# THE IMPACT OF PARTICIPATION IN A CURRICULAR LEARNING COMMUNITY ON ACADEMIC SUCCESS, ACADEMIC AND SOCIAL INTEGRATION, INSTITUTIONAL COMMITMENT, AND PERSISTENCE OF FIRST-YEAR STUDENTS AT MISSOURI STATE UNIVERSITY

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by

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Dr. Cynthia MacGregor, Dissertation Supervisor

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*The undersigned, appointed by the dean of the Graduate School, have examined the dissertation entitled*

THE IMPACT OF PARTICIPATION IN A CURRICULAR LEARNING COMMUNITY ON ACADEMIC SUCCESS, ACADEMIC AND SOCIAL INTEGRATION, INSTITUTIONAL COMMITMENT, AND PERSISTENCE OF FIRST-YEAR STUDENTS AT MISSOURI STATE UNIVERSITY

*Presented by Michael B. Wood,*

*A candidate for the degree of Doctor of Education*

*And hereby certify in their opinion it is worthy of acceptance.*

Dr. Cynthia MacGregor

Dr. Robert Watson

Dr. Thomas Lane

Dr. Denise Baumann

*DEDICATION*

This dissertation is dedicated to my beautiful wife, Angela Wood. She has sacrificed a lot of family time during these past several years, while I've spent seemingly endless hours to complete my graduate work. She has selflessly taken on much of the day-to-day work around the house, in addition to her full-time job, to allow me time to focus on my studies. I am blessed to have married someone who can understand my sometimes single-minded focus. I promise you we will make up for lost time very soon.

And

To my father, Kenneth Wood, whose quiet, gentle nature, and unwavering support helped me believe I could actually do this. He is a wonderful Dad, and I hope he knows how much I appreciate him in my life.

And

To my mother, Patsy Wood, who has always served as an example of how hard work and tenacity is necessary to accomplish anything of value in life. I appreciate the many lessons you taught me growing up, and those you continue to teach me today.

And

To my sister, Sheila Copeland, who has always been a great role model for how important it is to put God and family first—a life lesson I sometimes forget. I also dedicate this to her family: My brother-in-law, Mike Copeland, who provided much needed comic relief at times, and to my three nieces, Kayla, Morgan, and Lakin. I regret missing so many of your games during the past several years, and look forward to having time for fun again!

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*ABSTRACT*

The purpose of this study, using the first-year student as the unit of analysis, was to explore the impact of participation in a curricular learning community (CLC) on the academic success, academic and social integration, institutional commitment, and persistence of first-year students at Missouri State University (MSU), a Midwest, public, four-year university. Additionally, the researcher explored pre-existing differences in students who elected to enroll in a CLC, as compared to those who do not.

This quantitative study examined a sample of 471 first-semester students at MSU to answer four research questions which pertained to students' academic success and persistence to the second semester of studies. The single-stage, convenience sample (Creswell, 2007) included students enrolled in general education courses in fall 2011. Two groups were compared; those enrolled as part of a curricular learning community (CLC), and students enrolled in stand-alone courses (non-CLCs). Additionally, the researcher utilized a modified version of Pascarella and Terenzini's (1980) *Institutional Integration Scale* (IIS) to measure several constructs associated with increased academic and success, such as (a) peer group interactions, (b) interactions with faculty, (c) faculty concerns for student development and teaching, (d) academic and intellectual development, and (e) institutional and goal commitment.

The findings of the study revealed no significant differences between the CLC and non-CLC groups on any subscales measured by the IIS. Moreover, no significant differences were found between the CLC and non-CLC groups in demographic measures, suggesting the two groups were indeed similar. The only significant difference found between the two groups on any measure was revealed on a math ACT subscale, which

was significantly lower for the CLC than the non-CLC group. The results reinforce the notion that students who elect to enroll in CLCs are as academically prepared (with the exception of Math) than those who do not.

Implications for practice suggest a need for additional professional development for participating faculty members. Efforts should focus on greater integration of curricular and co-curricular content. Furthermore, adequate resources and personnel should be allocated to further develop, administer, and evaluate these programs to create CLCs which would positively impact students' academic success and persistence.

Recommendations for further research include a mixed-methods design to obtain a better understanding of the subtleties of students' experiences in the CLCs. In addition, a longitudinal approach is recommended, since persistence is typically measured from fall-to-fall, rather than fall-to-spring as in the current study. Finally, future research should examine MSU's benchmark institutions that have CLC programs to obtain a broader understanding of programs and their impact in similar institutions.

# INTRODUCTION TO THE STUDY

## *Background*

Vincent Tinto (2009), in a keynote speech, remarked that many universities in the United States "speak of the importance of increasing student retention. Indeed, quite a few invest substantial resources in programs designed to achieve that end. But for all that effort, most universities, in my view, do not take student retention seriously" (p. 1). To further compound the problem of student retention, in recent years federal and state support for higher education has continued to decline (National Center for Educational Statistics, 2011). As a result, universities and colleges are increasingly under pressure to find ways to decrease the attrition of college students, particularly during the critical first year of studies.

Furthermore, since the number of high school graduates is anticipated to become flat in coming years (National Center for Education Statistics, 2011), additional efforts are underway to attempt to retain students who are successfully admitted to college. Several studies reinforce the concept that it is far more cost effective to retain current students than to recruit new students (Cuseo, n.d.; Pascarella & Terenzini, 2005). As a result, student retention efforts are receiving increased attention, with many universities focusing additional resources on the first-year experience as an attempt to combat the problem of attrition (Carey, 2005; Heldman, 2008; Kuh, Cruce, Shoup, Kinzie, & Gonyea, 2008; Lederman, 2009; Pascarella & Terenzini, 2005).

Several researchers, such as Pascarella & Terenzini (2005) have studied student departure. Most notably, Tinto (1975, 1987, 1993), hypothesized student departure from an institution is most likely to occur during the first year. In fact, another study identified

the first two to six weeks of the first semester of a student's enrollment in college as the most critical time period for students to develop a strong relationship or connection with the institution, since 50% of students who drop out do so during this time period (Levitz & Noel, 1990). Other researchers (Astin, 1984, 1993; Barefoot, 2004; Braxton, Hirschy, & McClendon, 2004; Tinto, 2006) have recommended institutions reallocate resources to focus on assisting students during their first year of studies.

In many instances, the organizational response has been to implement some type of first-year experience program as a proposed solution to the retention problem. Among other things, the purpose of such programs is typically to facilitate students' successful transition into higher education. The most common types of programs within the first-year experience include first-year seminars, orientation programs, summer bridge programs, service-learning, common readers, living-learning communities, and curricular learning communities (CLCs) (Upcraft, Gardner, Barefoot, & Associates, 2005). Of all the programs focused on curricular components, several researchers have suggested the CLC may provide opportunities for the greatest impact in students' persistence to the second year of college (Barefoot, 2004; Tinto, 2003, 2009).

Additionally, in recent years the number and types of CLCs have increased greatly (Smith, MacGregor, Matthews, & Gabelnick, 2004), although most fall within four basic models referenced throughout the research literature. These include (a) paired or clustered courses, (b) cohorts in large courses or freshman interest groups (FIGS), team-taught or coordinated studies programs, and (d) residence based learning communities (Gabelnick, MacGregor, Matthews, & Smith, 1990; Laufgraben, Shapiro, & Associates, 2004; Shapiro & Levine, 1999; Smith et al., 2004). Furthermore, the flexible

structure of CLCs provides students with opportunities for increased community and collaboration, curricular cohesion, and academic as well as social integration during their first year of study (Smith et al., 2004).

Despite years of research, however, the literature on the impact of CLCs on student persistence and degree completion is lacking, especially as compared to the quantity of research on first-year seminars (Pascarella & Terenzini, 2005). There are likely a variety of factors contributing to the lack of well-designed empirical studies examining the impact of CLCs, including insufficient fiscal and personnel institutional resources. This may be a result, in part, from decreased state and federal support as previously discussed. However, due to increased competition with community colleges for recent high school graduates, and increased governmental and societal calls for accountability, well-designed retention studies examining the impacts of initiatives such as CLCs become critical, particularly at the institutional level at four-year universities.

### *Conceptual Underpinnings for the Study*

Colleges and universities throughout the United States have embraced curricular learning communities (CLCs) as part of an effort to intentionally restructure the first-year experience for students. A CLC may be defined as purposefully reorganizing the curriculum by linking two or more courses together, and restructuring curriculum so as to gain greater curricular cohesion, which allows students to become more connected to peers, faculty, and the institution (Gabelnick et al., 1990). To some extent, this reorganization has been motivated by students' unacceptable rates of retention, or persistence, from the first to second year of studies. Considering the substantial negative impact on revenue for universities in a time of decreased state funding, additional

institutional interventions are being implemented across the United States (Barefoot, 2004; Tinto, 2009).

Vincent Tinto's Theory of Student Departure (1975, 1987, 1993), according to Braxton, Sullivan, and Johnson (1997) is perhaps the most widely cited theory in the literature on student retention, and thus was chosen as the most appropriate conceptual framework to use in this study. Tinto's (1975) work led to his refined (1993) development of a theoretical longitudinal model of institutional departure. In essence, Tinto's Theory of Student Departure suggests the process of students' failure to persist in college may be viewed as a longitudinal process of interactions between the individual student and the interactions with the academic and social systems of the college. This interaction is conceptualized as academic and social integration (Tinto, 1975, 1993).

Furthermore, Tinto (1993) emphasized the importance of students' attributes upon entering college. Some of these attributes include (a) race/ethnicity, (b) gender, (c) pre-college experiences such as high school grade point averages (GPA), and (d) family background characteristics. Family background characteristics include values, social status attributes, and educational expectation climates. Tinto (1993) suggested each of the attributes previously listed have both direct and indirect effects on students' persistence. These background characteristics, combined with individual attributes, also influenced students' development of educational expectations and commitment to the institution. Tinto (1975, 1993) further argued these goal and institutional commitments are "important predictors of and reflections of the person's experiences, his *[sic]* disappointments and satisfactions, in that collegiate environment" (Tinto, 1975, p. 96).

Additionally, the researcher used Astin's (1993) Input-Environment-Output (I-E-O) model. In this model, Astin attempted to identify the associated variables influencing several outcomes, including students' persistence from the first to second year of college. In brief, Astin's I-E-O model was built on the premise that "student success is a function of who students were before they entered college, and what happened to them after they enrolled" (Upcraft et al., 2005, p. 30).

Astin argued students enter college with a pre-established set of characteristics and experiences, labeled inputs, which influence students' perceptions about college. These pre-college input variables included (a) high school grades, (b) college admissions test scores, (c) age, (d) ethnicity, (e) gender, (f) income, and (g) parental level of education (Astin, 1993). The effects of the environment comprised the second component of Astin's I-E-O model. Astin described 192 variables thought to impact students' success were grouped into eight categories. In part, these included institutional characteristics, faculty characteristics, peer group interactions, financial aid, and student involvement (Astin, 1993). Outcomes, the third component of Astin's model, are the effects of the college, and refer to students' characteristics after exposure to the environment. These outcomes were further divided into five categories, including (a) academic cognition, (b) satisfaction with the collegiate environment, (c) career development, (d) academic achievement, and (e) retention (Upcraft et al., 2005).

In summary, Astin's (1993) Input-Environment-Output (I-E-O) model provided a theoretical framework for evaluating and explaining variables that influence college retention and academic success for the first year of college. Taken together, Tinto's (1975, 1993) Theory of Student Departure and Astin's (1993) Input-Environment-Output

(I-E-O) model provided the over-arching conceptual framework for this study. The researcher utilized these two theories as one method to explore the impact of CLCs on first-year students' academic success, academic and social integration, institutional commitment, and persistence.

A sizeable body of research provides evidence that students participating in CLCs receive several positive benefits. Zhao and Kuh (2004) discovered learning community students reported increased student engagement, improved academic performance, higher rates of attendance, increased academic effort, and generally a higher overall satisfaction with the first-year experience. Furthermore, students reported higher levels of academic and social integration, and were more likely to report active and collaborative learning experiences (Tinto, 2003). According to the National Survey of Student Engagement (NSSE) results (2008), CLC participants demonstrated higher scores on all five NSSE Benchmarks of Effective Practices, including (a) perceived level of academic challenge, (b) active and collaborative learning, (c) student-faculty interaction, (d) enriching educational experiences, and (e) a supportive campus environment. These studies provide additional support for implementing CLCs as an effective institutional intervention to positively impact student learning and engagement, and as a result, to positively impact persistence rates of first-year students.

### *Statement of the Problem*

Several researchers (Pascarella &Terenzini, 2005; Tinto, 1993; Upcraft et al., 2005) have acknowledged the increasing challenges institutions face to successfully retain first-year students. Despite this awareness, however, first to second year retention rates at four-year, public universities have remained relatively flat over the past two

decades, with roughly 75% of students returning for the second year of study (ACT, 2010). Some may argue that simply maintaining a flat rate of retention is a worthy accomplishment, considering a larger percentage of students than ever appear to be entering college poorly prepared academically; in fact, nearly 17% of students require at least one remedial course in either English or mathematics (Arum & Roksa, 2011; Kuh, Kinzie, Schuh, Whitt, & Associates, 2005). Despite this reality of increasing numbers of under-prepared students beginning college, universities and colleges attempt to continue to adapt, design, and implement creative institutional interventions to endeavor to stem the tide of student attrition during the crucial first year of studies.

Of all the various theories regarding student persistence and retention, Tinto's (1975, 1993) Theory of Student Departure remains among the most prominent (Braxton, 1999). One of the key concepts of the theory is the critical importance of students successfully becoming academically and socially integrated into the university. In an effort to address these two key components on integration, many institutions nationwide have focused additional resources on the first year of college, and a commonly proposed solution to impact the above factors is instituting a curricular learning communities (CLC) program (Gabelnick et al., 1990, 2004; Shapiro & Levine, 1999; Smith et al., 2004; Upcraft et al., 2005). Barefoot (2004) noted 60% of all American colleges and universities now offer some form of CLC classrooms to first-year students, and that percentage is expected to continue to increase in coming years.

The overwhelming majority of research indicates learning communities have statistically significant and positive net effects on student persistence into the second semester (Tinto & Russo, 1994), and second year (Stassen, 2003; Tinto, 1997, 2003).

Further support is offered by a meta-analysis of more than 300 studies suggesting that cooperative learning environments promote both academic and social integration, and increased academic success (Johnson, Johnson, & Smith, 1998). Additionally, the researchers found some evidence suggesting that CLCs fostered a sense of educational citizenship, or the sense of responsibility for others' learning in addition to one's own learning (Tinto, 1997; Tinto & Goodsell, 1993; Tinto, Goodsell, & Russo, 1993; Tinto & Russo, 1994). In combination with participation in first-year seminar courses, studies of cooperative learning and learning communities emphasize students' classroom experiences as a factor in students' decision making regarding persistence.

Despite the abundance of research on the larger topic of student persistence, there continues to be a lack of well-designed, empirical studies at the institutional level on the impact of curricular learning communities. One common design flaw includes a failure to address students' self-selection into CLCs, which undermines the validity of comparing student outcomes. For example, there may be pre-existing differences in the academic ability of students who choose to participate in CLCs. The lack of well-designed institutional level studies may be due, in part, to some faculty members' reluctance of embracing rigorous assessment and program evaluation of these initiatives, combined with the lack of resources (both personnel and fiscal) to support stronger assessment efforts to evaluate these types of programs. Thus, this lack of empirical evidence and analysis at the institutional and program level justifies the need for further study. Furthermore, these findings may have an impact on administrators, in terms of deciding whether increased support of such first-year initiatives is an appropriate use of fiscal resources during such challenging budget times.

### *Purpose of the Study*

There is evidence throughout the research literature that institutions of higher education are lacking information about factors related to retention on their campus (Astin, 1993; Pascarella & Terenzini, 2005; Tinto, 1993, 2009). Therefore, more institution-specific research is needed to determine factors most influential in increasing persistence rates at universities, especially those initiatives involving the first-year experience for students. This is particularly important since students in the first year are at greatest risk of dropping out of college (Tinto, 1993). The purpose of this study, using the first-year student as the unit of analysis, was to explore the impact of participation in a curricular learning community (CLC) on the academic success, academic and social integration, institutional commitment, and persistence of first-year students at Missouri State University (MSU), a Midwest, public, four-year university. Additionally, the researcher explored pre-existing differences in students who elected to enroll in a CLC, as compared to those who do not.

Since this study focused on the impact of curricular learning communities (CLCs) as an appropriate institutional intervention designed to address low persistence rates of first-year students, several research questions were formulated around this concept. These questions stem from a desire to identify whether participation in a CLC benefits students on several factors which researchers have identified as leading to increased persistence. Some of these factors include (a) academic and social integration, (b) institutional commitment, and (c) academic achievement (Pascarella & Terenzini, 2005; Tinto, 1993). There is, however, a noticeable lack in the research literature examining pre-existing differences in the academic ability of students who choose to participate in CLCs, as

compared to those who do not. This was important to identify in the current study since pre-existing group differences may influence students' outcomes. Mertens (2005) refers to this threat to internal validity as differential selection, and cautions "if participants with different characteristics are in the experimental and control groups, the results of the differences may be due to group differences, not necessarily to the treatment or independent variable" (p. 123).

*Research Questions*

The following four research questions served as a guide for the researcher to frame and develop this study:

1. Are there pre-existing differences in academic ability (as measured by ACT and high school GPA) in students who participate in the curricular learning community (CLC) as compared to those who do not?
2. Are there differences in the academic success (as defined by first-semester GPA and credit hours completed in the first semester) in students who participate in the curricular learning community (CLC) as compared to those who do not?
3. Do curricular learning community (CLC) participants demonstrate a higher level of integration, as measured by the *Institutional Integration Scale* (Pascarella & Terenzini, 1980), than non-participants? Included within the construct of integration for this study is (a) peer group interaction, (b) interactions with faculty, (c) faculty concerns with student development and teaching, (d) academic and intellectual development, and (e) institutional and goal commitment.

