmatic development and improvement. This study uses a pragmatic theoretical approach to mixed-methods design and program evaluation (Patton 2012). Patton's Utilization Focused Program Evaluation (2012) requires researchers to follow specific steps to ensure that outcomes are reported and utilized by the recipients of the results. Patton's (2012) work informed the structure and question development in the focus groups as well as the dissemination of results in the form of practical recommendations. There were two phases of this research and a concurrent triangulation mixed-methods design was chosen for each phase. This design strengthens the practitioner recommendations by using both participant experiences and numerical outcomes to inform results reporting. The triangulation of two years of both quantitative and qualitative data enhances the trustworthiness and rigor of the results and allows researchers to get a better understanding of both the qualitative and quantitative results through cross analysis with each other (Teddlie and Tashakkori 2009). Figure 1 provides a visual representation of each phase of the concurrent mixed-methods design in the form of a flow chart.

Research Questions

- 1) Is the peer mentor program providing added value for students and the university? (overall mixed methods)
- 2) Does incorporating a peer mentor relate to a higher first-term GPA for students including first-generation students? (Quantitative)

- 3) Does incorporating a peer mentor relate to greater persistence rates into future semesters for students including first-generation students? (Quantitative)
- 4) Which factors of having a peer mentor benefited students the most? (Qualitative)
- 5) Which aspects of the peer mentor program could be altered or added to provide further benefits to students? (Qualitative)

Methods

CL Program Years 1 and 2

Table 1 provides an overview of the program in year 1 and year 2 including training and CL responsibilities.

Quantitative Design

Participants. After receiving approval from the Institutional Review Board, information from university data sets were collected from two cohorts of entering first-time, full-time students in Fall 2016 ($N = 2097$) and Fall 2017 ($N = 2077$). The number of CL participants in Fall 2016 was 176 students and in Fall 2017, there were 208 students (see Table 2 for all details). Demographic data and first-term GPA were collected from these data sets at the end of each first semester. Credit loads were collected at the census date during each of the following spring semesters (beginning of students' second semester) to show continued enrollment at the university. This institution is a medium-sized, public four-year research university.

Data Analysis. The first analyses compared the proportion of students who persisted to the spring semester based on whether they had a CL in their fall semester. For the percentage of students who persisted, a chi-square test of homogeneity was used to assess differences between the proportions in the two groups (i.e., CL group and non-CL group). Analyses were completed for all students and for first-generation students.

The second set of analyses used a one-way between subjects ANCOVA to assess the differences in first-term GPA between the CL and non-CL group. Index score (a variable that combines high school GPA and college entrance exams as a measure of entering academic preparedness) was the covariate.

Qualitative Design

Design Year 1. Purposeful sampling was utilized to recruit student, Class Leader, and instructor participants for a total of three focus groups and three individual interviews at the end of the Fall 2016 semester. Individual interviews were conducted when participants were unable to attend the focus groups due to personal scheduling restrictions. Student participants were enrolled in a course section that was comprised of a Class Leader and instructor. Recruitment of student participants entailed email notifications through the course management system and instructors relaying focus group information during class time. Six students agreed to participate ($n = 6$). CLs were recruited via verbal announcement by the Class Leader coordinator and email invitation. Four Class Leaders agreed to participate in the research ($n = 4$). Instructors were recruited verbally at the instructor team meetings and were invited via email announcement, and seven instructors ($n = 7$) agreed to participate in a focus group.

All focus groups consisted of a 60-90 minute semi-structured interview where participants were asked to answer questions about their experience as a student, Class Leader, or instructor. The same researcher conducted all interviews and a semi-structured interview protocol was used for all interviews, which was previously approved by the research team and IRB review. Participants were asked about the potential benefits and drawbacks of the Class Leaders program and their perception of the implementation of the program.

Analysis - Year 1. All focus groups were audio recorded using voice recording equipment. The audio recordings were transcribed using a professional transcription service. Identifying information was removed from the transcriptions. Transcriptions were uploaded to the data analysis computer software NVivo 11 where open coding was conducted by two members of the research team.

The researchers determined that thematic analysis would be the best approach to organize and analyze the data and avoid compromising the originality of participant contributions. Given that this was a first-year implementation and the experiences of participants could not be well hypothesized, the researchers followed the recommendation of Braun and Clarke in using thematic analysis (2006). Open coding consisted of taking raw data and creating themes by saturation of a particular theme in the data. Themes were created based on the largest occurrences of articulation by the participants. The researchers conducted the open coding together in order to ensure that themes were agreed upon and to provide opportunities for cross-checking. Qualitative themes were collapsed to enhance findings that were saturated. Results were reported using data extracted from data items that accurately represented the entire data set (Braun and Clarke, 2006) and that ensured representation of the texture and structure of the data were set (Merriam and Tisdell, 2016). Thematic results were sent to student, Class Leader, and instructor participants as a form of member checking to ensure rigor. In addition, the lead researcher served as internal auditor for verification of data handling procedures and data analysis process.

