Running head: SATISFACTION, PARTICIPATION, GPA, AND RETENTION

An Evaluation of the Interrelationships among Learning Communities Student Satisfaction, Participation, GPA, and Retention

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Table of Contents

Introduction

Review of the Literature

Learning Communities (LCs) have a history dating back to the 1930s with Alexander Meiklejohn's Experimental College at the University of Wisconsin. He wanted to create a democratic educational environment. The Experimental College closed in 1932 and in the 1960s a student of the Experimental College created an integrated curriculum program at University of California, Berkeley. Also, at San Jose State College an LC program was created with the same ideas (Visher, Wathington, Richburg-Hays, & Scheider, 2008). After these programs were developed the model for LCs came back alive and spread throughout universities. The current model combines ideas from John Dewey on social interaction and Alexander Meiklejohn ideas of democracy.

Learning community models are based on a theoretical framework of constructivism. In 1999 Brooks and Brooks state constructivism is a theory in which the learners, or students, reframe the process of learning. Through a constructivist lens, it is more important for students to understand concepts and apply them, rather than just memorizing facts. Constructivism takes into account the cultural contexts of learning and not just the cognitive processes (Kabes & Engstrom, 2010). Learning communities reflect the focus on cultural and social learning through building a community to learn in and to engage students in a culture of learning. The building of community creates a safe learning environment which encourages each member to bring unique experiences to the group and facilitates "learning-within-relationships" (Barlas, 2001). The Learning Communities main goals are not only intellectual achievement, but also social and community achievement. Learning communities are used in higher education to

enable students to build community and social bonds with each other and the university they attend. In a study of Master of Science in Education Learning Community Program (McPhail, McKusick, & Starr, 2006), students participated in a learning community program during their two year program, the students inquired about their belief systems and through classroom discussion and relationships in the learning community encouraged critical reflection of themselves. The idea of constructivism and learning communities is to promote life-long learning with self-reflection.

More than one model exists for LC programs. The main model is the paired class model, in which LC students have at least one class together. Most LCs can be linked to five approaches: linked courses, learning clusters, freshmen interest groups, federated learning communities, and coordinated studies programs (Stassen, 2003). These different models of learning communities are still used and vary by institution. A learning cluster has classes linked by the content instead of nonrelated classes like in the linked or paired class model. The freshmen interest groups will have classes linked by theme, perhaps themes such as critical thinking, ethics, research methodology, or any other similar themes. The federated learning communities are linked through the faculty teaching the classes, and the coordinated studies programs include linked classes that are theme-based and interdisciplinary. Any of these models can be used in a residential LC or for students who are not living on campus. Other models include coordinated curriculums, student based LCs which bring together students with common characteristics, and communities not created by the institution such as students forming study groups.

To help entering underprepared and underserved students, in 2006 a community college in Maryland created a new model with the addition of a Master Learner (McPhail, McKusick, & Starr, 2006). The Master Learner was a faculty or a counselor who attended the classes with the students and acted like a model learner by taking notes, completing assignments, and attending class regularly. This model has been successful at this two year institution. The program model had a specific goal to bring underprepared students up to the academic level of the more prepared students. Student academic performance was tracked for three years and performed at the same or higher rates as the average student.

Stassen (2003) did an assessment of the LCs at one university. The LCs at this particular university followed three different models: a residential academic program (RAP) where students lived in a common residence hall in which students had one large lecture class together, the talent advancement program (TAP) in which professors invited students to join with at least two paired classes and a freshmen seminar, and an honors college based learning community for the students in the honors college with two paired courses in the honors general education. The RAP is similar to the program at NAU. Students live with LC members that have the same academic major or interest, but they do not have one large lecture that each member attends. Stassen (2003) argued previous research supported that the most modest LC model will have the most positive student outcomes. The modest model in her study was the RAP community. The students in the residential academic program were accommodated on a first come first serve basis; there was no application or selection process by the institution as in the other models used. Stassen (2003) found that in regards to SAT scores and high school GPAs, the RAP students did not look different from the students not

participating in an LC. However, she did find that students in all three learning communities had an overall higher first semester GPA than nonLC students; even though the RAP students looked similar to the nonLC students when first entering the university their first semester GPA was higher. Stassen (2003) also found that students in all three LCs were retained to the second year at higher rates than nonLC students. As previous research and Stassen (2003) predicted, the RAP community had outcomes that were more consistent across all three of the LCs. The RAP community had a stronger effect of keeping students in the university, not just through retention, but through protecting students from required withdrawal due to low academic performance. At first, RAP students were average students upon entering the university, but excelled as college students.

The number of community colleges implementing LC programs is growing. Many community colleges hope to address the low completion and retention rates by utilizing LC models. Kingsborough Community College in Brooklyn, New York is one of these community colleges and is the "leader in the learning community movement" (Visher & Teres, 2011). Visher and Teres (2011) compared six community colleges across the country to understand the movement and see what models helped students succeed. Kingsborough differed from other community colleges due to the fact that their program was made for students in their second semester that had finished their developmental education requirements and had declared a major. Interestingly enough, the LC students did not have a higher credit accumulation, but if a student transferred to Kingsborough Community College, there was a slight positive impact on the number of credits taken during the semester while they were in the program. Vishner and Teres believe this follows the theory of LCs, stating that students new to a campus benefit from

LC experience by building connections between other students, faculty and campus. The Kingsborough Community College program makes for a very interesting comparison for any LC model at other community colleges and four year institutions. Typically, an LC program is in place to help freshmen transition into being a college student. Kingsborough Community College intends to help students transition into careers, which is why they have a program for students with declared majors.

Johnson and Romanoff (1999) looked at the residential LC at the University of Southern Maine called the Russell Scholars Program. This program had minimum requirements for the students to be admitted, which included good academic standing, 550 verbal SAT scores and 480 math SAT scores, and the students needed recommendations from guidance counselors and teachers. In the study, Johnson and Romanoff wanted to find out if the LC program at the University of Southern Maine played a role in student success. To answer their questions they performed a program evaluation of the Russell Scholars Programs with the objective to profile the students in the program, assess learning styles, student satisfaction with the program and student achievement. First, they surveyed the students before the start of the semester to profile things such as student high school performance, goals, employment and family background. Second, they used the Johnson Learner Preference Scale to assess learning styles. Third, they had students fill out a survey to evaluate the experience in the program and at the university. These measures were given to students in the program and to a control group of students not in the program. The comparison showed that students in the program were generally more satisfied with faculty interaction and overall experience at University of Southern Maine. The students in the program also reported having a strong sense of

community and that faculty treated them with respect. The results also showed that students in the program were more likely to participate in class discussions and were generally more satisfied with their undergraduate experience than students not participating in the program (Johnson & Romanoff, 1999). These results implied that students in a LC have a higher chance of being retained and being successful in college.