4. Are there differences in first to second semester persistence rates for CLC and non-CLC participants?

### *Limitations, Assumptions, and Design Controls*

Included in this section are basic assumptions of the research on student persistence and learning communities, both from an individual and an organizational perspective. The limitations of this study are primarily due to feasibility, time, and the complexity of the topic of student persistence and retention. Limitations exist because of the predetermined set of variables studied, and inclusion of only one public, four-year university located in the Midwest. Furthermore, this study only informs very specific areas of interest regarding student persistence, e.g., the impact of CLCs on first-year students.

#### *Limitations*

As with any research study, this project was affected by several limitations which must be acknowledged. First, only a single institution was included in this study. Thus, the institutional characteristics were limited to a public, four-year university in the Midwest. Additionally, the university studied has a Carnegie Foundation classification of "large," which requires the enrollment of at least 10,000 full time, degree seeking students (The Carnegie Foundation for the Advancement of Teaching, 2004). As a result, the limited scope of the study reduces the generalizability of the study's findings (Mertens, 2005).

Second, the dataset in this study was obtained through a single-stage convenience sample (Creswell, 2009) due to issues of access and limited timeframe of the study. Although some authors (Creswell, 2009; Mertens, 2005) caution against the use of

convenience sampling, they also acknowledge it is among the most widely used sampling methods in educational research. These cautions include recognizing the limitations of generalizing the findings beyond the sample with this method (Mertens, 2005). In contrast, a randomized sample may have provided more support for generalizing the results (Mertens, 2005).

A third limitation is the short duration the data was collected, i.e., at the end of the first semester of college, rather than at the end of the first year. A longitudinal study may yield additional useful information on the potential benefits to participants and impact on persistence, since many of the benefits of learning communities may not be evident until much later (Pascarella & Terenzini, 2005; Smith et al., 2004). However, it is useful to the institution studied to attempt to ascertain if there are more immediate persistence outcomes as a result of students' participation in the CLC.

In addition, a potential limitation involves characteristics of the survey instrument used, the *Institutional Integration Scale* (IIS), developed by Pascarella and Terenzini (1980). Although this instrument is widely utilized across a variety of four-year institutions, it is designed to only capture self-reported information. Because of the nature of self-reporting, it is possible some students may skew their answers to provide socially acceptable responses.

Creswell (2009) discussed the importance of an instrument's content, predictive or concurrent, and construct validity. The length of time the IIS has been in widespread use (more than 30 years) in a variety of types and sizes of institutions of higher education lends support to its validity. Moreover, the instrument has been studied extensively by numerous researchers, and has been used in several studies (Berger & Milem, 1999;

Downing, 2005; Mannan, 2001; Robinson, 2003). Furthermore, the IIS is widely considered a nationally validated measure of integration related to Tinto's theory of student persistence (Caison, 2007; French & Oakes, 2004; Pascarella & Terenzini, 1980).

*Assumptions*

The researcher made several assumptions regarding the approach used to study the impact of CLCs. For instance, the researcher assumed Tinto's (1975, 1987, 1993) Theory of Student Departure, and Astin's (1993) Input-Environment-Output (I-E-O) model were the most appropriate frameworks with which to study this topic. There are many other theories regarding this widely researched topic, but a comprehensive literature review identifies Tinto's as still the most widely cited in other studies. The interest in Tinto's theory continues to grow, as evidenced by an estimate by Braxton and Hirschy (2004), which found the number of citations at more than 775. Similarly, Astin's (1993) I-E-O model was also one of the earliest attempts to explain student persistence and is among the two most recognized models of student departure (Upcraft et al., 2005).

Lastly, the researcher chose a quantitative research design for this study, working under the assumption that a quantitative design would provide the most relevant and easily quantifiable data for the administrative decision-makers at the institution studied. However, a mixed-method approach may have provided richer and more comprehensive analysis (Creswell, 2009; Mertens, 2005). The majority of the research on this topic, though, appears to be studies using a quantitative design, and thus seemed an appropriate choice for the current study.

*Design Controls*

Design controls included the use of a quantitative research design. This design supported a postpositive, objective implementation of the study (Creswell, 2009). In addition, the use of the *Institutional Integration Scale* (IIS), a survey instrument developed by Pascarella and Terenzini (1980) and used in similar studies (Caison, 2007; Mannan, 2001, 2007; Robinson, 2003; Yale, 1999), allowed the researcher to obtain a sizeable amount of data from the participants which was statistically analyzed (Field, 2009), and improved the generalizability of the study (Creswell, 2009; Mertens, 2005). By collecting this numerical data, the researcher was able to maintain a non-partisan status, thus minimizing the potential of researcher bias (Creswell, 2009; Mertens, 2005).

The quantitative design selected was a static-group comparison design, since this method is closest to a true experimental design (McNabb, 2008). This design involves two samples: (a) a test group and (b) a control group. No pre-testing is applied, but the two groups are subjected to different treatments. Furthermore, subjects are not randomly assigned to groups. Instead, different treatments are applied in each group, e.g., in each classroom. This design is often used in educational research, since it minimizes students' classroom disruptions (McNabb, 2008; Mertens, 2005). With this type of design, however, it is important for the researcher to determine if the two groups differed on the dependent variable prior to participating in the treatment. Otherwise, any conclusions drawn by differences in outcomes as a result of the treatment are quite limited, since the outcomes may simply be attributable to group differences (Creswell, 2007). In this study, the treatment is represented as participation in the CLC.

All research procedures were approved by the University of Missouri's Institutional Review Board (IRB), to ensure all data was collected in an ethical and appropriate manner. In addition, permission was obtained from the gatekeeper at the institution studied. The researcher also complied with the IRB procedures at the participating institution prior to collecting data.

### *Definition of Key Terms*

Several key terms were used throughout this study. These terms are defined below to provide a context for their use in the current study.

*American College Testing* (ACT)**.** The ACT is a nationally standardized test, often used by colleges as part of the admission decision process. The test reports an overall composite score, in addition to four sub-scores in math, English, reading, and science (ACT, 2009).

*Academic ability.* For the purpose of this study, academic ability is defined by students' ACT composite score, as well as high school grade point average (GPA).

*Academic success.* For the purpose of this study, academic success is defined by students' first semester GPA and credit hours completed.

*Academic integration.* Academic integration involves the successful merging of the student into the academic environment of the college. It includes meeting the specific academic requirements to continue enrollment (Tinto, 1987, 1993). This construct will be measured by the *Institutional Integration Scale* (IIS), developed by Pascarella and Terenzini (1980).

*Class rank.* This term refers to a student's ranking in his or her class, divided by the total number of students in the graduating class. In this study, class rank specifically

refers to high school class rank as one of the variables under study (Missouri State University Admissions Office, 2012).

*Curricular learning communities (CLC).* According to Gabelnick et al., (1990) curricular learning communities are defined as:

> Any one of a variety of curricular structures that link together several existing courses—or actually restructure the material entirely—so that students have opportunities for deeper understanding and integration with one another and their teachers as fellow participants in the learning enterprise. (p. 19)

A more current definition of CLC is:

> In higher education, curricular learning communities are classes that are linked or clustered during an academic term, often around an interdisciplinary theme, and enroll a common cohort of students. A variety of approaches are used to build these learning communities, with all intended to restructure the students' time, credit, and learning experiences to build community among students, between students and their teachers, and among faculty members and disciplines. (Laufgraben, Shapiro, & Associates, 2004, p. 3)

*First-year experience.* The first-year experience generally refers to programs focused on students' first year of college, and are defined as those intended to (a) ease the first-year transition to college, (b) enhance the learning, success, retention, and graduation of these students (Gardner, 2009).

*Gender.* Gender was another demographic item on the survey instrument, with choices being (a) female, and (b) male.

*Grade point average* (GPA). A grade point average (GPA) is calculated by dividing the total quality points by the total credit hours attempted. For this study, the end of semester GPA will be retrieved from the institution's student data system (Missouri State University Office of the Registrar, 2011).

*Institutional Integration Scale* (IIS). The IIS is a 30-item instrument with five subscales: (a) Peer group interactions, (b) Interactions with faculty, (c) Faculty concern for student development and teaching, (d) Academic and intellectual development, and (e) Institutional and goal commitment (Pascarella & Terenzini, 1980).

*Institutional and goal commitment.* For the purposes of this study, institutional and goal commitment was defined as the student's perspective on his or her commitment to the institution, as well as personal goals regarding graduation and future career, as measured by items on the *Institutional Integration Scale* (IIS) (Pascarella & Terenzini, 1980).

*Living-learning communities.* Living-learning communities (LLCs) involve an intentional restructuring of the residential environment so as to build community and integrate academic work with out-of-class experiences (Smith et al., 2004).

*Persistence.* The terms persistence and retention are often used interchangeably in the research literature, and were used as such in this study. For the purposes of this study, persistence is defined as the student remaining at the same institution of higher education from the first to second semester. It should be noted, however, some prominent researchers make the distinction of persistence of a student for more than one year (Barefoot, 2004).

*Race/ethnicity.* A demographic field was requested as part of the survey instrument in this study. Choices included (a) White, non-Hispanic; (b) Black, non-Hispanic; (c) Hispanic or Latino; (d) Asian; (e) American Indian or Alaska Native; (f) Native Hawaiian or other Pacific Islander; (g) More than one race; and (h) Race/ethnicity unknown.

*Retention.* This term is used interchangeably with 'persistence'; see above definition by Barefoot (2004).

*Service learning.* This term may be defined as "participating in a community service work in connection with an academic course. Thus, it is a form of experiential education related to other experience-based approaches such as internships, active learning, participatory action research, and problem-based learning" (Vogelgesang, Ikeda, Gilmartin, & Keup, 2002, p. 15).

*Social integration.* This term denotes the successful merging of the student into the social environment of the institution. Social integration is (a) the integration into the social life of the college, (b) the formation of relationships with faculty and peers, and (c) management of new social freedoms (Tinto, 1987, 1993). This construct will be measured by the *Institutional Integration Scale* (IIS), developed by Pascarella and Terenzini (1980).

*Student engagement.* This term is often used in the literature as a more modern term to describe integration, and is associated most often with research conducted by Zhao and Kuh (2004).

*Summary*

It appears likely federal and state support funding for higher education may continue to decrease in the coming years (National Center for Education Statistics, 2011). As a result, universities and colleges are under increasing pressure to find ways to decrease the attrition of college students, particularly during the critical first year of studies. Despite the abundance of research on the larger topic of student persistence, there continues to be a lack of well-designed, empirical studies at the institutional level on the impact of curricular learning communities, which justifies the need for the current study.

The purpose of this study was to explore the impact of curricular learning communities (CLCs) on the academic success, academic and social integration, institutional commitment, and persistence of first-year students at Missouri State University (MSU), a Midwest, public, four-year university. The existing literature on CLCs, first-year seminars, and student persistence provided the foundation for the study, while Tinto's (1975, 1987, 1993) Theory of Student Departure served as the overarching theoretical framework. In addition, Astin's (1993) Input-Environment-Output (I-E-O) Model is based on the idea that student success, in part, is the result of a function of a pre-established set of experiences and characteristics inputs that influence students' views about college. Taken together, Tinto's (1993) Theory of Student Departure and Astin's (1993) Input-Environment-Output (I-E-O) were utilized as the conceptual framework for the study.

Thus, Chapter One provided the background, conceptual framework, purpose, limitations, design controls, and explanation of key terms utilized to construct the study.

The following chapters provide further explanation into this study. Chapter Two provides a comprehensive review of existing literature used to inform the study. Included is a broad overview of student persistence in higher education, followed by an explanation of the two models of student retention used in the study. The history and development of first-year seminars, as well as the historical development and uses of learning communities is also included. Chapter Two concludes with an exploration of the impact of curricular learning communities (CLCs) on students. Chapter Three presents the research design, data collection methodology, and explanation of analysis utilized for the dataset. Chapter Four includes a description of the quantitative findings obtained from the data collection and analysis. Included in Chapter Five is a discussion of conclusions drawn from the major findings of this study, and the implications of these findings within the context of higher education. Finally, recommendations for further research are suggested. An Appendix section is included to inform readers of supplementary materials, including the informed consent letters, survey instrument, and permission to use the instrument.

*CHAPTER TWO*

# REVIEW OF RELATED LITERATURE

## *Introduction*

One of the most pervasive problems related to student success in higher education continues to be the consistently high rates of student attrition; in particular, for students who do not persist from the first to second year of college (Tinto, 2009). In fact, the research on student persistence reveals that the largest proportion of institutional leaving occurs during the first year and prior to the second year (Upcraft et al., 2005). Concerns regarding student attrition are nothing new, although the topic has received renewed interest in the literature, especially in light of continued decreases in state and federal funding for higher education (National Center for Education Statistics, 2011). Related to these concerns involve when universities tend to lose students. An early study by Levitz and Noel (1990) identified the first two to six weeks of the first semester of a student's enrollment in college as the most critical time period for students to develop a strong relationship or connection with the institution. Furthermore, they found that 50% of students who drop out do so during this time period. Additionally, seven forces of attrition were identified as underlying factors that contribute to a student's decision to withdrawal. These include (a) academic boredom, (b) a sense of irrelevance, limited or unrealistic expectations of college, (c) academic under-preparedness, (d) transition difficulties, (e) uncertainty about a major or career, and (f) incompatibility (Levitz & Noel, 1990). This continuing challenge of unacceptably high rates of attrition are found no matter the classification of the college or university, although there are substantial differences in attrition rates, depending in part, on the type of institution studied.

To situate this study within the larger context of student persistence and curricular learning communities research, several bodies of literature on topics related to student persistence were reviewed. First, a broad overview of student persistence in higher education will be addressed. Within this section two primary researchers' theories are discussed, including Tinto's (1975, 1993) Theory of Student Departure, followed by Astin's (1993) Input-Environment-Outcome (I-E-O) model. Second, an overview of the first-year experience and associated initiatives will be discussed, beginning with the historical foundation of first-year seminars and associated programs. Third, a review of the history and uses of learning communities is provided, including a discussion of the various types of learning communities. Finally, the impact of curricular learning communities (CLCs) on students is discussed, in particular, by focusing on influences on student engagement and impact on retention.

### *Student Persistence in Higher Education*

To provide context for the current study, a broad overview of student persistence and attrition in higher education is addressed, including the most prominent theoretical models which attempt to conceptualize student departure. The concept of student persistence, as well as attrition, has been empirically studied for more than 80 years (Braxton, 1999). Despite the voluminous amount of literature on the topic, student attrition rates have remained relatively constant for decades. In an early study, Tinto (1982) noted that the national attrition rate for degree completion has stayed at approximately 45% for the past 100 years, with the exception of the period during World War II. In the first national study of attrition, 25 universities were studied, and it was found that institutions lost an average of 62% of students within the first four years.

Approximately 17% of these students were transfers; however, there was still an overall loss of 45% of the students (McNeely, 1937).

In more recent studies, Pascarella and Terenzini (2005) wrote, "National surveys of four-year institutions indicate the average unadjusted rates of student persistence into the second year range from 72 to 79% at public institutions, and from 75 to 79% at private institutions" (p. 384). Furthermore, the type of institution (public versus private) is often cited as having significantly different graduation rates. It is often reported private institutions generally have higher graduation rates than public institutions. However, this may be an issue of failing to fully consider institutional selectivity issues. For example, Pascarella and Terenzini (2005) also found evidence from several studies suggesting that when comparing equivalent selectivity levels, some public institutions actually have higher five-year completion rates than private institutions.

In the most recent national data available to the researcher, a national survey conducted by the American College Testing (ACT) organization (2010) found the following: an average six-year completion rate at public, four-year institutions of 50.1%, as compared to an average six-year graduation rate at private, four-year institutions of 57.8%. For community colleges, the average three-year graduation rate was 27.4%. Additionally, the first to second year retention rates were also studied with the following findings: public, four-year institutions averaged a 74.3% retention rate, as compared to private four-year institutions, which averaged 73.4%. These rates are in stark contrast to those at community colleges, which managed a retention rate of only 56% (ACT, 2010). Findings were quite similar in ACT's earlier retention studies, conducted in 1980, 1987, and 2004 (ACT, 2010).

Thus, despite a growing literature base on issues related to student success and retention, the ability of institutions to positively impact these rates remains elusive at best. Continued high rates of student attrition during the first year have led researchers to continue exploring the reasons for such attrition (Tinto 2006; Upcraft et al. (2005).This includes the development and refinement of models which attempt to explain attrition, as well as efforts to promote institutional interventions that foster retention.

With regard to learning communities, in terms of student success and retention, Pascarella and Terenzini (2005) noted much of the literature about learning communities did not explore the impact of curricular learning communities on student persistence and degree completion. They further observed that most of the research is largely the same as general studies of persistence and graduation. Similarly, Smith, MacGregor, Matthews, and Gabelnick (2004) suggested additional persistence research and assessment specifically involving participants in learning communities was needed to begin to truly understand the possible impact of CLCs on first-year students' success and persistence. In recognition of the need to better understand the reasons students fail to persist in college, several retention models have emerged over the past 35 years.