Thematic analysis for year one provided ten main themes: Activities, Relatability, Experience, CL Training, Slow Start, Communication Challenges, More Time, Relationships, Socio-emotional Support, and Disconnection.

Design - Year 2. Purposeful sampling was utilized to recruit student, Class Leader, and instructor participants for a total of 5 focus groups at the end of the Fall 2017 semester. Student participants consisted of being enrolled in a course section that was comprised of a Class Leader and instructor. Recruitment of student participants entailed email notifications through the course management system and instructors relaying focus group information during class time. As part of the Class Leaders position description, all Class Leaders (n = 10) completed a focus group as well as all instructors (n = 10). Again, all focus groups consisted of 60-90 minute duration of semi-structured questions where participants were asked to answer questions around their experience, including the benefits and shortcomings, of having a Class Leader in their section.

Analysis – Year 2. Recordings, transcriptions and analyses were completed similar to year 1. Throughout the interviews during year 2, questions were semi-structured focus group questions and were refined to verify and validate previous findings as well as allow for new themes to emerge. Qualitative themes were collapsed to enhance findings that were saturated. In order to demonstrate qualitative rigor, thematic results were sent to student, Class Leader, and instructor participants as a form of member checking. In addition, the lead researcher on this project served as internal auditor for verification of data handling procedures and data analysis process.

Thematic analysis for year 2 provided six main themes, Activities, Class Leader Development, Logistics, Relatability, Relationships, and Disconnection.

The following sections provide detailed descriptions of salient participant responses for each theme and evidenced support for quantitative findings within this research study.

Results

Quantitative

For the first set of analyses, all assumptions for the chi-square test of homogeneity were met including that all expected cell counts were greater than five. The chi-square test of homogeneity showed significant differences ($p < .001$) in proportion of students who persisted to the spring semester. A higher percentage of students and first-generation students persisted in the CL group as compared to the non-CL group. See Table 3 for the results.

For the between-subjects one-way ANCOVA, all assumptions were met. There was a linear relationship between index score and first-term GPA for each group as assessed by visual inspection of a scatterplot and there was homogeneity of regression slopes as the interaction term was not statistically significant ($F(1, 4189) = 2.975, p = .085$). There was homoscedasticity, as assessed by visual inspection of the standardized residuals plotted against the predicted values and there was homogeneity of variances, as assessed by Levene's test of homogeneity of variance ($p = .091$). Lastly, there were no outliers in the data, as assessed by no cases with standardized residuals greater than ± 3 standard deviations.

Adjusted means are presented, unless otherwise stated. First-term GPA was greater in the CL group compared to the non-CL group for all students and for first-generation students. In the ANCOVA analysis for all students, there was a significant main effect for CL group [$F(1, 4171) = 57.84, p < .001, \text{model } R^2 = .29$]. Similarly, for the first-generation students, there was also a significant main effect for CL group [$F(1, 1812) = 26.83, p < .001, \text{model } R^2 = .24$]. See Table 4 for the results.

Qualitative Findings - Year 1

Below are the qualitative thematic results expanded upon with specific comments from the first year of analysis.

Activities. Students described activities led by the Class Leader as an impactful part of their participation in the course. In particular, several students noted the impact of ‘poster night’. ‘Poster night’ was a support activity created by the Class Leaders to provide logistic and academic guidance in creating the posters for research night. Class Leaders provided materials for making the posters (e.g. scissors, glue, decorations, access to printing) in a community space on campus and were available for assistance and mentorship in creating the posters. The leaders also provided pizza and refreshments for students attending. When asked what seemed to be the most impactful activity, Class Leaders also echoed this notion: “...the one that really comes to mind is when it was the poster night when we all got together in the lab and they were able to work on their posters...” Other students described the impact on learning and participation when CLs led learning games in the classroom: “My favorite by far was the trivia to review for the final.” In this way, Class Leaders built in and out of class opportunities for students to learn and receive support with their course material. Hosting such activities seems to be an effective way for CLs to be implemented into the course.

Relatability. One of the primary goals of implementing the CL program was to improve students’ perception of the course content by the use of social modeling. A theme that arose in all groups was the impact of Class Leaders on students’ connection to the course and to implementing the skills learned in the college environment. An instructor described: “...I think they appreciated having and seeing someone who was in their shoes just last year.” Students echoed many instances of feeling connected to their Class Leader. Another student described how her CL demonstrated the utility of course content: “She gave us examples of what happened with her last year and how she got through it and how she studied and all that kind of stuff.”

Many students seemed to relate themselves to Class Leaders, which helped them to see the utility of course material in a new light.

Experience. While students gained benefit from the CL program, it was important to the research team that CLs also gained benefit from their participation in the program. Many of the applicants to the program cited a desire for the professional experience the program provides: "...this could be something that, for one, looks really good on a resume, after graduating, and two, gives you a great deal of professional experience that you may not get [otherwise]..."