A more current study at the University of Pittsburg in Pennsylvania looked at service learning in a living-learning community program (Petracchi, Weaver, Engle, Kolivoski, & Das, 2010). This program has its own floor in a residence hall, the Civic Engagement and Service-Learning (CESL) floor. The assessment looked at three cohorts of students from the program. Students volunteered to participate in focus groups and to complete a pre/posttest instrument. The focus group was used to address student experience and community building in the program. The pre/posttest instrument assessed the impact of the program on academics, career development and civic engagement. The goal of the assessment of the CESL was to see if the program increased retention rates, self-efficacy and civic engagement. The results showed students participating in CESL were all retained. The perfect retention rate is reflected in other research done on living-learning communities. Lichtenstein (2005) meta-analysis of living-learning communities found that students living in a learning community as opposed to traditional student housing were more likely to continue their college education. Research supports that learning communities aid in the transition from high school to college and create a supportive environment to facilitate a connection to the university.

Learning community academic outcomes are a debated topic. Academic outcomes can include higher GPA, retention and faster graduation rates. In a two year longitudinal study of

LCs with a paired class model, two classes met general education requirements and students also took a one unit freshmen seminar, Waldron and Yungbluth (2007) hypothesized that LC students compared to other first year students would have a higher GPA, higher retention rates and complete more credit hours in their first year. They utilized a quasi-experimental longitudinal design and compared LC students to nonLC students in order to test their hypotheses. They found that LC students did have gains in student outcomes. The gains were modest but persisted over the two years of the study. Each LC had slightly higher GPAs, retention rates and credit hours per semester. The major and disciplinary specific communities had a more pronounced increase in positive outcomes. Other data suggested that student opportunities increased for communication with faculty, which supports that if students have more access to faculty communication they will experience more positive outcomes (Waldron & Yungbluth, 2007). Many LC models have an emphasis on making faculty more available and students may feel more confident in engaging in communications with faculty because they are a part of the community. Waldron and Yungbluth (2007) suggest that more longitudinal studies should be done on LCs in order to study the longer lasting trends and outcomes.

Current research supports that LC programs promote social engagement but increases in intellectual and academic engagement is uncertain. Stebleton and Nownes (2011) assessed an LC program at a community college in Minnesota and examined the extent to which the LC program influenced student intellectual and academic engagement. They define academic engagement as student "investment in the classroom experience, interaction with faculty, time spent studying [and] academic achievement" (Stebleton & Nownes, 2011, p. 77). They used the National Survey of Student Engagement and found that participation in LCs has a positive

correlation with academic engagement. In their assessment, they found faculty utilized active learning in their curricula to encourage LC students to have more interaction outside of the classroom. The program had an educational outdoor trip one weekend. This gave students more chances to build relationships with each other while being engaged academically. They recommended increasing the amount of academic and intellectual engagement by faculty member classes, coordinating tutorial services through workshops in the LC classes, and providing samples of good writing.

At the University of North Carolina at Charlotte, a new LC for psychology majors was created in 2003. Buch and Spaulding (2008) tracked the first cohort through their entire undergraduate career. The psychology LC focused on improved communicative contact between faculty and students, reciprocity and active learning techniques. The LC also focused on helping students with good study skills and time management to ease the transition to college. This is similar to other LCs that have a freshmen seminar specifically for the LC students. In seminars only for the LC students, faculty can work closely with the students and give additional support or advice during their transition to college. In Buch and Spaulding's assessment of the psychology LC they found that the data supported anecdotal evidence that LCs enhance student experience and academic standing. Students participating in the program also had higher rates of departmental involvement ranging from working with professors or participating in student associations. They suggested including faculty in later assessments of the psychology LC assessment.

Hotchkiss, Moore, and Pitts (2006) described learning communities, freshman learning communities specifically, as qualitative experiences. In their study of freshman learning

communities they hoped to find ways to quantify the experiences in order to look for characteristics of the students to examine which students self-select to participate, retention rates, and GPA. “If there is a possibility that a student’s choice to participate is correlated with the outcome measure or biases their perception, evaluation of the impact of the program based on raw mean comparisons will be inaccurate” (Hotchkiss, et a., 2006). It is necessary to compare more than just mean GPA and college entrance exam scores, because raw scores cannot tell the entire story of what characteristics make students likely to participate in LC programs. It is a concern that any outcomes measured would be measuring the effects of self-selection rather than the effects of the program. If the program attracts mainly high academic achievers it would be difficult to say that the program creates more positive outcomes GPA and retention. It could also be the case that average or low academic achievers participated in the program and instead of the program showing higher GPAs the program would show lower GPAs and retention. In the first case, the program is a success and in the second case the program fails to achieve its goals. For these reasons, it is important to control for self-selection to assess the real outcomes of the program regardless of confounding variables.

Learning communities do not only benefit students, faculty can experience benefits too. LC faculty collaborate in order to reach the goals of their LC, some faculty collaborate more than others. Many professors do not collaborate and work together to meet common goals, but the LC model encourages faculty to work together and share successful teaching techniques (Dodge, & Kendall, 2002). This process can help professors feeling burnt out get a renewed interest in teaching with new techniques according to Dodge and Kendall (2002).

Jones, Laufgraben, and Morris (2006) wanted to understand student attitudes towards participation in an LC program at Temple University, Philadelphia. The LC students filled out a survey asking what types of activities they participated in as an LC member and then to evaluate the perceived helpfulness of the activities. Through a factor analysis Jones et al. (2006) found six significant activities: in-class interaction, curricular connections, peer learning, socialization/communication, communication with teacher and out-of-class activities. These factors are commonly used to build LC models. A cluster analysis found that LCs fall into six clusters: experiencing learning community, the independents, building social community, connection outside the curriculum, and peer involvement. These different clusters explained why the students registered for an LC. Students that were in the experiencing LC cluster were more likely to give academic reasons for participation such as wanting teacher support and recommended by other students. The independent cluster was different from the experiencing LC cluster in that these students were more directionless and were less likely to report that they wanted support in the transition to college. The building social community cluster students were more likely than other groups to report LC participation was required for their major or wanting support during the transition to college. The students that connected outside the curriculum were the most likely group to report having no important reason for participation and less likely to understand the connections in the LC courses. The peer involved LC students were the most likely to report interest in the courses as the reason for participating, even though this group scored low on the connectedness factor within the LC. It was possible these students saw participation in a LC as a strategic move in scheduling. Looking at the clusters of students it was possible to see that LCs play different roles for different types of students and

that not every student experienced the LC program the same way (Jones, et al., 2006). This study can be helpful in understanding why students opt to participate in LCs and as a result the LCs program can address or build on their program to fulfill the student wants. This type of comparison can help to examine the effectiveness of the program for each type of student. Then the student needs that the program does not address can be added to the program for increased effectiveness.