*Models of Student Retention*

The earliest writings on student attrition were often negative in tone and in title, describing persistence or attrition as academic mortality rates, and survival status (Slocum, 1956), and to students as dropouts (Iffert, 1957). The earliest writing questioning the prevailing negative view of retention at the time was Cope and Hannah's (1975) work, which placed a greater emphasis on the students' perspectives of leaving college, and also began focusing on the fit between the student and the institution. In a

later study, Tinto (2006) observed that in the majority of the earliest studies, student attrition was viewed through the lens of psychology. The failure of students to persist was typically seen as the reflection of students' motivation, individual attributes, and academic skills. Tinto wrote,

> Students who did not stay were thought to be less able, less motivated, and less willing to defer the benefits that college graduation was believed to bestow. Student failed, not institutions. This is what we now refer to as 'blaming the victim'. (p. 2)

The prevailing negative view of retention began changing in the 1970s, when theorists began to consider the influence of the environment, specifically, the role of the college or university in exploring students' decisions as to whether to stay or leave the institution. Spady (1970) was the first researcher to propose a recognized model for college student dropouts. Spady's model drew heavily from Durkheim's (1951) theory on suicidal behavior. Durkheim hypothesized that shared group values and friendship support are expected to reduce suicidal behavior. Spady (1970) applied this theory by hypothesizing these same factors might reduce student dropout, or viewed another way, academic suicide. Spady's sociological model proposed five variables: (a) grade performance, (b) intellectual development, (c) academic potential, (d) normative congruence, and (e) friendship support, that directly contributes to social integration. These five variables were indirectly linked to the dependent variable of the dropout decision through two intervening variables: (a) satisfaction, and (b) institutional commitment. In follow up research, Spady (1971) conducted an empirical study, resulting in the addition of structural relations to the model and a revision of the relationships

within the model. The subsequent findings indicated, "Over a four-year period…formal academic performance is clearly the dominant factor in accounting for attrition among both sexes" (Spady, 1971, p. 38).

*Tinto's Theory of Student Departure.* Building on the work of Spady (1970, 1971), Tinto's (1975, 1987) work was the first effort to create a detailed longitudinal model that made explicit connections between the environment; i.e., the academic and social systems of the institutions, and the individuals who shaped those systems, with student retention over different time periods. Central to Tinto's original (1975) model were the concepts of students' academic and social integration to other members of the institution, particularly during the critical first year of college and associated transitions. This model, as compared to Spady's earlier studies, shifted the focus to the impact of the institution itself, rather than simply focusing on perceived student deficiencies. Tinto proposed that specific types of relationships between institutions and individuals might account for particular types of dropout behavior within academic institutions.

Tinto's (1975, 1987, 1993) Theory of Student Departure continues to be the most widely used framework used to guide research into the complexities of the persistence related connections examining the relationships between students and college experiences. Braxton (1999) described Tinto's theory of having "near paradigmatic stature" (p. 93), and Braxton, Sullivan, and Johnson (1997) found more than 400 citations of Tinto's model by 1994, and at least 170 doctoral dissertations based upon it by 1995. The interest in Tinto's theory continues to grow, as evidenced by an estimate by Braxton Hirschy, and McClendan (2004), which found the number of citations at more than 775.

In essence, Tinto's (1975, 1987, 1993) Theory of Student Departure underscores the role of students' academic and social integration into the campus community. Basically, the theory posits that first-year student departure is likely if the student is poorly integrated and weakly committed to the institution and degree attainment. According to Tinto's original work (1975), academic integration consists of both structural and normative dimensions. While structural integration involves meeting specific standards of the institution of higher education attended, normative integration involves an individual's identification with the values, beliefs, and norms inherent in the academic system. Social integration concerns the extent of congruency between the individual student and the social system, or environment, of the institution. Furthermore, social integration "reflects the student's perception of his or her degree of congruence with the attitudes, values, beliefs, and norms of the social communities of a college or university" (Tinto, 1975, p. 110).

Tinto further hypothesized that academic and social integration influence students' commitments to the institution, as well as progress toward the goal of graduation. Therefore, the greater the student's level of academic integration, the greater the level of commitment toward the goal of college graduation. In addition, the greater the students' level of social integration, "the greater the level of subsequent commitment to the local college or university (Tinto, 1975, p. 110). Tinto does acknowledge his theory only attempted to address voluntary student departure. In other words, the theory attempted to explain the departure process within a given college or university, and thus "is not a systems model of departure" (Tinto, 1993, p. 2).

Like Braxton et al., (1997), Pascarella and Terenzini's (2005) findings were consistent in that students' institutional commitments exert an important and positive effect in shaping their persistence decisions, both planned and actual. Furthermore, they noted, "This effect persists even in the face of controls for the precollege demographic and academic characteristics and the initial goal and institutional commitments students bring with them to college" (p. 426). In addition, Pascarella and Terenzini (2005) findings were also consistent with Braxton et al. (1997) and Astin (1993), suggesting the level of student involvement and integration in any components of an institution's academic and social systems may be a critical factor in students' persistence decisions. Most studies in the literature consistently support the hypothesis that student involvement, especially in the arenas of academic and social areas, is related to intended or actual persistence into the following academic year. Only a few exceptions (Axelson & Torres, 1995; Borglum & Kubala, 2000; Mutter, 1992) were found to contradict the bulk of the research studies on the topic.

It should be acknowledged, however, that although it remains the most frequently cited theory of student persistence and departure, not all researchers have found a great deal of empirical support for Tinto's theory, especially his original 1975 model (Braxton et al., 1997). Additionally, Braxton et al. (1997) found mixed empirical support regarding the constructs of academic and social integration, which varied considerably by institutional type. For example, Braxton et al. appraised the extent of empirical support for 13 propositions of Tinto's theory by institutional type using liberal arts colleges, residential universities, and commuter universities. Empirical support for the validity of Tinto's theory in liberal arts colleges "remains an open question for research" (p. 17). In

contrast, Braxton et al. (1997) found strong empirical support for five of the 13 propositions in residential universities. Thus, the researchers concluded Tinto's theory received partial support in residential universities. Braxton and Lien (2000) also found modest empirical support for possible linkages between academic integration and subsequent institutional commitment and student departure. Another prominent theory of student retention is Astin's (1993) Input-Environment-Output (I-E-O) model.

*Astin's Input-Environment-Output (I-E-O) model.* Astin's (1993) Input-Environment-Output (I-E-O) model was one of the first attempts to describe student persistence and to try to identify the associated variables influencing several other outcomes, including students' persistence from first to second year. Astin's I-E-O model was built on the premise that "student success is a function of who students were before they entered college and what happened to them after they enrolled (Upcraft et al., 2005, p. 30). Therefore, the purpose of the model was "to assess the impact of various environmental experiences by determining whether students grow or change differently under varying environmental conditions" (Astin, 1993, p. 7). Astin's model was based upon a longitudinal study of more than 24,500 first-year students who attended a four-year university and completed the Cooperative Institutional Research Program (CIRP).

Astin (1993) hypothesized students enter college with a pre-established set of experiences and characteristics, which were labeled as inputs, that influence students' views about college. In his earlier work, Astin (1991) identified 146 possible pre-college input variables, such as (a) admissions test scores, (b) high school grades, (c) age, (d) ethnicity, (e) gender, (f) income, (g) parent's level of education,(h) reasons for attending college, etc. (Upcraft et al., 2005). Astin (1993) observed that the consideration of the

input variables when assessing student retention helped to understand characteristics of students' backgrounds and experiences which influence their ability to continue in college.

The second component of Astin's model considers the effects of the environment. Astin (1993) identified and described 192 variables that may impact student success. Astin further grouped these variables into eight categories including (a) institutional characteristics, (b) students' peer group interactions, (c) faculty characteristics, (d) curriculum, (e) financial aid, (f) major field of choice, (g) place of residence, and (h) student involvement. Additionally, some of these categories previously described include students' socio-economic status, academic preparation and attitudes, teaching pedagogy of faculty, hours spent studying, credit hours taken, and participation in extra-curricular activities.

The third component of the I-E-O model is outcomes. According to Astin (1993), "outcomes are the effects of college and refer to the student's characteristics after exposure to the environment" (p. 7). Astin further organized these outcomes into five categories, including (a) satisfaction with the collegiate environment, (b) academic cognition, (c) career development,(d) academic achievement, and (e) retention (Upcraft et al., 2005). Thus, Astin's (1993) I-E-O model provided a theoretical framework for evaluating and explaining variables that influence academic success and college retention for the first year of college.

*Student engagement*. The importance of student engagement to increased persistence cannot be overstated. Kuh, Cruce, Shoup, Kinzie, and Gonyea (2008) discussed probably the best known set of engagement factors, the "Seven Principles for

Good Practice in Higher Education" (Chickering & Gamson, 1987). These principles include (a) cooperation among students, student-faculty contact, (b) active learning, (c) prompt feedback, (d) time on task, (e) high expectations, and (g) respect for diverse talents and ways of learning. In other research, Kuh, Kinzie, Schuh, Whitt and Associates (2005), argued student engagement has two primary components that contribute to student success.

> The first is the amount of time and effort students put into their studies and other activities that lead to the experiences and outcomes that constitute student success. The second is the how the institution allocates resources and organizes learning opportunities and services to induce students to participate in and benefit from such activities. (p. 9)

As a result, many institutions have implemented various programs and initiatives related to the first-year experience, including first-year seminars and learning communities.

Student persistence, the primary focus of this study, continues to be a pressing concern for colleges and universities. The inability of students to persist beyond the first year of studies remains problematic at the national and local levels, with persistence rates remaining relatively flat for many years at approximately 72-79% for public institutions (Pascarella & Terenzini, 2005). The theoretical models provided by Tinto (1975, 1987, 1993), and Astin (1993) are still heavily utilized by educational researchers as frameworks with which to examine persistence problems. As university leaders begin to recognize the critical nature of the first year of studies for students, many institutions have implemented some type of first-year experience program (Upcraft et al., 2005).

Although administrative reporting lines vary greatly, components and initiatives often include first-year seminars, orientation programs, summer bridge programs, service-learning, and learning communities.

### *Primary Components/Initiatives of First-Year Experience Programs*

As stated previously, the majority of student attrition occurs during the first year of college (Tinto, 1993). Thus, the overarching purpose of the first-year experience is described by John Gardner (2009) as "the creation of programs to enhance the learning, success, retention, and graduation of students in transition" (Biography section, para. 9). An overview of the first-year experience literature, including components common to first-year programs are addressed next. This includes the historical background of first-year seminars, orientation, summer bridge programs, service-learning, living-learning communities, curricular learning communities, and active and collaborative learning (Bruffee, 1999; Pascarella & Terenzini, 2005; Upcraft et al., 2005). Furthermore, the rationale for including these particular topics is because they are often cited as best practices, or high-impact educational practices that contribute to increased student persistence (Kuh, Cruce, Shoup, Kinzie, & Gonyea, 2008; National Survey of Student Engagement, 2008, 2011; Tinto, 2009). Before delving into each of these specific initiatives, however, a broad overview of the historical foundation of first-year seminars is offered.

#### *First-Year Seminars: History and Development*

Of the various initiatives dedicated to improving the first-year experience for students, first-year seminars are the most frequently used curricular structure. According to the National Resource Center for the First-Year Experience and Students in Transition

(2009), 74% of 890 institutions surveyed include some type of first-year seminar (FYS). The creation of a credit-bearing seminar was preceded by the formation of a system of faculty advisors at Johns Hopkins University in 1877, and the existence of a board of freshmen advisors at Harvard University in 1889. The development of a seminar for new students first appeared in universities around 1910 and was a common staple for several decades (Gordon, 1989). These early courses had similar content to most FYS courses today. The content focused on the acclimation of students to living in a university environment; taught time management and study skills; introduced students to campus resources; and taught students about institutional history, traditions, and campus policies. In these early days, 90% of students were required to take an orientation class. By the mid-1960s, however, faculty began to question the academic value of some of these courses, and they essentially disappeared from college campuses (Gordon, 1989).

First-year seminars first began to reappear in 1972, when John N. Gardner introduced "University 101" at the University of South Carolina. Interestingly, a body of research of the impact of first-year seminars did not appear in the literature until the 1980s (Pascarella & Terenzini, 2005). Since that time, however, the body of research has grown exponentially during the past twenty years. Research studies have primarily focused on first to second year persistence outcomes. The overwhelming majority of these studies produce consistent evidence of positive and statistically significant advantages to students who take a first-year seminar, as compared with students who do not (Pascarella & Terenzini, 2005). With the exception of a few studies (Simmons, Wallins, & George, 1995; Wilkie & Kuckuck, 1989), research over the past 15 years consistently demonstrates improvements in first to second year persistence and credit

hours earned (Barefoot, 1993; Barefoot, Warnock, Dickinson, Richardson, & Roberts, 1998; Fidler & Moore, 1996; Jamelske, 2009; Porter & Swing, 2006; Starke, Harth, & Sirianni, 2001; Tokuno, 1993). In a more recent study, Zeidenberg, Jenkins, and Calcagno (2007) found that students who enrolled in a first-year seminar were eight percent more likely to complete a credential, three percent more likely to transfer, and eight percent more likely to remain enrolled after five years. They further noted the effects held for both remedial and non-remedial students.

A typology to classify first-year seminars was first developed by Barefoot (1992), which has been adopted by The National Resource Center for the First-Year Experience and Students in Transition. The six types or categories include: (a) extended orientation seminars, (b) academic seminars with generally uniform content across sections, (c) academic seminars with variable topics, (d) pre-professional or discipline-linked seminars, (e) basic study skills seminars, and (f) hybrid models. These six basic models are still used in current research.

Recent literature examining trends in first-year seminars supports the notion that academic seminars are becoming increasingly common, with the percentage of extended orientation seminars decreasing. For example, in the early 1990s, nearly 75% of seminars emphasized extended orientation or college survival skills (Upcraft et al., 2005). In a 2009 National Survey of First-Year Seminars, however, only 41.1% are still of the extended orientation type. Academic seminars with uniform content comprised 16.1%, followed by academic seminars on various topics (15.4%), hybrid (15.3%), basic study skill seminars (4.9%), pre-professional or discipline-linked (3.7%), and other, 3.5% (National Resource Center for the First-Year Experience & Students in Transition, 2009).

As a way to increase the positive impact of the first-year seminar, many institutions are incorporating a curricular learning community component, with the first-year seminar serving as the anchor course.

*Orientation Programs.* Orientation can be defined as "a collaborative institutional effort to enhance student success by assisting students and their families in the transition to the new college environment" (Mullendore & Banahan, 2005, p. 391). These programs typically provide guidance and information regarding academic and co-curricular programs, campus facilities and services, registration procedures, and other administrative processes. Orientation programs are usually offered in the summer or just prior to the beginning of the academic year.

Perigo and Upcraft (1989) described four overarching goals for orientation programs: (a) helping students succeed academically, which includes students understanding academic and course program requirements; (b) assisting students in their adjustment to and involvement with the college; (c) assisting parents and family members in understanding the services, demands, and complexities of the collegiate environment; and (d) providing the institution an opportunity to learn more about incoming students, through both formal and informal mechanisms. Although orientation programs have changed since 1989, the overarching goals remain relevant today.

Thus, one indication that an orientation program is successful is if students will have more than just a class schedule for the beginning of the academic year. If successful, the orientation process can lead to earlier and more enduring involvement in the academic and social systems of an institution. Furthermore, it is also reasonable to expect that "student involvement will be the greatest if new students can be immediately linked

with people who are already invested in the institution, whether faculty members or other students" (Pascarella & Terenzini, 1991, p. 650).

*Summer Bridge Programs.* Pascarella and Terenzini (2005) described summer bridge programs as "an early form of intervention intended to promote acclimatization and academic success and persistence among at-risk students" (p. 404). These programs are distinctly different from the traditional one-or two-day summer orientation most students receive. Summer bridge programs vary greatly in structure and programmatic content, but the target population typically includes at-risk or conditionally admitted students for fall. These programs bring students to campus during the summer, and provide intensive academic and residential experiences in an attempt to help less academically prepared students be successful. Bridge programs often include courses and workshops designed to help students develop or improve study skills, time management skills, utilize campus resources, and connect students with additional academic support staff, such as tutoring or writing center services.

There are fewer studies examining summer bridge programs, as compared to studies exploring the more intense developmental studies programs offered during the academic year. However, from the limited number of studies available, the majority of the findings suggest that summer bridge program participants are significantly more likely than non-participants to persist into the second year (Chaney, Muraskin, Cahalan, & Goodwin, 1998; Kleeman, 1991; McCurrie, 2009; Person & Lenoir, 1997; Robert & Thompson, 1994; Walpole, Simmerman, Mack, Mills, Scales, & Albano, 2008).

*Service-Learning.* Service-learning is increasingly becoming a component of the first-year experience, in part, because of the potential positive impact on student retention

(Colby, Ehrlich, Beaumont, & Stephens, 2003). Despite this increased popularity, however, there remains a lack of consensus in the literature regarding the definition of service-learning. For instance, Eyler, Giles, and Braxton (1997) observed that a lot of energy has been devoted to defining service-learning; yet at least 147 definitions existed in the literature, with more being added every year. In an influential article, Bringle and Hatcher (1996) defined service learning as:

> A credit-bearing educational experience in which students participate in an organized service activity that meets identified community needs and reflect on the service activity in such a way as to gain further understanding of course content, a broader appreciation of the discipline, and an enhanced sense of civic responsibility. Unlike extracurricular voluntary service, service learning is a course-based service experience that produces the best outcomes when meaningful service activities are related to course material through reflection activities such as directed writings, small group discussions, and class presentations. Unlike practica and internships, the experiential activity in a service-learning course is not necessarily skill-based within the context of professional education. (p. 222)

Although less detailed, Vogelgesang, Ikeda, Gilmarten, and Keup (2002) defined service-learning simply as "participating in a community service work in connection with an academic course. Thus, it is a form of experiential education, related to other experience-based approaches such as internships, active learning, participatory action research, and problem-based learning" (p. 15).