Other Class Leaders cited a desire to mentor and support new students in a teaching capacity: "...I grew in certain areas especially since I want to be a teacher, so, just getting more classroom experience even though it was at the college level, just getting to interact with other people, it was very helpful." Professional development opportunities at the sophomore level of college can be difficult to come by, particularly for teachers in training, and the CL program provides this opportunity within a context of training and support.

CL training. With this being the inaugural implementation of the program, considering the benefit of the training day was important in considering future improvements. Overall, the CLs felt that the training was beneficial to their work: "I think the training went well. It equipped me for what I needed to do." In particular, the Leaders appreciated team building: "I liked the group sessions. I wish that we had all been able to train together, but again, it doesn't always work out that way."

Slow start. Students, Leaders, and instructors noted the difficulty that occurred when CLs had a slow introduction into the program. Many individuals described being unsure of the role of the CL, or because the CL was only participating one day per week in the classroom that they did not become a part of the initial classroom community. One Class Leader described her

first weeks being a Leader: “It felt like at first none of us had a clue what we were doing...”

Despite the training provided, Leaders experienced a disconnect in their self-efficacy and sense of preparation for leading the course.

Communication challenges. Another logistic difficulty cited by all participant groups were the challenges in communicating in a timely and effective manner. One instructor cites the difficulty of a slow start combined with communication challenges: “We had to do everything via emailit just made things hard to like try to get things rolling...” This frustration was echoed by students, Class Leaders, and instructors alike.

More time. The need for more time in the classroom was a difficulty that was noted by all participant groups regularly, and this theme was well saturated in the data. For all parties, this seemed to drive struggles with disconnect, communication errors, and confusion. One Leader stated “... I was there once a week even though they met twice a week. So, I felt like that hindered it a little bit, especially, getting to know the students...” Students noted feeling disconnected from the Leader or wondering what their purpose was because they came into the classroom one day a week. Increasing time in the classroom would be a major consideration for the program moving forward.

Relationships. A theme and focus of all interviewed groups was the impact of relationship, or lack of relationship, in the CL program and CL-led courses. Subthemes are described below.

Socio-emotional support. Students described a variety of socio-emotional support that they received from Class Leaders, including support in becoming more comfortable in the classroom, helping them settle into the university culture, and simply connecting socially. As one student put it: “...[she] was like a friend to have in classroom, to talk to.” A Class Leader

described a mentorship relationship that developed with one student: “It was cool that we met outside of classroom... I think that helped her throughout the semester. I was just someone she could come to talk to.” While the researchers developed the program with the primary hope of building the use of course content, a highly impactful side effect was the additional support students received from CLs in their overall development as college students.

CL team support. Simultaneously, Class Leaders described on several occasions the benefit they received from connecting with other CLs. The Leaders first experienced training together, then met at mid-semester to connect, troubleshoot struggles, and talk about successes. Additionally, several Class Leaders worked together to conduct extracurricular activities for students. One Class Leader noted: “I really liked getting to meet the other Class Leaders. I think that was helpful to hear their ideas and opinions and what they wanted to see for their classroom.” In this way, CLs learned from one another and strengthened their own interventions with students through collaboration and team support.

Disconnection. With the importance of relationship being a salient theme for all participant groups, many participants also discussed the consequences of feeling disconnected from their Class Leader. This seemed to be one of the biggest barriers to effectiveness in the implementation of the program, alongside the logistical concerns to be described. One student stated: “...it felt like not everyone got her [the Class Leader’s] trust... so then when it came to sharing with her and her being like, ‘Okay, what did you guys do this weekend?’ Not everyone wanted to share with her...” Another student experienced the disconnect between an instructor and their Class Leader: “It felt like it was like her [the Class Leader] stepping on our teacher's toes and her [the teacher] stepping on the student aid's toes back and forth and it felt like they didn't really communicate.” Given that three different parties (the instructor, Class Leader, and

the students) are working to communicate and connect, the research team hoped to further examine this theme in the next year's data collection.

Qualitative Findings - Year 2

After reviewing the data from year one, changes to the CL program were implemented during year two based on the suggestions for improvement during the first year (see Table 5). Following year two, data was collected again to review the effectiveness of Class Leaders in the second year of the program. For year two, the researchers assessed for what themes had the highest saturation from all interview sources and selected these as the main representative themes. Other themes were subsumed into the larger themes to provide further organization and clarity without removing important data. Below is the qualitative data with expanded comments collected during the second year of research.

Activities. Congruent with year one's findings, students discussed a variety of community building activities led by the Class leader as an impactful part of the CL program. One student discussed the impact of such an activity:

“We did some cards that we wrote three different facts about ourselves, and then you didn't write your name. Then she would read it off to all of us and we'd all have to guess who it is, which was really fun for all of us...then we all asked each other questions about those-like what each three meant to the person kind of. So, then you got to know more about the person.”