Numerous studies showed that learning community programs aid students in the transition from high school to college. Student affairs theories explain the support learning communities provide students, both inside and outside of the classroom. It is easier to create a community through paired courses, common interests, and in the cases of residential learning communities and living together (Kuh, Kinzie, Schuh, & Whitt, 2005). Involvement in a program give students reason to feel connected to their campus, research suggests that connectedness to campus is related to higher retention rates. The higher retention rates may also be a result of higher academic achievement, if a student is doing well they are less likely to leave. The longitudinal studies help to show that LCs tend to have a lasting positive outcome on students through higher GPAs, more campus involvement, and steady retention rates.

Due to the varying earning community designs from institution to institution, programs can be more difficult to assess. The programs utilize differing assessment measures and data collection systems. Yet, each program design strives to create an environment for students to build a community and succeed academically.

Learning Communities at Northern Arizona University

The Learning Community program at Northern Arizona University (NAU) provides incoming freshmen the opportunity to participate in a residential learning community with paired classes. The program started at NAU in 1995 with one community, Education House. In 2003 three communities were added, 2003 was also the first year participants were surveyed. Since then the program has continued to add communities each year and has expanded assessment practices through goal writing, surveying participants and cohort tracking. Currently the LC program houses thirty three learning communities and during the 2011 to 2012 academic year housed thirty (Table 1). Each LC is led by a Community Mentor (CM) who is a second, third or fourth year student. The CMs are chosen by professors involved with the LC program to enter into the application process, and attend an eight week class in spring as training to receive a peer mentor certification. The CMs generate activities to achieve the program goals to help students transition to their first year at NAU, find their academic place or find a major they enjoy and create supportive connections to peers.

Table 1
Learning Communities

2012-2013	2011-2012
Biomedical Professions/Pre-Med (2)	Biomedical Professions/Pre-Med (2)
Business (2)	Business (2)
CAL Secondary Education	CAL Secondary Education
Chemistry and Biochemistry	Chemistry and Biochemistry
Eco House	Eco House
Elementary Education House (2)	Elementary Education House (2)
Engineering (2)	Engineering (2)
English “Language Lair”	English “Language Lair”
Forestry “Tree House”	Forestry “Tree House”
Global Village	Global Village
Health and Human Services (2)	Health and Human Services (2)
Honors (Cowden Hall)	Honors (Cowden Hall)
Health and Human Services (2)	Health and Human Services (2)
Hotel and Restaurant Management (2)	Hotel and Restaurant Management (2)
Justice	Justice
Leadership	Leadership
LGBTQIA	NAU Teach
NAU Teach	Outdoor Recreation
Olson Scholars	Physics and Astronomy
Outdoor Recreation	Pre-Law
Physics and Astronomy	Psychology
Pre-Law	Sustainable Environments and Engaged
Psychology (2)	Democracy (SEED)
Sustainable Environments and Engaged	STAR
Democracy (SEED)	
STAR	

The incoming freshmen students choose to be in the program while applying for housing. Placement into an LC depends on the major or area of interest, for instance, the psychology majors are placed into the Psychology LC and the English majors are placed into the English LC. Each LC resides in a specific residence hall; for example, Leadership and Psychology are housed in Allen Hall. This structure is put into place to help students make friendships, connections and study groups within their major.

This study of the NAU LC program looked at survey data, member participation, GPA and retention. Past evaluation had looked at member satisfaction, learning outcomes and retention but not the relationships among participation, satisfaction, retention and GPA. The activities provided to students are meant to aid in transition, academic, and social aspects of college, which in turn are believed to influence retention. Understanding these relationships will provide the program with insight into whether or not the activities influence GPA and retention.

NAU Learning Communities Data Sources

LC Survey and Student Satisfaction

The LC survey was created to reflect the goals of the program based on reports from the participants. Essentially the survey sought to answer questions of whether or not the program participants perceived that the LC has helped their transitions to college through providing resources, to find their academic place through exploration of their major or area of interest, and to build a supportive peer group. The survey also addressed student satisfaction. How satisfied were the participants with the program as a whole? Having an idea of participant satisfaction creates new questions such as: What should the program continue to do, what should the program stop doing, and what can the program add? Also, was the program enhancing the college experience independent of retention, GPA, and learning outcomes? Regardless of whether the program influences GPA and retention, it might be a positive experience for students.

Student Learning Outcomes

In educational programming, certain learning outcomes are expected. A campus wide survey sent to all students who have been at NAU for one year examined 43 learning outcomes. The Learning Community students were compared to nonLC students on outcomes that are standardized across the campus. The LC program focused on seven learning outcomes: 1. experienced a smooth transition college life, 2. learned about offices or programs on campus, 3. established rewarding relationships with peers, 4. discovered ways to become involved on campus, 5. have become comfortable initiating conversations with staff in offices on campus

whose service students want or need, 6. have become comfortable initiating conversations with professors, and 7. involvement outside of the classroom has helped to be successful academically. The chosen outcomes corresponded to the goals of the program which were to provide resources to help with transitioning to college life, students finding their "academic place", and connecting to a peer group. This provides the opportunity to ask questions about the LC students. In what ways did the LC student learning differ from nonLC students? What was the impact of the program on student learning?

GPA and Retention

The overarching questions to answer were whether or not the Learning Community program at Northern Arizona influences student success. The main indicators of program success were retention and GPA. The Learning Communities had specific activities and events intended to foster student success as indicated by retention and GPA. The question of how retention rates and GPAs for the LC participants compared to nonLC students can show the extent to which LC program was working.

To examine the relationship between retention, GPA and participation in activities; GPA and retention were linked to activity attendance. This allowed for an analysis of the influence of activity attendance on GPA and retention. Exploring whether or not activities attended by the participants predicted higher GPAs or retention rates will be valuable information for the program. Activities programmed by the CMs can then be evidence based and if the current activities do not predict higher GPA or retention rates programming can be changed accordingly. Furthermore, the relationship between GPA and retention must be investigated. If

GPA is an influential variable in students returning to NAU, the LCs can focus on programming to help students achieve high GPAs. More specific programming and attention can be placed on giving students the support needed to achieve a successful GPA.

Research Design

This research used student records and surveys to evaluate NAU Learning Communities. The evaluation focused upon student views and LC event participation, academic performance and first year retention. Where possible the LC and nonLC students were compared.