Numerous studies support the notion that service-learning has a positive impact on first-year learning outcomes, as well as retention rates. The Higher Education Research Institute (HERI) completed a mixed-methods study in 2000, comparing the effects of service-learning and community service on the cognitive and affective development of undergraduates. Essentially, the authors of this study found that undergraduate participation indicates positive effects for 11 outcome measures. These outcome measures included (a) academic performance (GPA, writing, and critical thinking skills), (b) values (commitment to activism), (c) self-efficacy,(d) leadership skills,(e) choice of a service career, and (f) plans to participate in service after college (Astin, Vogelgesang, Ikeda, & Yee, 2000). These findings are quite similar to other studies using different samples and methodologies to assess similar outcomes (Batchelder & Root, 1994; Eyler & Giles, 1999; Eyler, Giles, & Braxton, 1997; Leimer, Yue, & Rogulkin, 2009; Osborne, Hammerich, & Hensley, 1998; Strage, 2000).

Furthermore, Kuh et al. (2008) noted most studies show that service-learning has a positive impact on academic and civic outcomes, such as (a) sense of social responsibility, (b) development of a social justice orientation, (c) commitment to a service-oriented career, (d) gains in moral reasoning, and (e) greater tolerance of differences. Kuh further observed that program design is essential to ensuring positive outcomes for all students, including connections to increased persistence, and academic and social integration, or engagement.

In contrast, only a few studies report findings of negative outcomes associated with service-learning. For example, Kozeracki (2000) hypothesized some of the positive outcomes of service-learning may be due to a halo effect, or honeymoon period, during

which this approach to instruction has not yet been held up to critical scrutiny. In another study, Jones (2002) suggested that service-learning may actually reinforce negative stereotypes and assumptions students bring with them to college.

Finally, the positive effects of service-learning appear to extend beyond retention to include increased student learning outcomes. Chamberlain (2009) noted the National Survey of Student Engagement (NSSE) has shown service-learning to be positively correlated with deep learning and personal development. Considering the apparent positive outcomes of participation in service-learning, it is surprising that service-learning has not been combined with another seemingly powerful institutional intervention for first-year students, the inclusion of a learning community.

In summary, the greatest majority of student attrition occurs during students' first year of college (Tinto, 1993). As a result, most four-year institutions in the United States have implemented some type of first-year experience for new students. Such programs vary by institution, but the most common components include first-year seminars, orientation programs, service-learning, and learning communities. Of the various first-year experience curricular initiatives previously described, two related programs, living-learning communities (LLCs), and curricular learning communities (CLCs) are among promising institutional interventions which may positively impact students' success and retention rates. A brief overview of LLCs and CLCs is provided in the following sections. Specifically, the history and uses of CLCs are addressed, followed by a description of the most common CLC models. These include (a) paired or clustered courses; (b) large course cohorts, or first-year interest groups (FIGS); (c) team-taught programs; and (d) residence based programs. In addition, the impact of CLCs on students, including

influences on student retention, academic success, academic and social integration (or involvement), as well as student engagement are included in the following sections.

### *Historical Development and Uses of Learning Communities*

The pedagogical, philosophical, and structural roots of learning communities can be traced back to the beginning of the twentieth century, primarily through the work of three educators, John Dewey, Alexander Meiklejohn, and Joseph Tussman. In the 1920s, early debates about democracy, and the aims of general and liberal education were prevalent. In fact, many of these same value conflicts which influence educational reform efforts today can actually be traced to the early efforts of Dewey, Meiklejohn, and Tussman, as they promoted collective knowledge as opposed to unrelated or unconnected knowledge (Smith et al., 2004).

#### *John Dewey*

John Dewey's work, in particular, is considered quite influential on contemporary work in learning communities primarily because of his writings about the teaching and learning process. In particular, Dewey (1938) promoted moving to a more student-centered approach while utilizing an active-learning pedagogy. In fact, Dewey's work established the beginnings of experiential and cooperative learning, both core concepts integrated in learning community and service-learning initiatives seen today.

Dewey's approach was unique at the time in that he stressed students are individuals who bring diverse aspirations and prior experiences to any educational setting which must be considered. Dewey further distinguished between traditional and progressive education by arguing traditional education was "formation from without, while progressive education was development from within" (Dewey, 1938, p. 17). While

acknowledging that schools were not the only place where learning occurs, Dewey argued that schools were of primary importance for building a common culture.

Furthermore, Dewey hypothesized the prevailing theories of education were greatly misguided. At the time, many traditional teachers viewed the student's mind as "a cistern into which information is conducted, or a piece of blotting paper that absorbs and retains automatically" (Dewey, 1933, p. 261). As a result of this research, Dewey became convinced educational practices at the time were essentially ineffective, since the assumptions of how student learning occurred were inaccurate. Dewey saw the mechanism of education as more of an open-ended process of inquiry, rather than as a teacher-centered transmitter of knowledge. This open-ended inquiry approach would necessitate a close, collaborative relationship between teachers and students, and would change the role of teacher to that of a leader of group activities (Dewey, 1933). Thus, collaborative and cooperative approaches to learning were one method of putting his theory into practice; a practice still utilized in learning communities today.

*Experimental College*

Similar to Dewey, Alexander Meiklejohn is considered a central figure in learning community history. Meiklejohn was also troubled by the fragmentation and specialization of undergraduate education in America's colleges and universities. He predicted, at the time, that this would lead to the neglect of general education, and neglect of the larger questions about the social purpose and responsibility of higher education. Meiklejohn further believed the first two years of college education should be devoted to preparing students to be responsible citizens in a democratic society. This belief directly led to

Meiklejohn's development of the Experimental College at the University of Wisconsin (Smith et al., 2004).

Meiklejohn original's 1932 book, *The Experimental College*, described the details of designing and opening the college in 1927 (Meiklejohn, 2001). The college only operated for five years, and enrolled between 74 and 119 first-year students each year in a two-year, integrated, lower-division program. Meiklejohn's Experimental College was truly designed to be a democratic project, unlike many other reform movements at the time which focused on honors students. Meiklejohn intentionally recruited a student body which represented a true cross-section of society, as he thought this would effectively test whether all types of students could be liberally educated.

Meiklejohn (2001) built the Experimental College on the principles of connected and integrated learning, and referred to faculty members as advisors, who shared in the teaching of all subject matter. This subject matter in the first year focused on democracy in fifth-century Athens, and in the second year, 19-20th century America. The curriculum also utilized classic books such as Plato's *Republic* and *The Education of Henry Adams*. Additionally, the curriculum involved challenging assignments that asked students to develop a personal point of view by extending their analysis to present-day problems. Another unique requirement involved a research project between the first and second years of study that involved students' researching their hometowns to study how they functioned as local democracies. This type of applied, experiential learning was uncommon at the time. Meiklejohn's work also contained the first reference to the term, learning communities, and described how the sense of community would be encouraged. The Experimental College was designed as a living-learning community, in which the

social experience would foster relationships between faculty and students. In addition, various forms of active learning were utilized, including discussion based seminars and tutorials.

In terms of practical matters, the Experimental College used a rigorous, although unorthodox, grading system, which involved the formal assigning of grades at the end of the second year of studies. After the first year, parents received a letter from Meiklejohn providing a general assessment of progress. This lack of a traditional grading system, however, generated a great deal of skepticism from critics of the model. Furthermore, Meiklejohn challenged the popular elective system of courses that were prominent at universities at the time, claiming they amplified the fragmentation resulting from a course-based curriculum. In addition, Meiklejohn advocated an educational system that taught situations, not subjects. Meiklejohn focused the educational experience on teaching students not what to think, but how to think. This would be achieved through a common required curriculum which combined dramatically different teaching pedagogies, combined with fostering a learning environment which encouraged students' capacities for freedom and responsible self-direction (Meiklejohn, 2001). Although the Experimental College lasted only a few years, its influence on learning communities is obvious (Shapiro & Levine, 1999; Smith et al., 2004).

*Berkeley Experiment*

A third major influence in the fledgling learning communities movement was Joseph Tussman, a former student of Meiklejohn's who studied philosophy at the University of Wisconsin after the Experimental College had closed. Tussman became intrigued with his mentor's vision, and in 1965, convinced the administration at Berkeley

to establish a program modeled after the Experimental College. Tussman, like Meiklejohn before him, saw the lower division coursework as invaded, neglected, exploited, and misused, and described the university as a highly trained collection of specialists, with departmental interests defining and controlling the upper division educational experience (Gabelnick, MacGregor, Matthews, & Smith, 1990). Tussman, in contrast to Meiklejohn, described the Berkeley Experiment as a program, not a curriculum with a prescribed set of courses. He saw creating the curriculum as a collaborative process between teams of faculty representing different disciplines. Furthermore, the curriculum was based on what Tussman viewed as the most fundamental goal of general education: education for democracy.

Ultimately, much like Meiklejohn's Experimental College, Tussman's Berkeley Experiment only lasted a few short years, from 1965-1969 (Shapiro & Levine, 1999). Tussman's work, however, influenced reform on other campuses, including The Evergreen State College, in Olympia, Washington in the 1970s, which is still recognized today as one of the great reforms in curricular innovation with the interdisciplinary studies programs (Shapiro & Levine, 1999). Despite the short-lived success of the Berkeley Program, Tussman remained convinced 30 years later that the lower division curriculum should be an education for citizenship. While acknowledging his position is still widely rejected by many scholars and humanists, he continued to raise pointed questions of educational purpose (Tussman, 1997).

Despite the relatively short-lived programs and efforts of Dewey, Meiklejohn, and Tussman, they have strongly influenced the learning communities of today. Furthermore, these early educational theories have influenced contemporary researcher's ideas about

student learning. For example, Bruffee's (1999) work on collaborative learning remains integral in conceptualizing and designing effective learning communities today.

*Uses of Learning Communities*

From the earliest iterations of learning communities through the present, these programs differ significantly from traditional education pedagogy. For example, regarding the amount of time students and faculty spend learning with and from each other. No matter the particular type of learning community, in general, these classrooms are more student-centered, with students and faculty sharing responsibility for teaching and learning (Gabelnick et al., 1990; Shapiro & Levine, 1999).

The particular uses of learning communities vary by campus, and the flexibility of use is likely one of the appealing aspects by campus administrators. On many campuses, learning communities are built into existing general education programs or are often used as a foundation for general education reform. Learning communities can improve the general education experience by organizing to bring faculty and students together in ways that promote greater integration of the course material being studied, in addition to providing opportunities for faculty and students to interact more frequently (Shapiro & Levine, 1999). On other campuses, learning communities are often placed at the center of first-year experience initiatives. These programs often link academic, discipline-based courses to first-year seminar courses, which provide an ideal arrangement to assist students' transition to the college or university environment (Gabelnick et al., 1990, 2004; Shapiro & Levine, 1999).

A third common use for learning communities involves integrating developmental studies programs that typically provide at-risk students with a built-in support network of

other students, faculty members, and academic advisors or counselors. Learning communities configured for this purpose often pair a developmental or skills course (e.g., college preparatory math or English), with other courses designed to develop and improve the basic skills necessary for students' success in college (Gabelnick et al., 1990; Shapiro & Levine, 1999; Smith et al., 2004). Thus, this arrangement can emphasize academic progress in addition to skill building by linking these developmental courses with credit-bearing courses in an academic discipline.

*Learning Community Models*

Although there are many variations and applications for learning communities, there are four basic models referenced in the literature: (a) paired or clustered courses, (b) cohorts in large courses or freshman interest groups (FIGS), (c) team-taught or coordinated studies programs, and (d) residence-based learning communities. The variety and flexibility of learning communities are one of the benefits for utilizing them in the first-year experience. Each of the four basic models are discussed in turn.

*Paired or clustered courses.* In the paired or clustered course learning community design, two courses are linked together via a registration schedule mechanism, and often include block scheduling (courses scheduled in back-to-back timeslots). This paired course model is considered to be the most basic approach to learning communities in terms of curricular integration (Laufgraben, Shapiro, & Associates, 2004; Shapiro & Levine, 1999). In this model, cohorts of 20 to 30 students are co-enrolled in two courses, which are often courses enrolling large numbers of first-year students. Typically, one of the two courses is either an English composition or communication class (Laufgraben, Shapiro, & Associates, 2004). These types of academic courses are often small, tend to

be interdisciplinary in nature, and promote an environment conducive to students and faculty becoming well acquainted (Laufgraben, Shapiro, & Associates, 2004; MacGregor et al., 2002; Shapiro & Levine, 1999). Closely related to the paired-course model is cluster scheduling, which links three or four courses around a theme, typically a writing course and weekly seminar. The often interdisciplinary seminar is a critical component of this design, as it serves a primary role of helping faculty and students build curricular connections between the other courses. Finally, another variation of this model includes students who enroll as a subset in larger lecture format courses, but students also include a small first-year seminar or writing course (Laufgraben, Shapiro, & Associates, 2004).

*Freshman interest groups.* The freshman interest group (FIG) is the simplest learning community model, in terms of organization and cost (Gabelnick et al., 1990). For this reason, FIGS are often used at large research universities where first-year students are typically enrolled in at least one or more large lecture classes. With this approach, the learning community students are enrolled as a subset of the larger class (Shapiro & Levine, 1999). Typically, these students also enroll together in a weekly first-year seminar, or smaller writing course which includes only the FIG students. It is not uncommon for an undergraduate peer mentor to lead or be closely involved with the weekly seminar (Laufgraben, 2004; MacGregor et al., 2002; Shapiro & Levine, 1999). It should be noted, however, that faculty involvement in the FIG model is rather minimal, as participating faculty are not expected to coordinate or integrate curricular content (Gablenick et al., 1990).

*Team-taught or coordinated studies programs.* Team taught programs, also known as coordinated studies programs, enroll varying numbers of students in at least

two courses organized around an interdisciplinary theme. This model is the most integrated form of learning community, in terms of curricular integration and faculty involvement (Laufgraben, Shapiro, & Associates, 2004; Shapiro & Levine, 1999). The themes for this model are created by faculty and are usually interdisciplinary. These themes are often broad and liberal arts based, but may also emphasize skill development or be pre-professional in nature. A small group discussion format is an important component of the team-taught model, in which faculty and students typically break into small groups to discuss what is being learned in the other classes. Enrollment varies by institution, but typically is in the 40-75 student range. With this being the most labor intensive approach, considering the high level of faculty involvement and planning, as well as current fiscal realities faced by institutions of higher education, it is not uncommon for enrollment in these programs to be 75 students and have three teachers; this provides a faculty to student ratio of about 25 to one (Laufgraben, Shapiro & Associates, 2004; MacGregor et al., 2002; Shapiro & Levine, 1999).

*Residence-based learning communities.* The residence-based approach involves the adaptation one of the curricular-only models to include a residential component. Residence-based education typically tries to achieve integration between students' academic and living environments (Laufgraben, Shapiro, & Associates, 2004). In general, residence- based educational programming makes the assumption that not all learning occurs in the classroom, an idea widely proposed by educational researchers. Laufgraben et al. (2004) argued that a significant amount of students' learning occurs from their experiences of daily living, and therefore, there is a natural overlap between the academic and social learning activities. Furthermore, these residence-based learning communities

intentionally organize student cohorts to enroll in specific curricular programs, in addition to students residing in a dedicated housing environment (Laufgraben, Shapiro, & Associates, 2004). Thus, residence-based programs are often considered the most radical of the curricular learning communities designs, since they involve campus collaborations across multiple divisions and levels; e.g., residence life, student affairs, academic affairs, etc. Often, the curricular component of the residence-based programs includes one of the three previously described learning communities, paired or clustered courses, FIGS, and team-taught or coordinated studies programs (Shapiro & Levine, 1999). In its most intentionally designed format, academic and co-curricular activities are scheduled in residence halls which include classroom space (Laufgraben, Shapiro, & Associates, 2004; MacGregor et al., 2002; Shapiro & Levine, 1999).

*Living-learning communities.* Similar to residence-based learning communities, living-learning programs embody two important ideals in higher education: learning and community. Living-learning communities are also known as residential learning communities or residential colleges. These programs are characterized by a strong sense of community, deep learning, and the careful, intentional integration of the academic and social dimensions of university life. Additionally, the concept includes a democratic education with an emphasis on experimentation and innovation (Boyer, 1987; Goodman, 1964; Guarasci & Cornwell, 1997; Meiklejohn, 2001). In essence, living-learning communities may by defined broadly as "programs organized to introduce and integrate academic and social learning in residence hall settings through faculty involvement, with the goal of an enriching learning experience for all participants" (Schoem, 2004, p.130).

*Living-learning communities and academic and social integration.* The concept of considering students' development and needs holistically, rather than just focusing on students' intellectual and academic development in the classroom, is considered by many scholars to be a powerful approach (Dustin & Murchinson, 1993; Kuh, 1996; Schroeder, Minor, & Tarkow, 1999; Sriram & Shushock, 2010). In one of the earliest writings on the topic, Alexander Meiklejohn (2001) observed that one of the most urgent needs of colleges and universities in the United States was to intentionally address combining the intellectual and social activities of students. Meiklejohn further argued that if all students were engaged in the same attempt at learning, then every aspect of the social living moves students toward a common purpose.

Most authors on the topic agree that the concept of the living-learning community is embedded in the ideals of a democratic education (Eaton, MacGregor, & Schoem, 2003; Guarasci & Cornwell, 1997; Mallory & Thomas, 2003; Schoem, 2002; Schoem & Hurtado, 2001). Combined with student leadership and a high tolerance for social experimental and intellectual risk-taking, living-learning communities are places that encourage students' development as young scholars. They assume faculty will learn from students the same way students learn from faculty, and recognize that involvement in community and experiential activities all improve the learning process (Laufgraben, Shaprio, & Associates, 2004).