Another student stated “Yeah, I would say that as well because most of the activities that we did were in the beginning learning everyone's name and trying to figure out everyone in our class. But I guess it helped me meet people I guess...” One instructor described the poster night activity led by Class Leaders: “At the poster night, that was successful, I think they really looked

to her in the research project. They were able to get support in that way.” Community building activities held outside of the classroom were another component discussed by participants. One Class Leader discussed a ‘Pack the Stands Night’ event that invited students to attend a basketball game with their Class Leader and an instructor: “Basketball, the game that everyone went to...because then they get to interact, like they think it’s for extra credit but they end up getting more involvement out of it in the end.”

Class Leader development. Class Leaders and instructors described the benefit that CLs received from their participation in the program. One Class Leader described her experience: “I just think it was really fun and I grew as a person doing it, got a lot more confident, it was really fun.” Another Class Leader noted her growth process: “As I went on I felt more comfortable...I kind of felt like I grew from just like the mentor part into more of like the Class Leader slash teacher’s assistant kind of thing, which I thought was really cool. Instructors noted these changes as well: “I felt like the experience was really helpful for my Class Leader. I felt like they grew a lot in their ability and their public speaking ability, and their comfortable-ness...speaking in front of others and learning how to share things about themselves with other people.”

Logistics. One of the greatest challenges the program has faced is in discovering how best to market and introduce Class Leaders to students prior to the beginning of the semester as well as at the start of the class. This year’s research found that primarily students learned about the Class Leader from their instructor:

“I was informed in class that we’re gonna have a Class Leader and she just explained her stuff like what kind of things she was gonna do in classroom, like participate, also teaching us and telling us her experience throughout the course of it that she previously experienced.” Another student noted, “Ours [Class Leader]

was introduced the first day of class and she said, 'I'm here for you and if you feel like you can't go straight to the teacher, I can be the median,' And so I don't know. From that, we kind of knew what she was there for."

The other source of student's knowledge about Class Leaders came from their introduction to the leaders at New Student Orientation. One Leader described his approach in meeting students at the orientation fair:

"Yeah we talked about who we were and why we were there, because obviously we look like we just started ourselves...at the booths during the summer orientation we'd be like, 'Hey, I'm so and so and I took this class...it's more than just teaching you how to go to class, okay, it's like how to really find your home and your place here at the University and in college and you learn skills that you take on through life."

Relatability. Students described relating to their Class Leader as a model for their success. This points to the social modeling that these researchers hoped to establish in creating the Class Leaders program: "I feel like I could too just because he also is one year older, he's been through the class so I feel like I could look to him to see what he did and see what I could do to fix what I need to do." Another student described her Class Leader: "There were a lot of little instances where we'd be talking about how we studied or how we took care of ourselves and stuff, and she was always super relatable because she had been a college freshman too..." Students also described receiving effective modeling from their Class Leaders. One student stated: "I would just say just, I guess, having somebody else other than the professor, I guess somebody around your age that already experienced it was very helpful and just to encourage us..." This theme was one of the most saturated of all of the themes discovered.

Relationships. The students described relational experiences and socioemotional support as one of the biggest benefits of having a Class Leader. One student discussed the Class Leader's ability to connect individually and with the class: "I was talking with him the entire time, just laughing and having a good time with him. It was really nice to see him interacting with the entire group and not just...yes, we were talking, but he was talking with everybody."

Socioemotional support was a large theme for students, in particular the small acts of Class Leaders that made students feel cared for. One student shared: "I guess just as a mentor 'cause she was always very supportive in our things and the stuff that would say like 'oh, I'm proud of you guys,' or, 'It's gonna be okay, it's normal for your first year and you're in college,' and just giving us moral support." One student noted a Class Leader going above and beyond to remove barriers in helping students to succeed:

"I know how when one of you guys mentioned there was a shortage of poster boards or whatever at Wal-Mart, I know that my Class Leader arranged this Hobby Lobby night for us so that we could all meet up and she even drove and a bunch of kids went to Hobby Lobby together. And she printed out a bunch of the 40% off coupons for everybody so that was super cool. And I know that I personally never had a problem that I needed to go to her about, but I would always catch myself having little conversations with her that really didn't pertain to the class at all but were just kind of like small talk."

One Class Leader described providing this support:

"I had a few students tell me that they wanted to transfer home because they felt like they didn't fit in, and I would like give them resources on campus, and I told

them to like make friends in their classes and after I talked to them...now they're more kind of like, 'Oh, okay, well this is my place here.'"

An instructor described the impact of the Class leader's emotional support: "I brought like five crying students to her in the course of our meeting... We would both sit there with that student, and...I would try to say something, but everything she said was better than what I said. That is probably the most important contribution she made."

Disconnection. While relationships were valued as highly impactful for students with Class Leaders, students also noted with frequency the effect of feeling disconnected from a CL. One student stated:

"...she didn't really put herself out there...Most people didn't really get the feeling that they can approach her about course material, or even personal questions, or comments, or anything." Another student noted: "She seemed like she was outgoing but not necessarily personable or open I guess to help us if we really needed it outside of class."