LC Survey

The LC survey is a yearly survey that started in 2003. It was sent to current LC members during the winter break. The Learning Communities Advisory Council (LCAC) and Residence Life Assessment staff created the survey and aligned it with the three LC goals: 1. LC students will be introduced to a variety of campus resources in their first semester to ensure a successful transition to the, 2. LC students will have opportunities to explore their academic place by interacting with faculty and a Community Mentor in their major or area of interest, and 3. LC students will get to know a cohort of students who share their academic major or area of interest in a learning community. The survey also asked questions about satisfaction with the program. For most of the items the LCAC set goals of what they would like the percentages for responses to be. For example, the LCAC decided that they wanted 80% of respondents to report that informal advising with CMs as very valuable or valuable.

Student Learning Outcomes

The Student Learning Outcomes (SLO) survey is a survey electronically sent out to all NAU sophomores, juniors and seniors enrolled at the Flagstaff campus by Enrollment Management and Student Affairs (EMSA) since 2006. This survey asked students to report the kinds of activities in which they had been involved while at the university, the skills and knowledge they had learned through those experiences and the skills and knowledge they had learned in out-of-class activities at the university. Enrollment Management and Student Affairs compared the reported learning outcome results of users of services to non-users of services. The LC staff chose seven learning outcomes related to the goals of program out of forty three learning outcomes to compare LC students to nonLC students.

Activity Attendance

Mentors for each community took attendance of members at all activities. The attendance rosters were uploaded into a tracking database called Advisor Trac. Attendance reports were downloaded from Advisor Trac. LC members could have gone to a weekly meeting or an academic event several times in a semester, allowing for multiple visits for any given activity.

Retention and GPA

The freshmen cohorts were captured by their enrollment, housing location, and first-time, full-time status on the 21st day of their first year at the university. The Learning Communities cohorts consist of first-time, full-time freshmen living in a residential Learning

Community. On the 21st day of the spring semester Planning and Institutional Research (PAIR) publishes a clean roster of first-time, full-time freshmen because some students initially placed in the 21st day freshman count were actually transfer students, and students who did not come to the university or for some other reason do not belong in the freshman cohort. The retention reports with GPA, high school GPA, SAT, ACT, and first year college GPA were downloaded from PAIR.

Findings

LC Survey

The LC survey was sent to the 2012 to 2013 cohort of 692 non-honors LC members, 256 responded to the survey representing a 36% response rate. The items with a "Did Not Participate" response option were excluded in the analysis. The items related to goal 1 are shown in Table 2, goal 2 in Table 3, and the results for items that fall under goal 3 are shown in Table 4. Some of the items were used to measure more than one goal such as the value of weekly meetings with LC members. In the weekly meetings the participants are exposed to academic programs, programs about resources on campus, and social programs.

Other items that did not relate to a goal included: would you be interested in a second year LC experience? Which 77% of respondents responded yes, 21% responded no but that they are returning to NAU, and 2% said no because they are not returning to NAU. In the survey respondents were asked to explain why they would not be interested in a second year experiences. Comments included respondents reporting they were planning on becoming Community Mentors for the program or Resident Advisors for Residence Life.

Table 2
LC Survey Goal 1 Results
LC students will be introduced to a variety of campus resources in their first semester to ensure a successful transition to the university.

Survey Item	Goal %	Actual %
Rate your satisfaction with the LC programs offered to help me adjust to college and learn about resources (Very Much + Somewhat)	85%	92%
To what extent has your Community Mentor (Very Much + Somewhat) been a resource for me (Very Much + Somewhat)	N/A	94%
How valuable are weekly meetings with my LC members? (Very valuable + valuable)	N/A	76%
How valuable is informal advising with my CM? (Very valuable + valuable)	80%	82%
How valuable are programs about being a successful student? (Very valuable + valuable)	80%	79%
To what extent did your LC help with relieving stress? (Very much + somewhat)	N/A	81%
To what extent did your LC help with feeling more comfortable here? (Very much + somewhat)	N/A	92%
To what extent did your LC help with becoming aware of campus resources? (Very much + somewhat)	N/A	93%
To what extent did your LC help with adjusting to college life? (Very much + somewhat)	N/A	88%
To what extent did your LC help you feel like you belong here? (Very much + somewhat)	N/A	89%
To what extent has your LC helped you transition to college life? (Very much + somewhat)	N/A	90%

Table 3
LC Survey Goal 2 Results
LC students will have opportunities to explore their academic place by interacting with faculty and a CM in their major or area of interest.

Survey Item	Goal %	Actual %
Rate your satisfaction with the academic support provided by your LC (Very satisfied + somewhat satisfied)	N/A	89%
Rate your satisfaction with the opportunity to interact with faculty outside of the classroom (Very satisfied + somewhat satisfied)	N/A	85%
Rate your satisfaction with LC academic programs about your academic major (Very satisfied + somewhat satisfied)	N/A	86%
To what extent has your CM been an academic role model? (Very much + somewhat)	75%	94%
To what extent has your CM provided you with useful academic advice? (Very much + somewhat)	75%	95%
How valuable are the faculty dinners? (Very valuable + valuable)	75%	78%
How valuable are LC-themed or major focused programs? (Very valuable + valuable)	N/A	82%
How valuable are weekly meetings with LC members? (Very valuable + valuable)	N/A	76%
How valuable is informal advising with your CM? (Very valuable + valuable)	80%	82%
To what extent did your LC help you feel like you belong here? (Very much + somewhat)	N/A	89%
To what extent did your LC help you learn more about whether your major is a good fit? (Very much + somewhat)	N/A	88%

Table 4
LC Survey Goal 3 Results
LC students will get to know a cohort of students who share their academic major or area of interest in a learning community

Survey Item	Goal %	Actual %
Rate your satisfaction with the relationships you have formed with other LC students (Very satisfied + somewhat satisfied)	85%	89%
Rate your satisfaction with the academic support provided by your LC (Very satisfied + somewhat satisfied)	N/A	89%
How valuable are the social program? (Very valuable + valuable)	N/A	76%
How valuable are the weekly meetings with LC members? (Very valuable + valuable)	N/A	76%
To what extent did you LC help with making friends? (Very much + somewhat)	N/A	90%

The LC survey included an open ended question asking respondents what they would say to someone considering joining a learning community. Answers included saying “Do it!” and that the LC provided a way to meet people (Table 5).