The historical development of learning communities serves as an important foundation to understand the uses and modern applications of CLCs in an attempt to improve the academic and social integration, and thus positively impact persistence rates of first-year students. John Dewey's early research began the pedagogical shift toward

experiential and cooperative learning, essential concepts indicative of learning communities today. Alexander Meiklejohn's Experimental College built on Dewey's ideas of cooperative, experiential, and integrated learning. Although the Experimental College lasted only a few years, the effort strongly influenced ideas of effective learning, including the modern learning community. Similarly, Joseph Tussman's Berkeley Experiment was also short lived, although it greatly influenced the early work and uses of modern curricular and residential learning communities. It was the flexible nature of learning community design and format, including the various models previously discussed, that allowed for CLCs to become part of the mainstream of first-year experience initiatives.

### *Impact of Curricular Learning Communities on Students*

Although there are years of research on curricular learning communities, the literature on the impact of CLCs on student persistence and degree completion is lacking. Most of the available studies that examined the impact have found statistically significant and positive effects on student persistence into at least the second semester and second year (Stassen, 2003; Tinto, 1997, 2003; Tinto & Russo, 1994). In a comprehensive meta-analysis of more than 300 studies, Johnson, Johnson, and Smith (1998) found strong support for the notion that a cooperative learning environment promotes both academic and social engagement and success. Furthermore, they found CLCs fostered greater student involvement in classroom learning and social activities, greater integration of students' academic and non-academic lives, and greater perceptions of academic achievement. Additionally, the researchers found some evidence suggesting that CLCs fostered a sense of educational citizenship, or the sense of responsibility for others'

learning in addition to one's own learning (Tinto, 1997; Tinto & Goodsell, 1993; Tinto, Goodsell, & Russo, 1993; Tinto & Russo, 1994). In combination with participation in first-year seminar courses, studies of cooperative learning and learning communities emphasize classroom experiences as a factor in students' decision making regarding persistence.

Another comprehensive review of empirical evidence was presented in The National Learning Communities Project monograph, *Learning Community Research and Assessment: What We Know Now,* (Taylor, Moore, MacGregor, & Lindblad, 2003). In this monograph, the authors reviewed 32 research studies (primarily dissertations), and 119 single institution assessment reports which were mostly unpublished. Of these, 17 reports were described in greater detail. One of these was a qualitative study by Tinto and Russo (1995), who interviewed 70 students enrolled in a team-taught, interdisciplinary studies program at an urban central community college. They identified three areas of the student experience learning communities needed to address. These included (a) students' struggles to attend college, (b) the need to actively participate in the classroom, and (c) familiarizing students with a paradigm for learning that valued knowledge construction. Furthermore, they summarized their findings by reporting that learning communities "played a significant role in helping students make connections across disciplines, with peers, and between the knowledge and values they brought to college and their classroom experiences" (Tinto & Russo, 1995, p. 23).

Zhao and Kuh (2004) also found evidence of the positive benefits of students' participation in learning communities. The National Survey of Student Engagement (NSSE) data consisted of 80,479 randomly sampled first-year and senior students.

Participation in learning communities was found to be "linked with student academic performance, engagement… included gains associated with college attendance and overall satisfaction with the college experience" (Zhao & Kuh, 2004, p. 19). Furthermore, they found that participation in the learning community experience was associated with higher levels of academic integration, active and collaborative learning, and higher levels of academic effort. Finally, they found evidence supporting the notion that learning communities appear to be positively correlated to increases in students' personal and social development, as well as students' practical competence (Zhao & Kuh, 2004).

Additionally, more recent NSSE data suggests that students who participated in learning communities which integrated materials across several courses reporter higher scores on the five NSSE Benchmarks of Effective Educational Practices (National Survey of Student Engagement, 2007, 2011). These NSSE benchmarks include (a) perceived level of academic challenge, (b) active and collaborative learning, (c) faculty-student interaction, (d) enriching educational experiences, and (e) a supportive campus environment. Furthermore, in terms of pedagogy, students in learning communities reported using more deep learning approaches (such as participation in study and discussion groups), in addition to reporting a more satisfying social life, and in some cases, making substantive gains in self-understanding (National Survey of Student Engagement, 2011).

Andrade (2007) noted research examining the effectiveness of first-year programs and learning communities is generally rather limited, but found a few reviews of institutional assessment data and studies measuring program success. One of these reports

suggests that students' participation in learning communities results in increased student persistence and academic achievement, and that both faculty and students were satisfied with their learning community experiences (Taylor, Moore, MacGregor, & Lindblad, 2003). Overall, Andrade's (2007) analysis suggested that learning communities are generally effective in improving persistence for both academically under-prepared as well as academically prepared students. Andrade further noted that neither the number of linked courses, nor the type of course (e.g., general education or major specific) appeared to have a substantial impact on persistence rates. However, some findings suggest that inclusion of a first-year seminar component, which addresses building academic skills, is characteristic of programs which recognized gains in persistence, in addition to intentional efforts to integrate course curriculum. The other important characteristic found in successful programs was the inclusion of some type of supplemental peer or faculty tutoring. The analysis acknowledged, however, that it was not clear whether the structural components described previously explains the persistence gains, or whether the improved persistence is the result of the academic and social engagement in the learning community (Andrade, 2007).

In addition, the design of learning communities tends to foster academic and social interaction among first-year students and faculty, as well as increasing a sense of belonging at the institution (Barefoot, 2004). These peer relationships established by students in the learning communities had a substantial impact on students' perceptions of learning and the overall college experience. Tinto (2003, 2006, 2009) found evidence suggesting learning community students have a much greater tendency to form study and other self-supporting groups than peers in non-learning community classrooms.

Furthermore, learning community students were far more likely to be actively involved and engaged with classmates both inside and outside the classroom, which contributes to students' perceptions of increased student learning (Tinto, 2003, 2006). When students study and learn together in such an interdependent fashion, increased levels of "academic and social engagement, greater rates of course completion, and higher rates of persistence are realized" (Engstrom & Tinto, 2007, p. 3).

### *Summary*

Continued high rates of students' attrition, particularly during the first year, remains a concern for institutional leaders across the United States. This concern has received increasing attention in the research literature in recent years, partly because of the fiscal realities of decreased state and federal support for higher education (National Center for Education Statistics, 2011). As educational leaders become more cognizant of the importance of retaining students, there appears to be a greater willingness to develop and support programs designed to positively impact first-year student persistence.

In addition, as part of the larger conversation about student persistence, there has been a renewed interest in examining theoretical models on the topic. The most common theories discussed in the literature includes Tinto's (1975, 1993) Theory of Student Departure, and Astin's (1993) Input-Environment-Output (I-E-O) model. Both theories emphasize the importance of academic and social integration as being highly correlated with students' persistence to the second year. In an effort to address these issues of integration and engagement, many institutions have developed some type of first-year experience programs for new students.

First-year experience programs vary by institution, but typically include first-year seminars, orientation programs, summer bridge programs, service-learning, and learning communities of all types (curricular and living-learning formats). Learning communities, in particular, appear to have a positive impact on student persistence (Stassen, 2003; Tinto, 1997, 2003, 2009). Furthermore, learning communities appear to foster greater engagement, integration, and involvement in both classroom learning and social settings. Additionally, research suggests learning community participation is positively correlated with increases in students' personal and social development, as well as practical competencies which often lead to greater academic performance and achievement (Zhao & Kuh, 2004).

The preceding literature review provided a foundation for the purpose of this study: to explore the impact of participation in a curricular learning community (CLC) on the academic success, academic and social integration, institutional and goal commitment, and persistence (i.e., retention rates), of first-year students at Missouri State University (MSU), a Midwest, public, four-year university. Chapter Three provides a comprehensive description of the quantitative research design and methodology used to address the purpose of the research study. In Chapter Four, the results of the study are presented. Chapter Five includes a discussion of the results, limitations of the study, and recommendations for further research. Finally, supplementary materials including the informed consent letter, survey instrument, and permission to use the instrument are included in the Appendix.

*CHAPTER THREE*

# RESEARCH DESIGN AND METHODOLOGY

## *Introduction*

A sizeable body of evidence supports the notion that institutions of higher education are often lacking information about factors related to retention on campuses (Astin, 1984; Pascarella & Terenzini, 2005; Tinto, 1993). To some extent, each campus culture is unique, and more institution-specific research is needed to determine factors most influential in increasing persistence rates at universities. This includes initiatives intended to impact the critical first-year experience for students. This area of focus is particularly important since students in the first year are at greatest risk of dropping out (Tinto, 1975, 1993).

## *Purpose of the Study*

The purpose of this study, using the first-year student as the unit of analysis, was to explore the impact of participation in a curricular learning community (CLC) on the academic success, academic and social integration, institutional commitment, and persistence of first-year students at Missouri State University (MSU), a Midwest, public, four-year university. Furthermore, the researcher explored pre-existing differences in students who elected to enroll in a CLC, as compared to those who do not.

Since this study focused on the impact of curricular learning communities (CLCs) as an appropriate institutional intervention designed to address low persistence rates of first-year students, several research questions were formulated around this concept. These questions stem from a desire to identify whether participation in a CLC benefits students on several factors which researchers have identified as leading to increased persistence.

Some of these factors include (a) academic and social integration, (b) institutional commitment, and (c) academic achievement (Pascarella & Terenzini, 2005; Tinto, 1993).

Chapter Three first outlines the research questions addressed in this study, followed by a description of the design for the study. Next, a description of the population and sampling techniques used, followed by a detailed description of both the data collection and implementation methods utilized in the study are offered. The chapter concludes with an explanation of the data analysis used in the study to address each research question, and includes information regarding the independent and dependent variables utilized.

*Research Questions*

The following four research questions served as a guide for the researcher to frame and develop this study:

1. Are there pre-existing differences in academic ability (as measured by ACT and high school GPA) in students who participate in the curricular learning community (CLC) as compared to those who do not?
2. Are there differences in the academic success (as defined by first-semester GPA and credit hours completed in the first semester) in students who participate in the curricular learning community (CLC) as compared to those who do not?
3. Do curricular learning community participants demonstrate a higher level of integration, as measured by the *Institutional Integration Scale* (IIS), than non-participants? Included within the construct of integration for this study is (a) peer group interaction, (b) interactions with faculty, (c) faculty concerns with

student development and teaching, (d) academic and intellectual development, and (e) institutional and goal commitment

4. Are there differences in first to second semester persistence rates for CLC and non-CLC participants?

### *Design for the Study*

The researcher approached this investigation by focusing specifically on the impact of curricular learning communities on the academic and social integration, institutional and goal commitment, persistence, and academic success of first-year students at Missouri State University, a Midwest, public four-year university. A quantitative research design was utilized in this study. This design supported a postpositive, objective implementation of the study (Creswell, 2009). In addition, the use of the *Institutional Integration Scale* (IIS), a survey instrument developed by Pascarella and Terenzini (1980) and used in similar studies (Caison, 2007; Mannan, 2001, 2007; Robinson, 2003; Yale, 1999), allowed the researcher to obtain a sizeable amount of data from the participants which was statistically analyzed (Field, 2005), and improved the generalizability of the study (Creswell, 2009; Mertens, 2005). By collecting this numerical data, the researcher was able to maintain a non-partisan status, thus minimizing the potential of researcher bias (Creswell, 2009; Mertens, 2005).

The quantitative design selected was a static-group comparison design, since this method is closest to a true experimental design (McNabb, 2008). This design involves two samples: a test group and control group. No pre-testing is applied, but the two groups are subjected to different treatments. Additionally, subjects are not randomly assigned to groups. Instead, different treatments are applied in each group, e.g., in each classroom.

This design is often used in educational research, since it minimizes students' classroom disruptions (McNabb, 2008; Mertens, 2005). With a static-group comparison design, it is important to determine if the control and treatment groups are substantially different. Otherwise, only limited conclusions may be drawn regarding any differences in outcomes, since such differences may be attributable to group differences rather than participation in the treatment (Creswell, 2007).

As with any research design, there are always threats or weaknesses. With a static-group comparison design, Mertens (2005) observed, "…the two threats are (a) differential selection, because the groups might differ initially on an important characteristic, and (b) experimental mortality if participants drop out of the study" (p. 137). However, the researcher minimized the first threat by using institutional data and included the consideration of any differences in research question one. In regard to the second threat, persistence is one of the variables under study, so if participants drop out of the study those findings will be included in the results and addressed appropriately. Additionally, the persistence rates of all 467 sampled students (not just those who complete the IIS) will be included in the analysis, which will further support the validity of the study.

### *Population and Sample*

Before selecting a sample for data collection, it was important to establish the appropriate population. In addition, all sampling decisions must be made within the constraints of ethics and feasibility (Creswell, 2009; Mertens, 2005). The population of this study was comprised of all first time, first-year students at Missouri State University, a selective, public, four-year university, while the sample included a subset of the

population from the 2011 entering class of students. Missouri State University (MSU) is a state supported, selective, four-year, regionally accredited institution. The entire campus system enrollment in 2011 was 22,866 students, with the main campus enrolling 20,276 students. The campus enrollment includes approximately 2,600 first-year students. (Missouri State University, 2011). The institution is classified as having a high undergraduate enrollment profile, in addition to having a Carnegie Classification of large; i.e., more than 10,000 students (The Carnegie Foundation for the Advancement of Teaching, 2004). The fall 2011 enrollment included 1,956 minority students and 1,150 non-resident aliens. Additionally, 56% of undergraduate students identified as female, and 44% identified as male. Of the first-time students, the average ACT composite score was 24.1, and the average high school GPA was 3.59. The number of students ranked within the top two percent in their class was 4.8%. Finally, 83.5% of incoming students ranked in the top half of their class (Missouri State University, 2011).

To further clarify the classification of the university studied, the following explanation is offered. A selective institution is one that does not admit all students, but rather only those who meet the standards of the admission policy. Typically, this is based on criterion such as high school class rank, high school GPA, and standardized test score, e.g., ACT composite. Furthermore, a public institution indicates the university's funding is provided, at least in part, by state tax revenue. At MSU, state appropriations constitute approximately 28% of the $276,534,978 operating budget (Missouri State University, 2011).

Additionally, first-year student retention at MSU has varied from 73-76% over the past six years, although the institution studied has stated a retention goal of 80%

(Missouri State University, 2011). The campus also has a very high percentage of first-year students who live on campus. For the year under study, 83%, or 2,192 first-year students resided on campus. (McGownd, personal communication, July 10, 2011).

A single-stage, convenience sample (Creswell, 2009) was used, due to the researcher's access to the university's data and limited time frame of the study. Although some authors (Creswell, 2009; Mertens, 2005) caution against the use of convenience sampling, they also acknowledge it is among the most widely used sampling method in educational research. These cautions include recognizing the limitations of generalizing the findings beyond the sample with this method (Mertens, 2005).

The sample for the study included 471 entering first-year students from the fall 2011 semester, all of whom were enrolled in a required first-year seminar course. MSU offered 94 sections of this general education course in the semester under study, with class enrollment capped at approximately 25 students per section. Of these 94 course sections, 15 curricular learning communities (CLCs) were offered, and 10 of those were randomly selected for the study. The students sampled included approximately half of those enrolled in a first-year seminar as part of a curricular learning community (CLC), and the other half enrolled in 10 sections of a stand-alone first-year seminar which served as the control group. The control groups were randomly selected from the remaining first-year seminar classes which did not include some other specialized seminar component. For example, 18 sections included a service-learning component, so those were excluded from the population under study. Students were surveyed at the end of the fall 2011 semester, since the seminar and CLC combination was only available during fall semester.

To compile the sample of participants, the fall 2011 class lists were obtained at the institution studied. This included obtaining class enrollment lists from 10 CLCs and 10 non-CLC i.e., stand alone first-year seminar courses. Permission was obtained from the administrator of the unit responsible for overseeing the program, in addition to standard IRB approvals.

### *Data Collection and Instrumentation*

Strong data collection and instrumentation procedures are crucial for a well designed study (Creswell, 2009). The data collection procedures, detailed information on the instrument utilized, and human subjects' protection processes are discussed in the following sections.

#### *Data Collection Procedures*

To obtain data for this study, sampled students completed an electronic survey at the end of the fall 2011 semester which included the *Institutional Integration Scale* (IIS) survey. The survey also included additional demographic measures of interest to the researcher. Questions used to collect demographic information were placed at the end of the survey process. The invitation and registration link to complete the IIS was distributed via email to participants near the end of the fall 2011 semester. Archival institutional data on students, including pre-college characteristics, was obtained with the assistance of the offices of Institutional Research and Admissions. The IIS, additional demographic measures, and data collection procedures were reviewed by the University of Missouri's Institutional Review Board (IRB), as well as the IRB at the participating institution (MSU). Prior to the collection of data, permission was received from Ernest

Pascarella to utilize the *Institutional Integration Scale* (IIS). Correspondence between the researcher and Pascarella is included in Appendix A.

*Demographic Measures*

Demographic information was obtained as part of the survey process. This information included (a) the student's university identification number, (b) gender, (c) race/ethnicity, (d) age, (e) anticipated first-semester grade point average (GPA), (f) whether financial aid was received, (g) status as a first-generation college student and (h) the course section number and instructor name. The inclusion of demographic information was necessary to provide the researcher a mechanism for cross referencing participant responses with institutional data in order to accurately address all research questions. For example, parental educational background, another variable collected in this study, has been used widely in the research literature on student persistence. Horn and Carroll (1998) found evidence suggesting that students of parents (or primary caregivers) who had attended college were more likely to receive encouragement and support from families. Thus, family support greatly increases the likelihood of persistence (Caison, 2007). A complete description of demographic measures utilized in the study is included in Appendix C.