Some Class Leaders described struggling with this disconnect as well: "I guess that [taking the course last year] would make a lot of them see us as an authority, which we aren't necessarily, but we're trying to be so it's a really hard barrier to cross..." Instructors noticed the struggle as well: "There were two different agendas. My Class Leader wanted to do these fun things, get to know each other, and my class was kind of over it, and so there was some disconnect at times for both the class and the Class Leaders."

Suggestions for improvement. Participants from the Class Leader and instructor focus groups were asked to share ideas on how the CL program could be further developed. One salient suggestion that continued to emerge was needing to refine the training process for CLs. A

Class Leader discussed needing to have mock classroom scenarios that conveyed the information being presented to students while promoting student engagement by saying,

“. . . maybe do role playing and be like alright everybody act like apathetic people and try to like ease them or come up on the spot with ideas that would [be] good at engaging and like, it was a big problem we ran into was like we want to do fun activities but we also need it to apply what we are learning.”

This Class Leader’s response was further supported by instructors during the instructor interview. One instructor mentioned, “I wish there was at least a little bit of training on classroom management. . . it would have been really nice for them to understand how to [perform their role] in a timely manner.” Another instructor expanded upon this suggestion by adding in, “. . . how to respond to students. If there’s some sort of piece around active listening skills.” Essentially, both Class Leaders and instructors mentioned needing more training around the struggle of working with resistance from students while trying to convey the information being taught.

One CL mentioned feeling it would be good to go over technology in the classroom during training as this became problematic during their experience by saying, “I think also having some training on like the technology like the computers and projectors would have been really helpful . . . [it took] me a really long time to figure out how to do that.”

As part of the CL program, Class Leaders met with the program coordinator once a month (an increase from year 1) to discuss how things were going for them and to help them come up with ideas of how to teach the material. One suggestion that was mentioned by Class Leaders was needing more time and support from these meetings. A CL said, “Maybe if we had designated meetings twice a month or something where we come in for an hour and a half or two

hours and like plan things out and get things ready.” This Class Leader’s response was echoed by instructors with needing more time to develop better relationships with Class Leaders and provide more support. One instructor mentioned, “Maybe carving out some time for that during training to really start developing a good working relationship together.” This statement was echoed by another instructor who discussed needing to make time to further help CLs understand their role in the classroom by saying, “. . . maybe giving them some time within the training to really think, at least for the first couple of weeks, how they use goals, how they use time management, and being able to share and talk about that, I think that would be beneficial.” From the interviews, Class Leaders felt as though they needed more time around instructors to gain support, tips for classroom management, and to feel a part of the department team. Instructors echoed Class Leaders’ sentiments as well as acknowledged the need for being able to deliver information appropriately to students.

Marketing suggestions. Throughout the interviews with students, Class Leaders, and instructors, participants were asked for their thoughts on how to enhance the marketing of the Class Leader program. One CL mentioned needing to have more time during orientation information sessions to help students further understand the role of a Class Leader by saying,

“. . . if we had a little more time to discuss everything we went through, like yes I took this class last year as a freshman as well, but I was able to pass with an A, I had high scores for my class and then this helped me maintain a GPA of a 3.5 since my first semester of college, and so kind of give them like a little more explanation like why you're there, like it's not just because you want to help them, it's because you understand the material and therefore since you understand it, it gives them another resource on how they can understand and pass the class.”

This Class Leader's response was echoed by instructors in their interview. One instructor mentioned similar thoughts by saying, "I think just telling them that they'll have another resource, when you're marketing [the course] to students. There's someone in your classroom that has been through this and can support you and give you some tips and tricks." Although, there were mixed reviews from students on how the Class Leader program was marketed during orientation information session, some students did mention they would have appreciated more detailed descriptions provided. One student mentioned this by saying, "I guess like, during orientation, a Class Leader could speak about what their [experience was] and who they are and what they do for the class."

Discussion

Class Leader Program Added Value

The primary research question tested in this study surrounded the implementation of a peer mentorship program as being beneficial for both students and college campuses. Based on the results, as compared with the campus as a whole, students who participated in a class with a Class Leader experienced higher persistence rates into future semesters of college. For all students, 86% of students in their first year persisted to the spring semester. For students with Class Leaders, 92% of freshmen persisted. The impact of Class Leaders for first-generation students was even greater with 93% of first-generation students persisting to their spring semester as compared with 83% of freshmen first-generation students without a Class Leader.