Table 5
LC Survey Comments
What would you say to someone considering joining a Learning Community? (251 respondents)

Psycho-Social Benefits	
Percent	Comment
33%	Meet people
21%	Similar interests and common major
15%	Definitely do it
8%	It is fun
8%	Good experience
7%	Helpful
4%	A way to get involved
4%	A way to learn about resources
Academic Benefits	
Percent	Comment
8%	There is studying around you and homework help
7%	Helps with classes
3%	Learning more about major
Not Beneficial	
Percent	Comment
2%	Do not do it

Student Learning Outcomes

The SLO survey was sent electronically to (N=11,525) Northern Arizona University students, of which (n=1767) responded. Representing a 15.3% response rate, of those 1767 that responded (n=332) were LC participants. The results can be seen in Table 6.

To compare the differences between LC participant respondents and nonLC participant respondents, chi square tests were used. The first learning outcome, 77% of the LC participant respondents reported learning about offices or programs on campus, while 68% of nonLC participants reported learning about offices or programs on campus representing a 9%

difference ($p<.05$). The second learning outcome, 89% of the LC participant respondents reported experiencing a smooth transition to living on their own, while 82% of nonLC participant respondents reported experiencing a smooth transition. Representing a 7% difference ($p<.05$). The third learning outcome, 81% of the LC participant respondents reported establishing rewarding relationships with peers, while 72% of the nonLC participant respondents reported establishing rewarding relationships with peers. Representing a 9% difference ($p<.05$). The fourth outcome, 76% of the LC participant respondents reported learning about ways to become involved on campus, while 61% of the nonLC participant respondents reported learning about campus involvement. Representing a 15% difference ($p<.05$). The fifth outcome, 85% of the LC participant respondents reported becoming comfortable initiating conversations with professors, while 83% of nonLC respondents reported this as well. Representing a 2% difference ($p>.05$). The sixth outcome, 83% of the LC participant respondents reported becoming comfortable initiating conversations with staff in offices on campus whose services they want or need, while 79% of nonLC respondents reported this. Representing a 4% difference ($p<.05$). The seventh learning outcome, 85% of the LC participant respondents reported that the ways in which they have become involved outside of the classroom at NAU have helped them to be successful academically, while 80% of nonLC respondents reported this. Representing a 5% difference ($p<.05$).

Table 6
Student Learning Outcomes Survey

Learning Outcome	LC Participants	NonLC Participants	Difference
Learned about offices or programs on campus to help students succeed in and out of the classroom	77%	68%	9%*
Experienced a smooth transition to living on my own	89%	82%	7%*
Establish rewarding relationships with peers	81%	72%	9%*
Discover ways to become involved on campus	76%	61%	15%*
Comfortable initiating conversations with my professors	85%	83%	2%
Comfortable initiating conversations with staff in offices whose services I want or need	83%	79%	4%*
Be successful academically	85%	80%	5%*

*Significant at p<.05

Activities

For the 2011 to 2012 academic year there were six different categories of activities for LC participants to attend: social programs, academic programs, faculty dinners, informal advising, kick off meeting, and weekly meetings. Overall, the activities had 4473 visits with (n=445) LC members. It was possible for each LC member to go an activity multiple times. The weekly meetings were the most attended activities with 1676 total visits. Most of the LC members attended an event category once, for example most LC members attended a weekly meeting once or an academic program once. The mean number of visits for activities was ($\bar{x}$=10) with a standard deviation of (S=8.38). The frequencies of activity attendance can be seen in Table 7.

Table 7
Activity Attendance

Activity	Number of Visits	Mean	Std. Dev
Academic	1004	2	2.83
Faculty Dinner	317	1	.87
Informal Advising	252	1	.76
Kick Off Meeting	476	1	.83
Social	748	2	1.77
Weekly Meetings	1676	4	3.45
Total Activity Visits	4473	10	8.38

Pearson correlations, presented in table 8, explore the relationship between first year GPA and the six different categories of activities members attended. All of the activities showed weak positive correlation to GPA and were significant at the (α=.05) level. The strongest relationships were between informal advising visits and first year GPA, and weekly meeting visits and first year GPA. Academic visits and GPA were significantly correlated at (α=.05) with (r=.134), faculty dinners and GPA were significantly correlated at (α=.05) with (r=.166), informal advising visits and GPA were significantly correlated at (α=.05) with (r=.175), kick off meeting visits and GPA were significantly correlated at (α=.05) with (r=.103), social visits and GPA were significantly correlated at (α=.05) with (r=.139) and weekly meeting visits and GPA were significantly correlated at (α=.05) with (r=.187).

Table 8
GPA and Activity Correlation

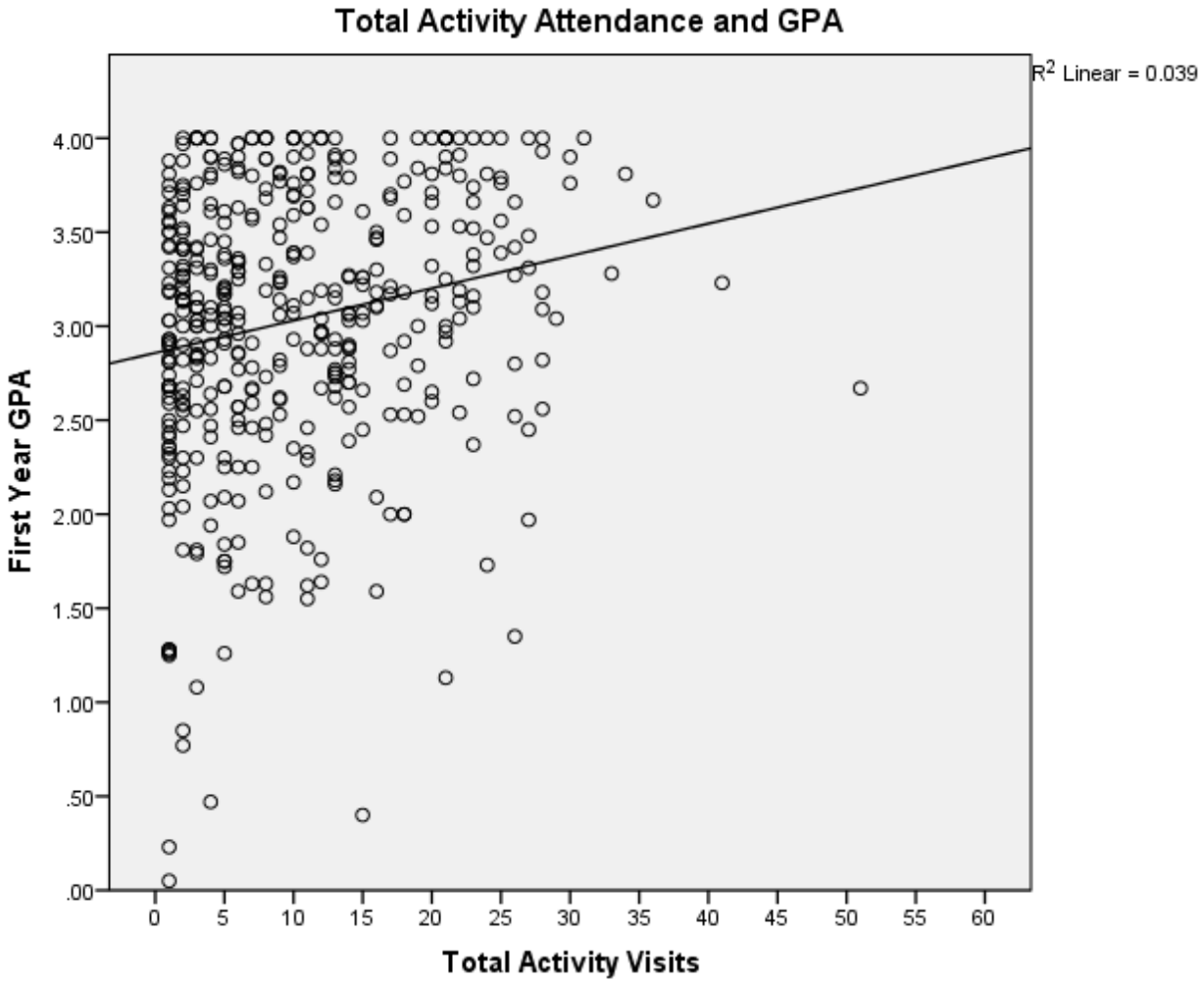
Activity	Pearson's r	Significance
Academic Visits	.134	.005
Faculty Dinner Visits	.166	.000
Informal Advising Visits	.175	.000
Kick Off Meeting Visits	.103	.032
Social Visits	.139	.004
Weekly Meetings Visits	.187	.000
Total Activity Attendance	.197	.000