*Institutional Integration Scale (IIS)*

The *Institutional Integration Scale* (IIS) is a survey developed by Pascarella and Terenzini (1980) and is designed to measure the various dimensions of academic and social integration, conceptualized by Tinto's (1975, 1987, 1993) Theory of Student Departure. As discussed previously, academic and social integration has been shown in previous research studies to be positively correlated with academic achievement and

student persistence of first-year students (Braxton et al., 1997; Kuh et al., 2008; Pascarella & Terenzini, 2005; Tinto, 1975, 1987, 1993, 2009). The IIS includes 30 items with five subscales: (a) peer group interactions (7 items), (b) interactions with faculty (5 items), (c) faculty concerns for student development and teaching (5 items), (d) academic and intellectual development (7 items), and (e) institutional and goal commitment (6 items). Response selections for each question were based on a six point Likert scale of one to six, with one representing 'strongly disagree,' and six representing 'strongly agree.' It should be noted this researcher made two modifications to the IIS. First, the researcher modified the Likert scale to include six responses, to allow for a greater discrimination of responses (McNabb, 2008). The revised scale is as follows: (1 = Strongly Disagree, 2 = Disagree, 3 = Slightly Disagree, 4 = Slightly Agree, 5 = Agree, and 6 = Strongly Agree). Second, the original instrument contained several items which were negatively worded, e.g., "It is *not* important to me to graduate from this university." Although Pascarella and Terenzini constructed several of the items this way for reverse coding purposes, the researcher changed the negatively worded items to positive language, e.g., "It *is* important to me to graduate from this university." Changing the instrument to reflect positive wording is not uncommon, and it helps to avoid direction of comparison problems, which may negatively impact results (Wanke, Schwarz, & Noelle-Neumann, 1995). Each of the aforementioned subscales are discussed in more detail in the following sections and include several sample items. The instrument in its entirety is available in Appendix C.

*Peer group interactions.* This subscale was designed by Pascarella and Terenzini (1980) to measure the extent to which a student has enhanced his or her interaction with

peers, interpersonal skills, and co-curricular or extra-curricular involvement at the institution. There are seven items in this subscale. An example of one of these items is, "Since coming to this university I have developed close personal relationships with other students here," and, "My interpersonal relationships with other students at this university have had a positive influence on my personal growth, attitudes, and values." Pascarella and Terenzini (1980) applied Cronbach's Alpha, and reported a reliability coefficient of .84 for this subscale.

*Interactions with faculty.* This subscale by Pascarella and Terenzini (1980) was designed to measure the impact and quality of students' out of classroom contact with faculty members. This subscale included five items, such as: "My non-classroom interactions with faculty at this university have positively influenced my personal growth, values, and attitudes," and "My non-classroom interactions with faculty have positively influenced my career goals and aspirations." Pascarella and Terenzini (1980) utilized Cronbach's Alpha, and reported a reliability coefficient of .83 for this subscale.

*Faculty concern for student development and teaching.* This subscale was designed to measure perceptions of faculty concern of students' development both inside and outside the classroom environment. This subscale included five items, such as: "At this university, many of the faculty members I have had contact with are generally interested in students," and "At this university, many of the faculty members I have had contact with are willing to spend time outside of class to discuss issues of importance to students." Pascarella and Terenzini (1980) applied Cronbach's Alpha, and reported a reliability coefficient of .82 for this subscale.

*Academic and intellectual development.* This subscale was designed to measure a student's perceived level of academic and social development, and satisfaction of the quality of the learning experience at the institution attended. This subscale includes seven items, such as, "I am satisfied with the extent of my intellectual development since enrolling at this university," and "Many of my courses this year have been intellectually stimulating." Pascarella and Terenzini (1980) used Cronbach's Alpha, and reported a reliability coefficient of .74 for this subscale.

*Institutional goal commitment.* This subscale was designed to measure a student's personal commitment to the institution, along with graduation and career goals. This subscale includes six items, such as, "I am confident I made the right decision in choosing to attend this university," "It is likely that I will register at this university next fall," and "It is important to me to graduate from this university." Pascarella and Terenzini (1980) utilized Cronbach's Alpha, and reported a reliability coefficient of .71.

*Reliability and Validity of the Instrument*

Creswell (2009) discussed the importance of an instrument's content, predictive or concurrent, and construct validity. The length of time the IIS has been in widespread use (more than 30 years) in a variety of types and sizes of institutions of higher education lends support to its validity. Additionally, the instrument itself has been studied extensively by numerous researchers, and has been used in several studies (Berger & Milem, 1999; Downing, 2005; Mannan, 2001; Robinson, 2003). Furthermore, the IIS is widely considered a nationally validated measure of integration related to Tinto's theory of student persistence (Caison, 2007; French & Oakes, 2004; Pascarella & Terenzini, 1980).

Previously, the reliability coefficients of the five subscales that comprise the IIS were presented. In the original development of the instrument, Pascarella and Terenzini (1980) randomly sampled 1,905 entering first-year students at Syracuse University. The students were sent a follow-up questionnaire the following year, seeking information on the reality of the college experience. Mail and telephone follow-up efforts yielded 773 usable responses, a 53.1% response rate. After compiling the data, Pascarella and Terenzini (1980) used principal component factor analysis to determine if the integration items were consistent with Tinto's (1975) model. Next, they utilized a multivariate analysis of covariance and a discriminate analysis to verify the predictive validity of the instrument. The factor analysis suggested five of the factors were consistent with the variables proposed by Tinto. In addition, Terenzini, Lorang, and Pascarella (1981) performed a replication study at a larger, public university and found very similar results.

Finally, it is important to note the reliability analysis previously described was based upon the unrevised instrument. However, since the instrument was modified (e.g., changes in Likert scale, negative statements reworded as positive, additional demographics, etc.), it was important to add a reliability analysis.

*Human Subjects Protection*

Participants' rights and approval of the data collection procedures were communicated to participants before the survey was launched via the informed consent process. A participant's completion of the survey indicated his or her willingness to participate in the research study. All research procedures were approved by the University of Missouri's Institutional Review Board (IRB), to ensure all data was collected in an ethical and appropriate manner. In addition, permission was obtained from

the gatekeepers at the institution studied. The researcher also complied with the IRB procedures at the participating institution, which was completed prior to the end of the fall 2011 semester, to ensure data collection could occur during the students' semester of participation in the CLC.

### *Data Analysis*

All statistical analysis of the data for this study was conducted using the Statistical Program for the Social Sciences (SPSS) 19.0 edition. The purpose of the analysis utilized in the study was to answer the four research questions previously described. This study used several data analysis procedures in order to appropriately address each research question and will be described in the following section. Furthermore, a description of how the data was prepared is provided.

Preparation of the data involved several steps to allow for appropriate analysis. These steps included (a) identifying and categorizing the independent and dependent variables, (b) obtaining institutional data on the participants, (c) obtaining IIS data, and (d) determining the most appropriate method of quantitative analysis for each research question. The independent variable for this study is students' enrollment in a curricular learning community (CLC). Dependent variables of interest include academic ability, academic success, integration, and persistence rates.

For the purpose of this study, numerous data sources were used. First, institutional data for all participants were obtained from existing data sets. These data included information such as ACT scores, credit hours earned, first-semester college grades, high school GPA, credit hours completed, and other admissions information. These data were important so the researcher could ensure groups being compared were indeed similar as

part of the analysis. This was necessary since participants were not randomly assigned to the treatment group. Next, enrollment data for the second semester of college attendance were obtained to see if students were still enrolled at the institution studied.

Data analysis methods most commonly utilized in quantitative studies include descriptive statistics, as well as correlations and regressions (Creswell, 2009). This study utilized several different data analysis procedures to appropriately address each research question. For research question one, a comparison between the two groups was necessary to identify any pre-existing differences. For research question two, the CLC and non-CLC participants were compared academically, to include first-semester GPA and credit hours completed. For research question three, the levels of integration were compared between CLC and non-CLC participants. The fourth research question identified any differences in persistence rates between CLC and non-CLC participants.

The *t*-test attempts to evaluate whether the mean value of the test variable for one group differed significantly from the mean test value of the second group (Field, 2009). The *t*-tests in this study used an alpha level of .05. *T*-tests were utilized for the following variables: (a) academic ability (as measured by high school GPA and ACT); (b) academic success (as defined by first semester college GPA and credit hours completed); and (c) integration, as measured by the IIS, and includes the constructs of peer group interaction, interactions with faculty, academic and intellectual development, and institutional and goal commitment. To compare fall 2011 to spring 2012 persistence rates between CLC and non-CLC participants, a Chi-Square, cross-tabulation was used.

Research question one was, “Are there pre-existing differences in academic ability (as measured by ACT and high school GPA) in students who participated in the

curricular learning community (CLC) as compared to those who do not?" To address this question, independent samples *t*-tests were computed, comparing the two groups: learning community and non-learning community students. According to Field (2009), independent samples *t*-tests are used "when there are two experimental conditions and different participants were assigned to each condition" (p. 286).

Research question two was, "Are there differences in the academic success (as defined by first-semester GPA and credit hours completed in the first semester) in students who participated in the curricular learning community (CLC) as compared to those who do not?" To address this question, independent samples *t*-tests were computed, again comparing the two groups: learning community and non-learning community students.

Research question three was, "Do learning community participants demonstrate a higher level of integration, as measured by the *Institutional Integration Scale* (IIS), than non-participants?" Included within the construct of integration for this study were: (a) peer group interaction, (b) interactions with faculty, (c) faculty concerns with student development and teaching, (d) academic and intellectual development, and (e) institutional and goal commitment. To address this question, independent samples *t*-tests were computed for each of the subscales comparing the two groups: non-learning community and learning community students.

Research question four was, "Are there differences in first to second semester persistence rates for CLC and non-CLC participants?" To address this question, a descriptive analysis was performed, since persistence is a dichotomous outcome variable. This analysis included performing a cross tabulation and calculating a Chi-square test of

independence to compare the frequency level for students within CLC and non-CLC categories, and their patterns of persistence from fall 2011 to spring 2012 semesters (Field, 2009).

For each of the research questions and statistical analysis described above, an alpha level of .05 was used, a common standard in educational research (Field, 2009). It is important to remember, however, that statistical significance does not automatically imply it is socially, culturally, or administratively significant. A result may be statistically significant, yet irrelevant for all practical purposes. Conversely, a small difference can have great practical significance (McNabb, 2008), especially in terms of student persistence and associated dollars (Cuseo, n.d.). The researcher must make these determinations and make recommendations accordingly.

### *Summary*

Within Chapter Three, an overview of the quantitative research design has been provided. The purpose of this study was to explore the impact of participation in a curricular learning community (CLC) on the academic success, academic and social integration, institutional commitment, and persistence of first-year students at MSU, a selective, Midwest, public, four-year university. The population of this study was comprised of all first-time, first-year students at MSU, while the sample included a subset of the population from the 2011 entering class of students. The population of interest (and unit of analysis) included first-year students enrolled in either a first-year seminar as part of a CLC or enrolled in a stand-alone course. A convenience sampling method was utilized, although the researcher recognizes the limitations of generalizing findings to the population.

An electronic version of the *Institutional Integration Scales* (IIS*)* was utilized in an attempt to answer four research questions intended to explore the impact of CLCs on a number of factors of interest related to student persistence. Data collected from respondents was processed using SPSS 19.0 edition and analyzed to specifically address each research question. Several analyses were conducted, including independent samples *t*-tests, and a cross tabulation analysis of Chi-square.

The results of the data collection and the analysis of the data are reported in Chapter Four. In Chapter Five, a discussion of the findings, implications, and recommendations for future research is provided. Finally, an Appendix section is included, which contains supplementary materials such as letters of informed consent, survey instrument, and permission from the author to use the instrument.

*CHAPTER FOUR*

# RESULTS AND FINDINGS

## *Introduction*

Universities and colleges throughout the United States continue to experience high rates of first-to-second year student attrition (Tinto, 2009). This is particularly concerning for educational leaders, considering the recent and continuing decreases in state and federal funding support for higher education (National Center for Education Statistics, 2011). As recently as two decades ago, a study by Levitz and Noel (1990) identified the first six weeks of a student's first semester of college enrollment as the most critical time period for students to form a strong connection with the institution. Additionally, they discovered nearly 50% of student attrition occurs during this time period.

Ample evidence throughout the research literature suggests higher education institutions continue to lack information about factors affecting retention on campuses (Astin, 1993; Pascarella & Terenzini, 2005; Tinto, 1993, 2009). In fact, often the emphasis of educational leaders appears to be on increasing enrollment, rather than focusing on retaining admitted students. This is counter-intuitive, since research studies have consistently demonstrated it is far more cost effective to retain a current student than to recruit a replacement (Cuseo, n.d.; Pascarella & Terenzini, 2005).

There are a growing number of educational leaders throughout the nation who are beginning to understand the critical importance of the first-year experience for new students, and as a result, are supporting various initiatives designed to positively impact student learning, academic and social integration, and therefore, retention rates (Tinto,

1993, 2009). The most common initiatives include first-year seminars, orientation programs, summer bridge programs, service-learning, and various types of learning communities (Upcraft et al., 2005). Growing numbers of four-year public and private institutions are implementing curricular learning communities (CLCs) in an effort to stem the tide of student attrition during the first year of studies (Kuh et al., 2008; Gabelnick et al., 1990; Tinto, 2009).

Shapiro and Levine (1999) suggested CLCs are an effective pedagogical method to address students' challenges of forming a sense of community, understanding curricular connections between general education courses, and increasing academic and social integration. There are four basic models of CLCs identified in the literature: (a) paired or clustered courses, (b) cohorts in large courses or freshman interest groups (FIGS), (c) team-taught or coordinated studies programs, and (d) residence-based learning communities (Laufgraben, Shapiro, & Associates, 2004; Shapiro & Levine, 1999). The paired course configuration, considered to be the most basic approach to learning communities in terms of curricular integration, had been implemented for three years at the institution in the current study.

The purpose of this study, using the first-year student as the unit of analysis, was to explore the impact of participation in a curricular learning community (CLC) on the academic success, academic and social integration, institutional commitment, and persistence of first-year students at Missouri State University (MSU), a Midwest, public, four-year university. In addition, the researcher explored pre-existing differences in students who elected to enroll in a CLC, as compared to those who did not.

Since this study focused on the impact of curricular learning communities (CLCs) as an appropriate institutional intervention designed to address low persistence rates of first-year students, several research questions were formulated around this concept. These questions stemmed from a desire to identify whether participation in a CLC benefits students on several factors which researchers have identified as leading to increased persistence. Some of these factors include (a) academic and social integration, (b) institutional commitment, and (c) academic achievement (Pascarella & Terenzini, 2005; Tinto, 1993).

For this study, the researcher utilized a slightly modified version of the *Institutional Integration Scale* (IIS), a survey instrument developed by Pascarella and Terenzini (1980) and used in similar types of studies (Caison, 2007; Mannan, 2001, 2007; Robinson, 2003; Yale, 1999). Additional demographic information was retrieved as part of the survey process, and when possible, cross-referenced with institutional data. This information included (a) the student's university identification number, (b) gender, (c) race/ethnicity, (d) age, (e) anticipated first-semester grade point average (GPA), (f) whether financial aid was received, (g) status as a first-generation college student, (h) parents' highest level of education completed, and (i) the course section number and instructor name.

Within this chapter, the results of the statistical analysis performed on the data collected for this study are presented. Demographic findings are discussed to provide an understanding of participant characteristics. Next, the research questions of this study are offered. Finally, the statistical analysis performed to address each question is described followed by the findings of the analysis.

*Demographics of Survey Participants*

To gather data for this study, the survey instrument was distributed electronically to 471 first semester students at Missouri State University during the fall 2011 semester. Of the 471 invitations to participate, 136 students elected to begin the survey, but only 124 actually completed the survey, for a response rate of 26%. Participants were not required to answer all items which resulted in varying sample sizes for a number of the analyses performed. Some of the demographic and admissions information (such as ACT sub-scores and composite scores, age, high school GPA and class rank, college credit hours completed, transfer credit hours completed, first-semester college GPA, retention status, etc.) was retrieved from the institutional record system and merged with the survey instrument data file as part of the analysis.

Of those who completed the survey, 25.0% ($N$ = 31) were male and 75.0% ($N$ = 93) were female. The CLC and non-CLC status by gender is shown in Table 1. Additionally, non-CLC students who completed the IIS survey had a mean age score of 19.00 ($sd$ = 3.742), while the CLC students had a mean age score of 18.21 ($sd$ = .512). Age differences between the two groups were not significant, using an alpha level of .05 ($t(58.876) = 1.591$, $p = .117$).

Table 1

*Gender of Survey Respondents, CLC and Non-CLC Status*

| CLC Status | | Male | Female | Total |
|---|---|---|---|---|
| | Non-CLC | 18 | 40 | 58 |
| | CLC | 13 | 53 | 66 |
| Total | | 31 | 93 | 124 |

To illustrate just how similar the CLC and non-CLC groups who answered the IIS survey were in age composition, a frequency distribution was computed (see Table 2). In examining the ages of students in the two groups, the CLC group appeared to only attract traditional-age students, since no student was older than 20. In comparison, the non-CLC group enrolled several non-traditional students, including one student who was 44 years old.

Table 2

*Age Distribution by CLC Status, Survey Respondents*

| Age Fall 2011 Semester | Non-CLC | CLC | Total |
|---|---|---|---|
| 17 | 1 | 1 | 2 |
| 18 | 42 | 52 | 94 |
| 19 | 10 | 11 | 21 |
| 20 | 1 | 2 | 3 |
| 22 | 1 | 0 | 1 |
| 25 | 1 | 0 | 1 |
| 28 | 1 | 0 | 1 |
| 44 | 1 | 0 | 1 |
| Total | 58 | 66 | 124 |

Additionally, of the survey respondents, 33.1% ($N = 41$) were first-generation college students, while 48.4% ($N = 60$) had at least one parent who had attended college (see Table 3). Next, a Chi-square, cross-tabulation was performed comparing the CLC and non-CLC groups on *first-generation student status.* No significant interaction was

found [$\chi^2$ (2) = 2.757, $p$ = .252]. Demographics for *first-generation student status* were proportionally dispersed between both groups (see Table 3). This indicates first-generation status had no relationship to students' self-selection into the two groups.