Not only are students with Class Leaders persisting to future semesters of college at higher rates, but these students are also earning higher first-term GPAs. For all freshmen students without a CL, the average first-term GPA was 2.64. Students with a CL had an average GPA of 3.02 (a statistically significant difference). Similarly, for first-generation students, those without

a CL had a first-term GPA average of 2.41 and those with a CL earned a 2.83. The benefit of a peer mentor program on universities and college students is evident in the form of higher GPAs for students who are enrolled in classes with a Class Leader during their first semester in college. Based on these results, as hypothesized, the peer mentorship program appears to be adding value for students and the university as engagement in a peer mentorship program is impacting both persistence rates into future semesters of college and higher overall GPAs.

Emerging Model

The secondary research questions explored surrounded which aspects of the peer mentorship program were beneficial and which aspects continue to need improvement and refinement for maximum positive effectiveness. After providing quantitative support that peer mentorship programs are beneficial, this research was also aimed at gaining qualitative data to inform program directors on how to best implement effective peer mentorship.

There are many noted benefits of having a Class Leader experienced by students. For one, students reported having someone their age to relate to who has already been through the class and who is able to offer valuable insight about the course and campus life. Along with the relatability of having a mentor around their age, students also reported feeling that it was helpful to have emotional support from their Class Leader in the form of someone to listen when their freshmen semester got difficult or when they were struggling with outside life stressors. Students also experienced increased connection to others when Class Leaders planned and lead activities inside and outside of the classroom. These activities included events such as trivia games to prepare for exams, group “Poster Nights” to create research posters together (which was a class assignment), and attending sporting events as a class. They were able to make friends with others

in their class and felt as if they had connections with at least one other person (their mentor) on campus.

As the Class Leader program continues to become more defined, the data suggests that there are still areas of improvement to get the most out of the implementation of peer mentorship. For students, Class Leaders, and instructors, clarification of the CL role is imperative. Many people reported confusion in understanding the intent behind the Class Leaders presence in the classroom. Improved marketing surrounding how the CLs can improve freshmen student's experience both at New Student Orientations as well as through verbal report by both instructors and CLs at the start of and throughout the semester could be beneficial. Along with this, increased time of Class Leaders in the classroom is important. IN the first year, students and Class Leaders noted that it felt difficult when leaders were not part of the entire class over the semester. The relationships that developed throughout the semester naturally with the class were disrupted when CL attendance was less than that of the rest of the group. Once this time was increased in the second year, this theme was no longer noteworthy.

Class Leaders were expected to attend a training before the start of the semester. However, they felt that the training did not adequately prepare them for their role in the classroom. Class Leaders and instructors agree that training surrounding the purpose of the course, the CL role and expectations, and classroom management skills would be important topics to cover in order to improve preparedness. It was also noted that training on the use of technology in the classroom setting would be helpful. Not only were improved training practices at the start of the semester suggested as being beneficial in future years, but also ongoing training throughout the semester could be helpful as well. Although this was included during the second year in the form of monthly meetings, suggestions were made for bimonthly CL meetings. These

meetings could help CLs to prepare for upcoming semester events and continue their training beyond what was received before school began. Additionally, these meetings could be useful in helping to build connection among Leaders, having an avenue to get suggestions for activities and exercises that they can lead, and to seek support in their relationships with their students and instructors.

Finally, improved connection between CLs and their students and instructors is essential for an effective peer mentorship program. In this study, some CLs noted that they struggled with communication with their instructor. When all communication occurred via email, the Class Leaders reported feelings of disconnection and difficulty conceptualizing what was expected of them. Weekly face-to-face meetings between leaders and instructors seemed to mitigate this disconnect in year two; however, strategies for continued improvements are being considered. Additionally, CLs participated in a team building exercise as part of the training in year 2. This seemed to help begin the foundation for their relationship during the semester.

Also, the feelings of disconnection between Class Leaders and students was an issue for some. The necessity for instructors to help foster improved relationships between Class Leaders and students is imperative. Strategies to build relationships could also be incorporated into training.

Table 5 summarizes the practical recommendations elicited from the data. It includes the suggestions on how to improve moving forward after the implementation of the Class Leader program during year one, the changes that were made for year two, and the suggestions for continued growth after year two. By continuing to study the progress of the Class Leader peer mentorship program in a longitudinal fashion, effectiveness of the program can increase with implementation of improvements from year to year.

The concept of peer mentoring has been implemented in colleges for many decades, though the research surrounding effective peer mentorship is lacking (Gershenfeld 2014; Johnson, Rose, and Schlosser 2010). Although there has been one recent study by Cornelius, Wood, and Lai (2016) that examined the implementation of a formalized academic peer mentorship program, more rigorous research is needed that includes longitudinal effects and information that provides the “how and what” behind the effective elements (Crisp and Cruz 2009). Most of the research previously conducted on effective peer mentorship has been performed in the field of business and the necessity to provide evidenced based peer mentorship curriculum in higher education is evident (Hamlin and Sage 2011; Johnson et al. 2010). Implementing an effective peer mentorship program design can be crucial in impacting the success these programs (Cornelius et al. 2016). This study contributes to the research by including peer mentorship’s specific relationships with student achievement and information about the design and delivery of a formal program.