The total activity visits for each LC member were also positively correlated to first year GPA with (r=.197) and was significant at (α=.05). A linear regression was run with first year GPA as the dependent variable and total number of activity visits as the independent variable. The low (R^2=.039) and was significant at (α=.05); as can be seen in Table 9 and Figure 1.

Table 9
GPA and Activity Regression

Independent	B	R^2	St. Error of B	β
Total Activity Visits	.017	.039	.004	.197

Figure 1



Pearson correlations examined the relationship between the six different categories of activities and retention to the second year through dummy variable analysis. There was a positive relationship between all of the activities and retention to the second year (Table 10). However, not all of correlations were significant. Total visits and retention were significantly correlated at (α=.05) with (r=.119), academic visits and retention were significantly correlated at (α=.05) with (r=.120), faculty dinners and retention were significantly correlated at (α=.05) with (r=.100), informal advising visits and retention were significantly correlated at (α=.05) with (r=.090), and weekly meeting visits and retention were significantly correlated at (α=.05) with (r=.106).

Table 10
Activity and Retention Correlation

Activity	Pearson's r	Significance
Academic Visits	.120	.011
Faculty Dinner Visits	.100	.036
Informal Advising Visits	.090	.057
Kick Off Meeting Visits	.005	.915
Social Visits	.073	.123
Weekly Meetings Visits	.106	.025
Total Activity Attendance	.119	.012

A multivariate dummy analysis regression was run to further understand the relationship between activity attendance and retention. None of the activities (faculty dinners, informal advising, kick off meetings, social programs, academic programs, or weekly meetings) were significant predictors of retention at (α=.05) as can be seen in Table 11. The regression model had an (R^2=.022).

Table 11
Activity Attendance and Retention Regression

Activity	B	S.E.	β	Sig.
Faculty Dinners	.008	.027	.020	.765
Informal Advising	.008	.030	.018	.799
Kick Off Meeting	-.032	.024	-.074	.178
Social Programs	-.003	.013	-.016	.800
Weekly Meetings	.007	.007	.065	.335
Academic Programs	.013	.009	.106	.122

GPA and Retention

The 2011 to 2012 LC cohort had an 83% retention rate to the second year, while the all NAU freshman cohort had a 76% retention rate to the second year, a difference of a 7% difference.

The mean first year GPA for the academic year 2011 to 2012 LC cohort was ($\bar{x}$=3.0). For the retained LC students the mean GPA was ($\bar{x}$=3.15), (S=.597), with (N=378) and for the not retained LC students the mean GPA was ($\bar{x}$=2.30), (S=1.010), with (N=62) and can be seen in Table 12 and Figure 2.

Table 12
First Year GPA and Retention

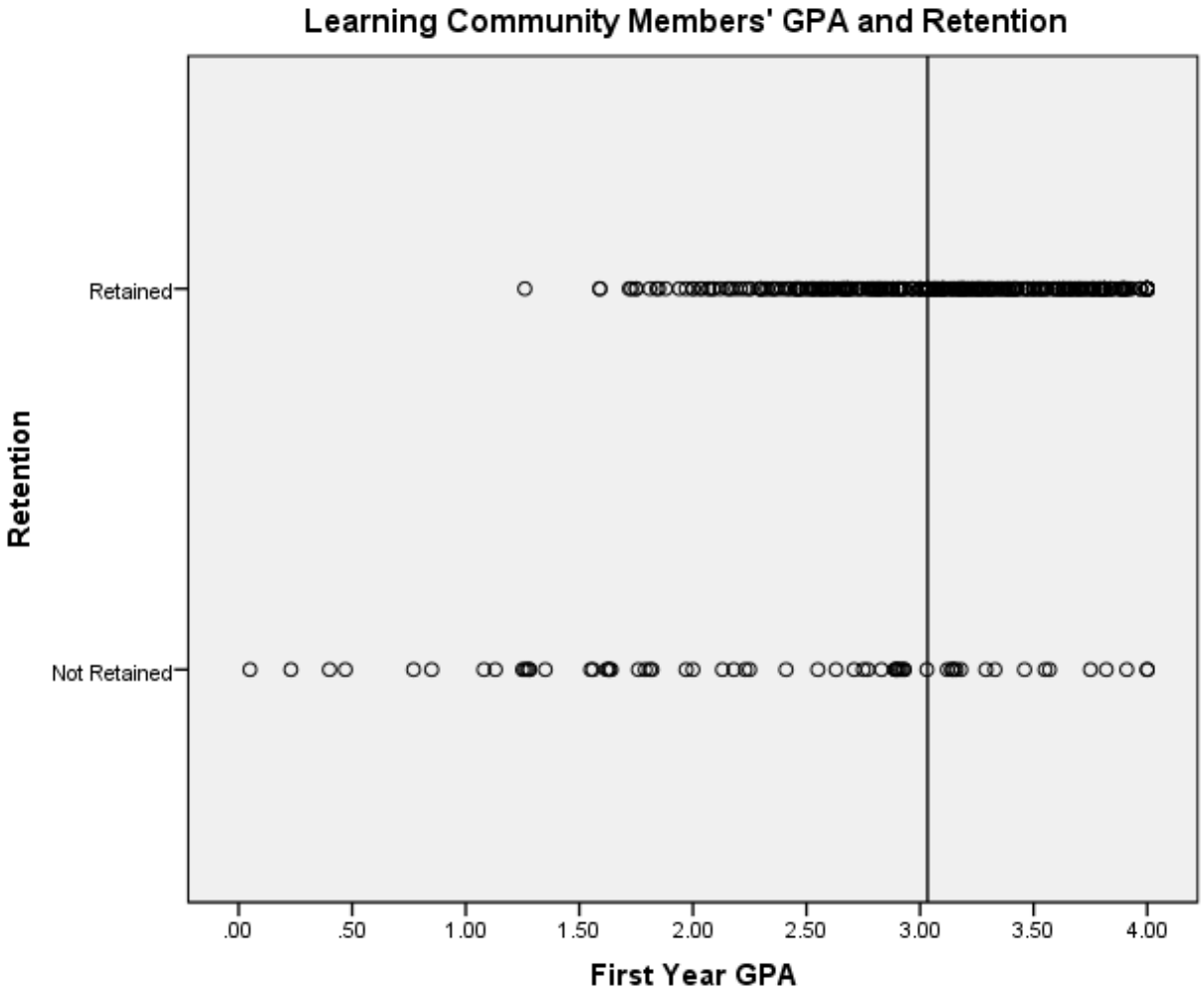
Group	N	Mean GPA	Std. Deviation
LC retained	378	3.15	.597
LC not retained	62	2.30	1.010
All NAU freshmen retained	2428	3.10	.668
All NAU freshmen not retained	702	2.23	1.071