Table 3

*First-Generation Student Status, IIS Survey Respondents*

| | | First-generation Student Status | | | Total |
|---|---|---|---|---|---|
| | | First Generation | Non-First Generation | Unknown | |
| CLC Status | Non-CLC | 15 | 32 | 11 | 58 |
| | CLC | 26 | 28 | 12 | 66 |
| Total | | 41 | 60 | 23 | 124 |

*Note.* $\chi$2 (2) = 2.757, $p$ = .252

Additional demographic and other variables of interest were retrieved from the institutional data system for the survey respondents. One of these variables included ethnicity/race data when available. To explore this variable of interest, a frequency distribution was computed. As shown in Table 4, more than 90% of survey respondents self-reported as White or Caucasian, with no other race/ethnic groups comprising more than four percent of the total.

Table 4

*Race/Ethnicity of IIS Survey Respondents*

| Race/Ethnicity | Frequency | Percent |
|---|---|---|
| American Indian or Alaska | 1 | .8 |
| Black or African American | 4 | 3.2 |
| Hispanic or Latino | 2 | 1.6 |
| More than one race | 1 | .8 |
| Native Hawaiian or Other | 1 | .8 |
| Non-Resident Alien | 1 | .8 |
| Unknown | 1 | .8 |
| White or Caucasian | 113 | 91.1 |
| Total | 124 | 100.0 |

*Note.* $N = 124$.

Another survey item of interest involved participating students' perceptions of anticipated first-semester college GPA in both the CLC and non-CLC groups. Response category options on a 4.0 scale ranged from (a) less than 2.0, (b) 2.0-2.5, (c) 2.6-3.0, (d) 3.1-3.5, and (e) 3.6-4.0. A Chi-square, cross-tabulation was performed comparing the CLC and non-CLC groups with the *anticipated first-semester GPA* variable. No significant interaction was found [$\chi 2$ (4) = 1.105, $p$ = .893]. Table 5 shows that student responses for *anticipated first-semester GPA* were proportionally dispersed between both groups.

Table 5

*Anticipated First-semester GPA, CLC and Non-CLC Groups for Survey Respondents*

| Anticipated first semester GPA | Non-CLC | CLC | Total |
|---|---|---|---|
| Less than 2.0 | 0 | 1 | 1 |
| 2.0-2.5 | 3 | 4 | 7 |
| 2.6-3.0 | 13 | 16 | 29 |
| 3.1-3.5 | 29 | 31 | 60 |
| 3.6-4.0 | 10 | 10 | 20 |
| Total | 55 | 62 | 117 |

*Note*. $\chi 2\,(4) = 1.105$, $p = .893$.

An additional variable of interest was students' financial aid status. Lower socio-economic status is often correlated with decreased persistence rates (Pascarella & Terenzini, 2005). To explore this variable for the research participants, a Chi-square test of independence was computed to compare the frequency of CLC and non-CLC students' self-reporting of financial aid status to detect differences between the two groups. The two response options for the variable, *Do you receive financial aid?* were (a) Yes, and (b) No. The results from the analysis revealed no significant differences ($\chi 2(1) = .008$, $p = .929$). Student responses for *Do you receive financial aid?* were proportionally dispersed between both groups. This indicates financial aid status has no relationship to students' self-selection into the two groups.

*Demographics of Entire Sample*

For the entire sample population, 41.3% ($N$ = 194) were male, and 58.7% ($N$ = 276) were female. The CLC and non-CLC status by gender is shown in Table 6.

Table 6

*Gender of Entire Sample, CLC and Non-CLC Status*

| CLC Status | | Male | Female | Total |
|---|---|---|---|---|
| | Non-CLC | 114 | 135 | 249 |
| | CLC | 80 | 141 | 221 |
| Total | | 194 | 276 | 470 |

To gain a better understanding of students' ages for the entire sampled population, a frequency distribution was computed and is shown in Table 7. The non-CLC students had a mean age score of 18.68 ($sd$ = 2.306), while the CLC students had a mean age score of 18.34 ($sd$ = 1.551). This indicates age differences between the groups were not significant, using an alpha level of .05, ($t$(468) = 1.848, $p$ = .065). In examining ages of students in both groups, the CLC group appeared to attract primarily traditional-age students, since only two students were older than age 20. In the non-CLC group, 14 students were older than age 20, with one student reporting an age of 44 years.

Table 7

*Age Distribution by CLC Status, Entire Sample*

| Age Fall 2011 Semester | CLC Status | | Total |
|---|---|---|---|
| | Non-CLC | CLC | |
| 18 | 169 | 173 | 342 |
| 19 | 59 | 41 | 100 |
| 20 | 4 | 3 | 7 |
| 21 | 3 | 0 | 3 |
| 22 | 4 | 0 | 4 |
| 23 | 2 | 0 | 2 |
| 25 | 1 | 0 | 1 |
| 28 | 2 | 1 | 3 |
| 35 | 1 | 0 | 1 |
| 38 | 0 | 1 | 1 |
| 44 | 1 | 0 | 1 |
| Total | 249 | 221 | 470 |

First-generation status was another variable of interest to the researcher. In examining the entire sample population, 31.9% ($N$ = 150) were first-generation students, while 50.0% ($N$ = 235) had at least one parent who had attended college (see Table 8). Next, a Chi-square, cross-tabulation was performed comparing the CLC and non-CLC groups on *first-generation student status.* Responses for *first-generation student status* were proportionally distributed between the two groups (see Table 8). This indicates first-generation status has no relationship to students' self-selection into the two groups.

Table 8

*First-Generation Student Status, Entire Sample*

| | | First-generation Student Status | | | Total |
|---|---|---|---|---|---|
| | | First Generation | Non-First Generation | Unknown | |
| CLC Status | Non-CLC | 75 | 129 | 45 | 249 |
| | CLC | 75 | 106 | 40 | 221 |
| Total | | 150 | 235 | 85 | 470 |

*Note.* $\chi 2$ (2) = .880, $p$ = .644.

One final demographic item of interest was obtained from the entire sampled population. The variable was race/ethnicity status. To explore this variable of interest, a frequency distribution was computed. As shown in Table 9, more than 88% of students self-reported White or Caucasian, with no other ethnic groups comprising more than 3.4% of the total.

Table 9

*Race/Ethnicity of Entire Sample*

| Race/Ethnicity | Frequency | Percent |
|---|---|---|
| American Indian or Alaska | 2 | .4 |
| Asian | 3 | .6 |
| Black or African American | 16 | 3.4 |
| Hispanic or Latino | 13 | 2.8 |
| More than one race | 10 | 2.1 |
| Native Hawaiian or Other | 1 | .2 |
| Non-Resident Alien | 7 | 1.5 |
| Unknown | 4 | .9 |
| White or Caucasian | 414 | 88.1 |
| Total | 470 | 100.0 |

*Note.* $N = 470$.

### *Reliability of Instrument Subscales*

Data collected from the electronic survey was exported into SPSS 19.0. Several steps were taken to prepare the data for analysis. First, subscale averages were computed for each respondent using the modified *Institutional Integration Scale* (IIS) survey (Pascarella & Terenzini, 1980). Participants self-reported the degree to which they agreed with statements by answering several questions in each subscale for a total of 30 items. Response selections for each item utilized a six-point Likert scale of 1 to 6. The scale is as follows: 1 = Strongly Disagree, 2 = Disagree, 3 = Slightly Disagree, 4 = Slightly

Agree, 5 = Agree, and 6 = Strongly Agree. Next, subscales were computed by adding the responses for questions tied to each construct, then dividing that answer by the number of items.

As recommended by Field (2009), the reliability of each subscale was examined by performing a Cronbach-alpha analysis. The results ranged from .776 to .882, with *institutional and goal commitment* performing the lowest (Cronbach-alpha = .776), and *peer group interactions* performing the highest (Cronbach-alpha = .882). The reliability of the remaining subscales was as follows: (a) *interactions with faculty* (Cronbach-alpha = .865), (b) *faculty concerns for student development and teaching* (Cronbach-alpha = .875), and (c) *academic and intellectual development* (Cronbach-alpha = .861). For reference, Field (2009) suggests a value of at least .7 is important for a scale to be deemed reliable.

### *Research Findings*

Tinto's (1975, 1993) Theory of Student Departure and Astin's (1993) Input-Environment-Output (I-E-O) model provided the over-arching conceptual framework for this study, and served as a guide to develop the following research questions.

1. Are there pre-existing differences in academic ability (as measured by ACT and high school GPA) in students who participate in the curricular learning community (CLC) as compared to those who do not?
2. Are there differences in the academic success (as defined by first-semester GPA and credit hours completed in the first semester) in students who participate in the curricular learning community (CLC) as compared to those who do not?

3. Do curricular learning community (CLC) participants demonstrate a higher level of integration, as measured by the *Institutional Integration Scale* (Pascarella & Terenzini, 1980), than non-participants? Included within the construct of integration for this study is (a) peer group interaction, (b) interactions with faculty, (c) faculty concerns with student development and teaching, (d) academic and intellectual development, and (e) institutional and goal commitment.
4. Are there differences in first to second semester persistence rates for CLC and non-CLC participants?

*Research Question One*

To check for pre-existing group differences in academic ability (as measured by ACT and high school GPA) in CLC and non-CLC students, institutional data was obtained for all students in the sample, as well as those who completed the *Institutional Integration Scale*. First, mean scores were first examined for the entire sample of 471 students on the variables, *ACT composite* and *high school GPA* (see Table 10). To determine if the mean scores were significantly different for the entire sample an analysis was conducted. Two independent samples *t*-tests were computed to detect significant differences between the CLC and non-CLC students (see Table 11). An alpha level of .05 was used for each independent samples *t*-test. For the variables of *ACT composite* and *high school GPA*, *t*-tests revealed no significant differences [non-CLC *ACT composite* mean = 23.391, *sd* = 2.844; CLC student mean = 23.210, *sd* = 3.020; $t(442) = .667$, $p = .505$] and *high school GPA* [non-CLC 3.523, *sd* =.478; CLC student mean = 3.441, *sd* = .447; $t(454) = 1.92$, $p = .055$].

Table 10

*Descriptives of Pre-Existing Differences Between CLC and Non-CLC Groups*

| Variable | CLC Status | *N* | Mean | *SD* |
|---|---|---|---|---|
| ACT Composite | Non-CLC | 230 | 23.391 | 2.844 |
| | CLC | 214 | 23.210 | 3.020 |
| High School GPA | Non-CLC | 238 | 3.523 | .478 |
| | CLC | 218 | 3.441 | .447 |

*Note.* These descriptives are for the entire sampled group.

To check for pre-existing group differences in academic ability (as measured by ACT and high school GPA) in CLC and non-CLC students for those who completed the *Institutional Integration Scale,* institutional data was obtained and analyzed. First, mean scores were first examined for the variables *ACT composite* and *high school GPA.* For both variables, means scores were nearly identical (See Table 12). For the non-CLC students the *ACT Composite* was 24.362, (*sd* = 2.588).

Table 11

*Independent Samples t-Test, Initial Group Differences, ACT and HS GPA*

| | | *N* | *t* | *df* | Sig. (2-tailed) |
|---|---|---|---|---|---|
| ACT Composite | Equal variances assumed | 471 | .667 | 442 | .505 |
| High School GPA | Equal variances assumed | 471 | 1.924 | 454 | .055 |

*Note.* These descriptives are for the entire sampled group.

As shown in Table 12, the non-CLC student high school GPA for IIS respondents was almost identical (3.633, *sd* = .563), compared to the CLC student high school GPA (3.624, *sd* = .383). No significant differences were found between the two groups using an alpha level of .05. In examining standard deviations more closely, CLC students did have more variation in ACT composite scores than non-CLC students. Conversely, non-CLC students had more variation in high school GPA.

Table 12

*Descriptives of Pre-Existing Differences Between CLC and Non-CLC Groups*

| ACT Scores | CLC Status | *N* | Mean | *SD* |
|---|---|---|---|---|
| ACT English Subscale | Non-CLC | 53 | 25.721 | 3.860 |
| | CLC | 65 | 24.634 | 4.414 |
| ACT Math Subscale* | Non-CLC | 53 | 24.025 | 3.325 |
| | CLC | 65 | 22.120 | 3.769 |
| ACT Composite | Non-CLC | 53 | 24.362 | 2.588 |
| | CLC | 65 | 23.387 | 3.348 |
| High School GPA | Non-CLC | 56 | 3.633 | .5630 |
| | CLC | 65 | 3.624 | .3830 |

*Note.* * $p < .05$. These descriptives are for IIS Survey Respondents.

However, it should be noted for the IIS survey respondents there was a significant difference in the *Math Subscale* score [non-CLC math subscale score mean = 24.02, *sd* = 3.325; CLC math subscale score mean = 22.12, *sd* = 3.769; $t(116) = .017$, $p = .005$] (see Tables 12 and 13). Non-CLC students had higher ACT math scores than CLC students.

Table 13

*Independent Samples t-Test, Initial Group Differences, ACT Subscales, High School GPA*

| | | *N* | *t* | *df* | Sig. (2-tailed) |
|---|---|---|---|---|---|
| ACT English | Equal variances assumed | 118 | 1.406 | 116.000 | .162 |
| ACT Math* | Equal variances assumed | 118 | 2.842 | 116.000 | .005 |
| ACT Composite | Equal variances not assumed | 118 | 1.782 | 115.697 | .077 |
| High School GPA | Equal variances not assumed | 121 | .099 | 94.706 | .922 |

*Note.* * $p < .05$. These results are for IIS survey respondents only.

*Research question one summary.* To answer the first research question, "Are there pre-existing differences in academic ability (as measured by ACT and high school GPA) in students who participated in the curricular learning community (CLC) as compared to those who do not?" for IIS respondents was addressed by performing two independent samples *t*-tests, comparing the two groups: learning community and non-learning community students. High school GPA was noticeably, although not significantly ($p$ = .055), greater in the non-CLC group. Additionally, group differences were not significant at an alpha level of .05 for the variables *ACT composite* or *high school GPA*. There was, however, a significant difference in the *Math Subscale* score ($p$ = .005), with the CLC students having a lower *Math Subscale* ACT score.

*Research Question Two*

To detect differences for the IIS survey respondents regarding academic success (as defined by *first-semester GPA* and *credit hours completed* in the first semester), institutional data was examined on 121 students (see Table 14). For the variable of *first-semester GPA*, independent samples *t*-tests revealed no significant differences at an alpha level of .05 [Non-CLC *first-semester GPA* mean = 3.121, *sd* = .709; CLC student mean score = 3.093, *sd* = .647; *t*(66) = .991, *p* = .819]. Additionally, for the variable *credit hours completed* independent samples *t*-tests revealed no significant differences at an alpha level of .05 [Non-CLC student mean = 14.38, *sd* = 2.033; CLC student mean score = 14.41, *sd* = 1.240; *t*(122) = -.100, *p* = .921].

Table 14

*Differences Between CLC and Non-CLC Groups, GPA and Credit Hours Completed*

| Variable | CLC Status | *N* | Mean | *SD* |
|---|---|---|---|---|
| Credit Hours Completed | Non-CLC | 58 | 14.382 | 2.033 |
| | CLC | 66 | 14.410 | 1.240 |
| First-Semester GPA | Non-CLC | 58 | 3.121 | .709 |
| | CLC | 66 | 3.093 | .647 |

*Note.* IIS survey respondents.

To detect differences for the entire group sample in academic success (as defined by *first-semester GPA* and *credit hours completed* in the first semester), institutional data was available and examined on 465 of the 471 sampled students (see Table 15). For the variables of *first-semester GPA*, independent samples *t*-tests revealed no significant

differences at an alpha level of .05 [Non- CLC *first-semester GPA* mean = 2.899, *sd* = .800; CLC student mean = 2.819, *sd* = .897; *t*(465) = .112, *p* = .310].

Table 15

*Differences Between CLC and Non-CLC Groups, GPA and Credit Hours*

| Variable | CLC Status | *N* | Mean | *SD* |
|---|---|---|---|---|
| Credit Hours Completed | Non-CLC | 249 | 14.140 | 1.810 |
| | CLC | 218 | 14.170 | 1.451 |
| First-Semester GPA | Non-CLC | 249 | 2.899 | .800 |
| | CLC | 218 | 2.819 | .897 |

*Note.* Represents all sampled students.

Similarly, for the variable *credit hours completed* independent samples *t*-tests revealed no significant differences at an alpha level of .05 [Non-CLC student mean = 14.140, *sd* = 1.810; CLC student mean = 14.170, *sd* = 1.451; *t*(465) = -.190, *p* = .849] as noted in Table 15 and Table 16. Non-CLC and CLC students had similar GPA and credit hours completed.

Table 16

*Independent Samples t-Test Comparing CLC and Non-CLC GPA, Credit Hours Earned*

| First-semester Academic Success | | *t* | *df* | *Sig. (2-tailed)* |
|---|---|---|---|---|
| Credits Hours Completed | Equal variances assumed | -.190 | 465 | .849 |
| First-Semester GPA | Equal variances assumed | 1.016 | 465 | .310 |

*Note.* Represents all sampled students.

*Research question two summary.* Research question two, "Are there differences in the academic success (as defined by first-semester GPA and credit hours completed in the first semester) in students who participated in the curricular learning community (CLC) as compared to those who do not?" was examined by computing independent samples *t*-tests, again comparing the two groups: learning community and non-learning community students. The analysis revealed no significant differences between the two groups for the variables, *first-semester GPA,* and *credit hours completed,* using an alpha level of .05.