Limitations

The primary limitation to this research is that this study was conducted with one institution; however, the mixed-methods longitudinal design provides comprehensive information about a sample peer mentor program. Additionally, this institution is similar to many other mid-size universities with high populations of underrepresented students (e.g., first-generation and students of color).

Another limitation is the lack of randomization and the self-selection of students into these courses. Some of this was mitigated by controlling for entering academic preparedness (i.e., using index score in the quantitative analysis); however, it still is not to the level of rigor of

an experimental design. The addition of the qualitative analyses does provide more comprehensive results as compared to a strictly quantitative design.

Future Research

Our findings suggest that continued longitudinal data surrounding the implementation and growth of the Class Leader peer mentor program would be beneficial. Following the program from the start, it would be insightful to continue to study the ways in which the program implements the suggestions for improvement from year to year and the effects those changes have on the effectiveness of the program. Collecting additional longitudinal achievement data would also provide evidence and some insight to the long-term effects of including peer mentors in students' first semester.

Conclusion

With increasing enrollments of underrepresented students, universities need to continue to find effective and efficient means to support these students in both the short- and long-term. This study provided both quantitative and qualitative evidence that a peer mentor program can impact student achievement outcomes such as first-term GPA and persistence as well as provide a means to establish relationships and connections to the university. Furthermore, this study provided some of the "how" and "what" behind the design and implementation of the program. As other universities seek to develop their own programs, this information can be useful to provide an effective starting point.

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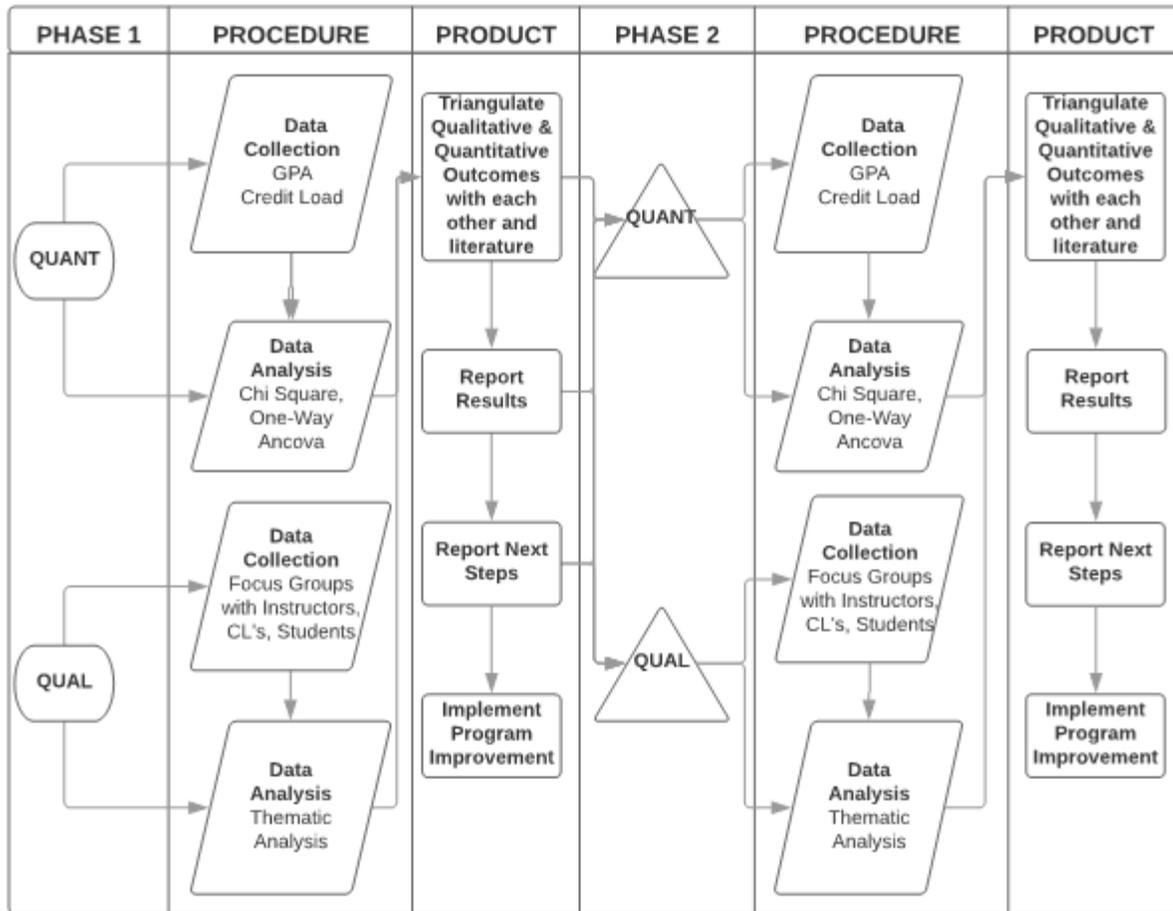