A t-test was run to assess the difference between the retained student GPAs and the non-retained student GPAs. The difference between the mean GPAs was statistically significant at ($p<.01$) (Table 13).

Table 13
Difference Between GPA of Retained and Not Retained T-Test

	t	df	Sig	Mean Difference
Learning Communities	9.26	438	.000	.85
All NAU freshmen	26.65	3128	.000	.88

Figure 2



The GPA for the first-time, full-time freshman 2011 to 2012 cohort was ($\bar{x}$=2.91) with a (S=.86) with (N=3130). Out of the first-time, full-time freshman cohort 702 students were not retained with an average GPA of ($\bar{x}$=2.22), for the students retained (N=2428) the average GPA was ($\bar{x}$=3.10) and can also be seen in Table 11. A t-test was run and found a significant difference between the retained student GPA and the not retained student GPA at (p<.01) (Table 13 and Figure 2).

The all NAU first-time, full-time freshman cohort and the LC cohort had similar incoming academic characteristics. For all NAU first-time, full-time freshman cohort the mean ACT score was ($\bar{x}$=23.4), SAT was ($\bar{x}$=1080.91), and high school GPA was ($\bar{x}$=3.51). For the LC cohort the mean ACT score was ($\bar{x}$=23.9), SAT was ($\bar{x}$=1093.40), and high school GPA was ($\bar{x}$=3.54) (Table 15).

Table 15
All NAU First-Time, Full-Time Freshman and Learning Communities Incoming Academics

Learning Communities	Mean	St. Deviation
SAT	1093.40	142.72
ACT	23.39	3.76
HS GPA	3.54	.476
All NAU		
SAT	1080.91	143.10
ACT	23.41	3.81
HS GPA	3.51	.489

Incoming academic preparedness, as evidenced by ACT, SAT, and high school GPAs, was different between the retained groups and not retained groups for both the LC cohort and the all NAU first-time, full-time freshman cohort. However, not every indicator was significantly different. For the all NAU first-time, full-time freshman cohort the retained students had a mean ACT score of ($\bar{x}$=23.50) and the not retained students had a mean of ($\bar{x}$=23.08). This

difference was not significantly different in the ANOVA test. The mean SAT score was ($\bar{x}$ =1084.97) for the retained students and ($\bar{x}$=1066.35) for the not retained students. This difference was significant in the ANOVA at (p<.05). The mean high school GPA was ($\bar{x}$=3.55) for the retained students and ($\bar{x}$=3.36) for the not retained students. This difference was significant in the ANOVA at (p<.01). The ANOVA can be seen in Table 16.

Table 16
All NAU First-Time, Full-Time Freshman Cohort Retained, Not Retained Incoming Academics ANOVA

Incoming Academic	F	Sig
SAT	5.928	.015
ACT	2.990	.084
HS GPA	89.545	.000

The LC cohort retained students had a mean ACT score of ($\bar{x}$=23.45) and the students not retained had a mean score of ($\bar{x}$=23.00). This difference was not statistically significant in the ANOVA test. The mean SAT score was ($\bar{x}$=1097.71) for the retained students and ($\bar{x}$ =1062.63) for the not retained students. This difference was not significant in the ANOVA. The mean high school GPA was ($\bar{x}$=3.56) for the retained students and ($\bar{x}$=3.40) for the not retained students. This difference was significant in the ANOVA at (p<.05). The ANOVA can be seen in Table 17.

Table 17
Learning Community Cohort Retained, Not Retained Incoming Academics ANOVA

Incoming Academic	F	Sig
SAT	2.020	.156
ACT	.344	.558
HS GPA	6.450	.011

Discussion

LC Survey

Overall, the LC survey responses supported that the goals of the program were met. Goal one was met. However, the program staff hoped to see more reported value of weekly meetings with the LC members. The weekly meetings tended to be the same small group of members every week. The LC program has encountered this challenge before: getting more LC members to regularly attend weekly meetings along with other activities. Also, the respondents suggested making the weekly meeting a biweekly meeting because weekly meetings seemed repetitive.

Other areas where goal one were met include: offering programs about adjusting to college and learning about resources. The LC program connects having knowledge and access to resources to a successful transition to the university. Resources can vary widely and include knowing where to go on campus to take care of paperwork, learning time management, learning to study effectively, and understanding that the Community Mentor is a resource. This year the item asking whether or not the CM had been a resource to the LC members was added and 94% said very much or somewhat. It was important for the LC program that the members see their mentor as a resource and that the mentors act as resources.

Many of the items aligned with goal two were new to the LC survey this year and did not have a set percentage goal. The LC members reported the academic programs, faculty interaction, and programs about academic majors to be satisfying. The LC members reported that they saw their CM as an academic role model and that the CM provided useful academic advice at much higher rates than the LC staff had expected. Also, the LC respondents reported

that the LC helped them feel like they belong here, and helped them learn about whether their major is a good fit. Both of these areas are important to aid students in finding their academic place. If they do not learn about their major and how it fits them, then they will still be searching for an academic fit.