Fig. 1 Visual Representation of Concurrent Mixed-2Methods Design with Two Phases

Table 1

Class Leader Program Description Year 1 and Year 2

Responsibilities	Examples	Year 1		
		Training	Resources	Communication
<ul style="list-style-type: none"> • Participate in one class per week • Use course management systems to provide reminders and announcements • Lead at least one substantial discussion or activity during the semester • Plan at least one on-campus event 	<ul style="list-style-type: none"> • Do icebreakers, share personal examples and stories, answer questions, etc. • Provide reminders about an assignment due • Plan out a 15-minute discussion including specific questions • Coordinate the class attending a football game together 	<ul style="list-style-type: none"> • 4-hour training prior to the semester 	<ul style="list-style-type: none"> • Training handouts on mentorship, leading discussions, etc. • Course textbook 	<ul style="list-style-type: none"> • Weekly emails between instructors and CLs • Mid-semester team meeting
Year 2				
<ul style="list-style-type: none"> • Participate in two classes per week • Use course management systems to provide reminders and announcements • Lead at least one substantial discussion or activity during the semester • Coordinate and plan “Poster Night” for section • Plan one social/campus event in the first two weeks of the semester • Plan at least one additional on-campus event 	<ul style="list-style-type: none"> • Do icebreakers, share personal examples and stories, answer questions, etc. • Provide reminders about an assignment due • Plan out a 15-minute discussion including specific questions • For “Poster Night”, set budgets for snacks, gather poster examples, etc. • Coordinate the class attending a football game together • Plan mid-term exam review 	<ul style="list-style-type: none"> • 8-hour training prior to the semester <ul style="list-style-type: none"> ○ Began with 4-hour team building with course instructors at the ropes course • Monthly team meetings with CL coordinator 	<ul style="list-style-type: none"> • Training handouts on mentorship, leading discussions, etc. • Course textbook • Lesson plans with suggested activities for each week of the semester 	<ul style="list-style-type: none"> • Weekly face-to-face meetings between instructors and CLs • Monthly team meetings with CL coordinator

Table 2

Participant and Non-Participant Information

	Combined Fall 2016 and 2017		
	All	CL group	Non-CL group
All students	4174 (100%)	384 (9%)	3790 (91%)
Female students	2735 (66%)	265 (69%)	2470 (65%)
First-generation students	1815 (43%)	171 (45%)	1648 (43%)

Table 3

Persistence to Spring Chi-Square Results for All and First-Generation Students

	All students		First-generation students	
	<i>N</i>	Persist	<i>N</i>	Persist
CL group	385	332 (92%)	172	332 (93%)
Non-CL group	3815	3285 (86%)	1667	1395 (83%)

Table 4

First-Term GPA ANCOVA Results for All Students and First-Generation Students

	<i>N</i>	<i>Adjusted M</i>	<i>SE</i>	<i>95% CI</i>
All students				
CL group	384	3.02	0.048	[2.93, 3.11]
Non-CL group	3790	2.64	0.015	[2.61, 2.67]
<i>R</i> ²		0.29		
First-generation students				
CL group	171	2.83	0.076	[2.68, 2.97]
Non-CL group	1644	2.41	0.025	[2.36, 2.46]
<i>R</i> ²		0.24		

Table 5

Recommendations and Implementation

Recommendations after year 1	Implementation year 2
Increase clarity and transparency in expectations for CLs in the classroom	<ul style="list-style-type: none"> • CL’s were provided more training around roles and job requirements • Additional materials and specific weekly lesson plans were provided • Began relationships between instructors and CLs earlier
Increase frequency of CL presence in classroom	<ul style="list-style-type: none"> • CL’s doubled the amount of time in the classroom
Improve avenues for communication between CL, CL team, and instructors	<ul style="list-style-type: none"> • Training began with a 4-hour team building exercise between all instructors and CLs • CL’s had monthly team meetings and were required to meet with their instructor weekly
Recommendations after year 2	Implementation year 3
Continue to clarify the role of the CL and support their skill development	<ul style="list-style-type: none"> • Will continue changes from year 2 and provide more role-playing and instruction around technology during training • Will provide additional reading resources prior to training • Will incorporate specific training for instructors to help them effectively communicate their expectations to CLs • Instructors and CLs briefly met prior to the summer to begin building their relationships • Will increase CL team meetings during the semester to support their roles
Provide opportunities for relationship development between CLs and CLs and instructors	<ul style="list-style-type: none"> • Instructors and CLs briefly met prior to the summer to begin building their relationships • Training will again begin with a 4-hour team building exercise between all instructors and CLs • Will continue weekly meetings between instructors and CLs • Will increase CL team meetings during the semester to support their roles
Provide resources for social activities and classroom activities to CL’s to promote connection to students	<ul style="list-style-type: none"> • More role-playing will be included in training to support classroom interactions between CLs and students • Lesson plans will be expanded to include campus events and opportunities