Goal three was also met, but had two items that respondents reported on at a lower rate of satisfaction than the other items aligned with goal three. The value of social programs and weekly meetings were both reported at lower rates than other items. The weekly meetings and social programs sometimes are the same and happen at the same time. Other social programs happen outside of the weekly meetings as well.

The items asking how often LC members talk about class work, share notes, help each other understand class material, encourage each other to go to class, and study together showed that the majority of respondents reported talking about class work and encouraging each other to attend class weekly or more. The LCAC was very pleased to see these results because it is a main reason why the LC program has paired classes and is housed in a residence hall. This allowed the students to be in proximity, talk about class, and go to class together. Through living together and going to class together the students can build connections, which was seen through the survey responses with 90% of respondents reporting that the LC has helped them make friends.

Overall the respondents reported being satisfied with the program and that the program has enhanced their college experience. The majority of the respondents said they would recommend Learning Communities to other students and that it was beneficial.

Student Learning Outcomes

The SLO survey compared what LC and nonLC participants learned. LC participants reported learning all of the chosen learning outcomes at higher rates than nonLC students. While these results showed differences it cannot be said that the LC alone caused the difference.

The largest difference between the LC and nonLC participants was seen in the outcome about discovering ways to become involved on campus. The LC program was a way for students to become involved on campus and the Community Mentors gave information to the participants about campus involvement. This related to the outcome about being comfortable with starting conversations with staff whose services the students need. The Community Mentors also provided information about where offices were located and which offices to go to for specific needs. Again, the LC participants reported being more comfortable initiating conversations with office staff than nonLC participants. The LC participants come into contact with staff more often and learn to ask questions through interaction with their LC staff.

The only learning outcome that did not have a statistically significant difference was about being comfortable initiating conversations with professors. Both groups were comfortable starting conversations with professors. The LCs created events for students to interact with faculty and it would be expected that more LC students feel comfortable initiating conversations with professors. However, this was not the case as seen in the survey. In general, the students at NAU feel comfortable with their professors.

Activities, GPA, Retention

The correlations between total activity attendance and GPA, and total activity attendance and retention were weak: attendance at LC activities was not a good predictor of GPA or retention. The majority of the correlations for the individual activities and GPA or retention were statistically significant; however, the correlations were also very weak.

Just as the attendance to activities was not related to GPA, it was also not related to retention. The logistic regression showed that each individual activity (academic, faculty dinners, social events, kick off meetings, informal advising, and weekly meetings) did not predict retention. Yet, the majority of the 2011 to 2012 LC cohort was retained, suggesting that there were more factors influencing student choice to stay at the university or leave than the activities they attended.

The entire 2011 to 2012 first-time, full-time freshman cohort and the 2011 to 2012 LC cohort looked the same in terms of their relationship between retention and GPA. GPA was a moderate predictor of retention with a moderate positive correlation for both the LC cohort and the first-time, full-time freshman cohort. Other factors were influencing GPA for both groups. The LC student activity attendance did not explain their GPA's. Students come into college at different levels of preparedness and that influences college GPA and academic success. Looking at incoming academic characteristics, the LC students that were retained had a statistically higher high school GPA than the LC students not retained. The students who were not retained did not have the same level of academic preparedness. The same results showed for the all NAU first-time, full-time cohort. This difference suggested that although students with higher high school GPAs were retained at a slightly higher rate and those with a lower high

school GPA leave the university more often, programs at the university can still make an impact on whether or not students continue their college education.

Overall

Even though the number of activity visits did not predict retention or GPA, the LC members enjoyed going to activities as can be seen in the frequency of attendance. Members on average went to ten activities of some sort throughout the academic year. The LC survey supported that the respondents valued the activities through satisfaction ratings and comments. However, the activities were poor predictors of retention and GPA. Some of the students entering the university enter unprepared for the level of course work, which would be independent of whether or not they valued or attended activities. It would be hoped that academic activities provided these students with resources to reach the academic level needed to succeed at the university. Again, the academic programs can provide academic resources, but the data showed that academic programs did not directly influence GPA or retention. For example, there were a few cases in the LC 2011 to 2012 cohort that attended many academic programs, in particular, and many other activities but had a poor GPA or were not retained. It was clear from the results that GPA influenced retention and that the activities were valuable to participants. Yet the link between activities and GPA or retention was missing.

While that link was missing, the program did enhance first year of college experience. The LC program also had a higher retention rate to the second year than the all NAU freshman cohort. The program seems to be doing something to keep students at the university and should be further investigated. It is possible that the members learned more about university

community, felt connected to the campus and built a community of their own. The Student Learning Outcomes Survey showed that the LC students transitioned more easily to life on campus than nonLC students. It is possible students were retained at a higher rate due to their smoother transition to living on campus. The program creates a condition to retain students at higher rates, even if the activities the students attend does not predict their GPA or retention. These findings were similar to other studies of learning communities at other institutions. The influence on academic success or engagement is uncertain as seen in studies by Waldron and Yungbluth (2007) and Stebleton and Nownes (2011). The NAU LC participants were provided with opportunities for academic engagement with faculty and peers, yet the direct measures of activities were not related to GPA or retention.

Respondents would recommend joining an LC to new freshmen. “I would strongly recommend joining a learning community. Not only does it open up many opportunities that you might not have had otherwise, but you also get to meet and hang out with a great group of people who are going through a lot of the same school stresses as you are. Not only do you have that group of friends there for you, but you also have a mentor who has been there before and can help you through struggles you might be having”.

Recommendations

Recommendations for goal one, two and three based on the LC survey include involving the students more in planning activities and discussing what types of activities they would like to attend. Also, focusing the weekly meetings to making the meetings more valuable, communicating to the students why faculty dinners are important, and discuss with LC staff and

faculty other ways to interact with students outside of the classroom. Other recommendations include continuing the programs that bring students together in either a purely social or academic setting. This particular cohort seemed to have been more influenced by academic programs and academics in general than social activities. Each cohort will be different and understanding each cohort will help the CM to build an environment that fosters social support.

GPA predicts retention. It is recommended that the LC program create a system to flag the underprepared incoming students and provide them with the academic resources needed to achieve a satisfactory GPA. The LCs can require tutoring for underprepared members, either from in-hall tutoring staff or from the CMs, and give them other connections to academic resources on campus.

Due to limitations of this study demographics could not be taken into account. The demographics of the communities should be examined to understand which groups of students the program serves the most, and which groups need more outreach. By examining demographics it will be possible to comprehend the influence of gender on LC participation, GPA, and retention.

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