*Research Question Three*

The responses to the modified *Institutional Integration Scale* (Pascarella &Terenzini, 1980) by the CLC and non-CLC students were examined to detect differences between the two groups. To conduct the analysis, mean responses for the *Institutional Integration Scale*, including (a) *peer group interactions,* (b) *interactions with faculty,* (c) *faculty concerns for student development and teaching*, (d) *academic and intellectual development*, and (e) *institutional and goal commitment* were calculated for each participant. Response selections for each item utilized a six-point Likert scale of 1 to 6. The scale is as follows: 1 = Strongly Disagree, 2 = Disagree, 3 = Slightly Disagree, 4 = Slightly Agree, 5 = Agree, and 6 = Strongly Agree. The mean responses were based on the participants' CLC status. The CLC and non-CLC student responses were then compared to determine if there were differences on the various subscales. An examination of the mean response data revealed noticeable, although not significant,

differences in the means on each subscale between the CLC and non-CLC groups. Table 17 depicts mean subscale responses for each group.

Table 17

*Mean Responses for CLC and Non-CLC Institutional Integration Scales*

| Subscale | CLC Status | *N* | Mean | *SD* |
|---|---|---|---|---|
| Interactions with Faculty Subscale | Non-CLC | 58 | 4.265 | .951 |
| | CLC | 66 | 4.060 | .879 |
| Peer Group Interaction Subscale | Non-CLC | 58 | 4.517 | 1.045 |
| | CLC | 66 | 4.614 | .802 |
| Faculty Concerns with Student Development | Non-CLC | 58 | 4.655 | .753 |
| and Teaching Subscale | CLC | 66 | 4.695 | .694 |
| Academic and Intellectual Development | Non-CLC | 58 | 4.676 | .937 |
| Subscale | CLC | 66 | 4.557 | .626 |
| Institutional and Goal Commitment Subscale | Non-CLC | 58 | 5.248 | .856 |
| | CLC | 66 | 5.154 | .767 |

*Note*. Likert Scale (1 = Strongly Disagree, 2 = Disagree, 3 = Slightly Disagree, 4 = Slightly Agree, 5 = Agree, and 6 = Strongly Agree). IIS Survey Respondents.

CLC student mean responses on subscales from greatest to least included *institutional and goal commitment* (*Mean* = 5.154, *N* = 66), *faculty concerns with student development and teaching and teaching* (*Mean* = 4.695, *N* = 66), *peer group interaction* (4.614, *N* = 66), *academic and social development* (*Mean* = 4.557, *N* = 66), and *interactions with faculty* (*Mean* = 4.060, *N* = 66). Non-CLC student mean responses from greatest to least prevalent included *institutional and goal commitment* (*Mean* = 5.248, *N*

= 58), *academic and intellectual development* (*Mean* = 4.676, *N* = 58), *faculty concerns with student development and teaching* (*Mean* = 4.655, *N* = 58), *peer group interaction* (*Mean* = 4.517, *N* = 58), and *interactions with faculty* (*Mean* = 4.265, *N* = 58). Similarities existed in participants' ranking of two subscales among CLC and non-CLC students. Both groups show *institutional and goal commitment* with the greatest mean, and *interactions with faculty* as the lowest mean.

To further explore the data, five independent samples *t*-tests were computed to detect significant differences in CLC and non-CLC students as measured by the *Institutional Integration Scale* (Pascarella & Terenzini, 1980). Independent samples *t*-tests were utilized to determine if any of the subscales were affected by CLC or non-CLC student status. An alpha level of .05 was used for each independent samples *t*-test.

Independent samples *t*-tests revealed no significant differences for *faculty concerns with student development* [CLC student mean = 4.695, *sd* = .694; non-CLC student mean = 4.655, *sd* = .753; *t*(122) = -.310, *p* = .757]. Similarly, for *peer group interaction* [CLC student mean = 4.614, *sd* = .802; non-CLC student mean = 4.517, *sd* = 1.045; *t*(122) = -.586, *p* = .559], no significant differences were found (see Table 18). All remaining subscales revealed no significant differences between CLC and non-CLC student mean responses to *institutional and goal commitment* [CLC student mean = 5.154, *sd* = .767; non-CLC student mean = 5.248, *sd* =.856; *t*(122) = .646, *p* = .519]. The findings also indicated no significant differences between CLC and non-CLC student mean responses for *academic and intellectual development* [CLC student mean = 4.557, *sd* = .626; non-CLC student mean = 4.676, *sd* =.937; *t*(122) = .846, *p* = .399]. Additionally, the findings indicated no significant difference with *interactions with*

*faculty* [CLC student mean = 4.06, *sd* = .879; non-CLC student mean = 4.265, *sd* = .951; $t(122) = 1.246$, $p = .215$] (see Table 18).

Table 18

*Independent Samples t-Test, Comparing CLC and Non-CLC Students (IIS)*

| | | *t* | *df* | *Sig.* |
|---|---|---|---|---|
| Peer Group Interaction Subscale | Equal variances assumed | -.586 | 122 | .559 |
| Interactions with Faculty Subscale | Equal variances assumed | 1.246 | 122 | .215 |
| Faculty Concerns with Student Development & Teaching Subscale | Equal variances assumed | -.310 | 122 | .757 |
| Academic and Intellectual Development Subscale | Equal variances assumed | .846 | 122 | .399 |
| Institutional and Goal Commitment Subscale | Equal variances assumed | .646 | 122 | .519 |

*Note.* IIS Survey respondents.

*Research question three summary.* Research question three was, "Do learning community participants demonstrate a higher level of integration, as measured by the *Institutional Integration Scale* (IIS), than non-participants?" Included within the construct of integration for this study were (a) *peer group interaction*, (b) *interactions with faculty*, (c) *faculty concerns with student development and teaching*, (d) *academic and intellectual development*, and (e) *institutional and goal commitment*. To address this question, independent samples *t*-tests were computed for each of the subscales comparing

the two groups: non-learning community and learning community students. The analysis revealed both CLC and non-CLC students reported the greatest mean for *institutional and goal commitment* and the lowest mean for *interactions with faculty* subscales. Furthermore, the independent samples *t*-tests revealed no significant differences between the two groups on any of the five subscales utilizing an alpha level of .05.

*Research Question Four*

To determine if persistence rates differed between the CLC and non-CLC student groups for the entire sample, a Chi-Square, cross-tabulation test of independence was used to compare the frequency level for students within CLC and non-CLC categories and patterns of persistence from fall 2011 to spring 2012 semesters. The results (see Table 19) revealed no significant interactions between the categories, which suggest the CLC status and persistence variables are independent of one another ($\chi 2(1) = .017$; $p = .896$).

Table 19

*Cross-Tabulation, Retention of CLCs vs Non-CLC Students*

| Count Retained | | CLC Status | | Total |
|---|---|---|---|---|
| | | Non-CLC | CLC | |
| Not Retained | Count | 25 | 23 | 48 |
| | Expected Count | 25.4 | 22.6 | 48.0 |
| | Percent within Count Retained | 52.1% | 47.9% | 100.0% |
| | Percent within CLC Status | 10.0% | 10.4% | 10.2% |
| | Percent of Total | 5.3% | 4.9% | 10.2% |
| Retained | Count | 224 | 198 | 422 |
| | Expected Count | 223.6 | 198.4 | 422.0 |
| | Percent within Count Retained | 53.1% | 46.9% | 100.0% |
| | Percent within CLC Status | 90.0% | 89.6% | 89.8% |
| | Percent of Total | 47.7% | 42.1% | 89.8% |
| Total | Count | 249 | 221 | 470 |
| | Expected Count | 249.0 | 221.0 | 470.0 |
| | Percent within Count Retained | 53.0% | 47.0% | 100.0% |
| | Percent within CLC Status | 100.0% | 100.0% | 100.0% |
| | Percent of Total | 53.0% | 47.0% | 100.0% |

*Note*. Entire sampled population, $N = 470$. ($\chi 2$ (1) = .017, $p = .896$).

Similarly, to determine if persistence rates differed between the CLC and non-CLC groups for the IIS survey respondents, a Chi-square, cross-tabulation test of independence was computed to compare the frequency level for students within CLC and non-CLC categories, and patterns of persistence between fall 2011 to spring 2012 semesters. The results (see Table 20) revealed no significant interactions between the categories, suggesting the CLC status and persistence variables are independent of each other [$\chi 2(1) = 2.357$; $p = .125$].

*Research question four summary.* Research question four, "Are there differences in first to second semester persistence rates for CLC and non-CLC participants?" was addressed using a descriptive analysis, since persistence is a dichotomous outcome variable. This analysis included performing a cross tabulation and calculating a Chi-square test of independence to compare the frequency level for students within CLC and non-CLC categories, and their patterns of persistence from fall 2011 to spring 2012 semesters. Furthermore, the analysis looked at both the entire sampled population as well as the IIS survey respondents. The results revealed no significant interactions between the categories, which suggest the CLC status and persistence variables are independent of one another.

Table 20

*Cross-Tabulation, Retention of CLCs vs Non-CLC Students*

| Count Retained | | CLC Status | | Total |
|---|---|---|---|---|
| | | Non-CLC | CLC | |
| Not Retained | Count | 7 | 3 | 10 |
| | Expected Count | 4.7 | 5.3 | 10.0 |
| | Percent within Count Retained | 70.0% | 30.0% | 100.0% |
| | Percent within CLC Status | 12.1% | 4.5% | 8.1% |
| | Percent of Total | 5.6% | 2.4% | 8.1% |
| Retained | Count | 51 | 63 | 114 |
| | Expected Count | 53.3 | 60.7 | 114.0 |
| | Percent within Count Retained | 44.7% | 55.3% | 100.0% |
| | Percent within CLC Status | 87.9% | 95.5% | 91.9% |
| | Percent of Total | 41.1% | 50.8% | 91.9% |
| Total | Count | 58 | 66 | 124 |
| | Expected Count | 58.0 | 66.0 | 124.0 |
| | Percent within Count Retained | 46.8% | 53.2% | 100.0% |
| | Percent within CLC Status | 100.0% | 100.0% | 100.0% |
| | Percent of Total | 46.8% | 53.2% | 100.0% |

*Note.* These results are for IIS survey respondents. $\chi 2(1) = 2.357$; $p = .125$.

*Summary*

The purpose of this study, using the first-year student as the unit of analysis, was to explore the impact of participation in a curricular learning community (CLC) on the academic success, academic and social integration, institutional commitment, and persistence of first-year students at Missouri State University (MSU), a Midwest, public, four-year university. Furthermore, the researcher explored pre-existing differences in students who elected to enroll in a CLC, as compared to those who do not. Using Tinto's (1975, 1987, 1993) Theory of Student Departure and Astin's (1993) Input-Environment-Output (I-E-O) model, the researcher developed four research questions to focus the study. Data was then collected by administering an electronic version of the *Institutional Integration Scale* (IIS) and additional demographic measures. The reliability of the instrument was tested using Cronbach's Alpha for each subscale of the IIS instrument. Additional demographic and admissions institutional data was collected on the entire sample (not just those who elected to complete the survey) to provide the researcher a larger comparison group. A number of data analysis techniques were then applied to address each research question.

Overall, several conclusions may be drawn based upon data analysis. First, the results of the study suggest CLC and non-CLC groups are quite similar, in terms of pre-existing differences such as academic ability (as measured by ACT and high school GPA). Upon closer examination of ACT results, the ACT math subscore was higher for non-CLC students, with CLC students performing at a lower level. Additionally, there were no significant differences between the CLC and non-CLC groups on demographic variables such as (a) *age*, (b) *race/ethnicity*, (c) *anticipated first-semester GPA*, or (d)

*financial aid status*. This held true for both IIS survey respondents and the entire sampled population (with the exception of *anticipated first-semester GPA*, which was not measured for the entire sample population.)

Second, the results of the study suggest there were no differences between the CLC and non-CLC groups in academic success (as defined by first-semester GPA and credit hours completed). The conclusion may be drawn that there are no differences on these variables as a result of students' participation in a learning community. The results were mirrored with both IIS survey respondents, as well as the entire sampled population.

Third, in terms of academic and social integration (as measured by the modified *Institutional Integration Scale*), an analysis revealed no significant differences on any subscales. CLC and non-CLC groups reported the greatest mean for *institutional and goal commitment* and the lowest mean for *interactions with faculty* subscales. From these results, it can be concluded that students participating in the CLC group achieved no greater degree of integration than non-CLC students as a result of participating in a learning community.

Finally, first-to-second semester persistence rates were examined. Results for IIS survey respondents revealed no significant differences between the two groups. Similarly, the total sampled population revealed no significant differences between CLC and non-CLC groups. Thus, the conclusion may be drawn participation in a CLC had no significant effect on short-term persistence rates.

Chapters One, Two, and Three provided the groundwork for this study by presenting the purpose of the study, conceptual underpinnings, research questions, literature review, and the design and methodology utilized in the research. In Chapter

Four, the data collection and analysis for each research question was presented. Chapter Five will provide a summarized discussion of the major findings, implications for practice, and recommendations for future research. Finally, an Appendix section is provided to inform readers of supplementary materials, including IRB approval letters, informed consent letters, survey instrument, and permission to use the instrument.

*CHAPTER FIVE*

# DISCUSSION

## *Introduction*

Continued decreases in state and federal funding support for higher education remains a concern for leaders of universities and colleges (National Center for Education Statistics, 2011). As a result, institutions are relying more than ever on revenue obtained from student enrollment. During past years of rapid expansion, university leaders often relied on enrollment growth as a panacea for tuition revenue. With the number of high school graduates anticipated to decrease over the next several years, however, and with increased competition for available students (National Center for Education Statistics, 2011), savvy institutional leaders are beginning to recognize they must begin to take a new approach to enhance revenue. It is far more cost effective to retain a current student than to recruit a replacement (Cuseo, n.d.). Thus, implementing and supporting initiatives designed to positively impact student success and persistence, such as first-year seminars and curricular learning communities (CLCs), will become more important than ever.

A pervasive problem for higher education leaders are students' continuing high rates of student attrition, especially for students who do not persist from the first to second year of college (Tinto, 2009; Upcraft et al., 2005). Increasing numbers of institutions throughout the nation are taking an intentional approach in channeling resources into first-year experience programs in an effort to stem the tide of first-year student attrition. These efforts often include implementing programs such as curricular learning communities (Pascarella & Terenzini, 2005; Smith et al., 2004). There are many

types and models of learning communities, including designs with both residential and academic approaches to restructuring the living and learning experience for students.

One of the most basic approaches to learning communities, in terms of curricular integration, is the paired-course model. This model involves cohorts of 20-30 students who are co-enrolled in two general education courses targeted at first-year students. Often, one of the two courses is either an English composition or communication course (Laufgraben, Shapiro, & Associates, 2004). This paired-course model is used as the CLC design for the institution in the current study.

The purpose of this study was to explore the impact of participation in a CLC on the academic success, academic and social integration, institutional commitment, and persistence of first-year students at Missouri State University (MSU), a Midwest, public, four-year university. Additionally, the researcher explored pre-existing differences in students who elected to enroll in a CLC, as compared to those who did not. To accomplish this, a quantitative study was designed to evaluate factors associated with increased persistence. Some of these factors included (a) academic and social integration, (b) institutional commitment, and (c) academic achievement (Pascarella & Terenzini, 2005; Tinto, 1993).

Four research questions were developed based upon the conceptual frameworks provided by Tinto's Theory of Student Departure (1975, 1987, 1993) and combined with Astin's (1993) Input-Environment-Output (I-E-O) model. The research questions included examining pre-existing differences in academic ability (as measured by ACT and high school GPA), academic success (as defined by first-semester college GPA and credit hours completed in the first semester) in students electing to participate in a CLC

or non-CLC group of classes. Additionally, participants completed a modified version of the *Institutional Integration Scale* (IIS), developed by Pascarella and Terenzini (1980).

The IIS measured responses on five subscales, including (a) peer group interactions (7 items), (b) interactions with faculty (5 items), (c) faculty concerns for student development and teaching (5 items), (d) academic and intellectual development (7 items), and (e) institutional and goal commitment (6 items). To address the research questions, additional demographic data was collected on the IIS survey respondents ($N = 124$), and from the larger sample ($N = 471$) of students using the institutional data system. Utilizing the institutional data system allowed the researcher to cross-check some of the self-reported information and provided a larger comparison group for the variables studied. Several data analysis techniques were then applied to compare the CLC and non-CLC students' responses to the IIS survey, as well as several outcome variables of interest (first-semester GPA, credit hours completed, etc.)

In Chapter Four the results of the data analysis were presented. Within this chapter, the conclusions from the research study are presented. Then, a discussion section is offered to provide further understanding of the study's findings. Additionally, the limitations of the study are discussed to provide additional insight into some of the challenges of the study. Finally, the study's implications for practice and recommendations for further research are presented.

### *Conclusions*

The current study was designed to explore the impact of students' participation in a CLC on several variables known to be correlated with increased student persistence. These included academic success, academic and social integration, and institutional

commitment. Additionally, the researcher was interested in examining pre-existing differences in academic ability and academic success in students who participate in CLCs, as compared to those who do not. Using Tinto's Theory of Student Departure (1975, 1987, 1993) and Astin's (1993) Input-Environment-Output (I-E-O) as a framework, four research questions were developed. Data was then collected and analyzed.

*Research Question One*

The first research question was asked to determine if there were pre-existing differences in academic ability (as measured by ACT and high school GPA) in students who participated in the curricular learning community (CLC) as compared to those who did not. The results indicated no significant differences between the two groups on the variables *high school GPA* and *ACT composite* scores using an alpha level of .05. In examining the ACT data more closely, a significant difference between the two groups was found on the ACT math subscore, with the CLC students having lower mean math subscores than the non-CLC students. Further analysis between the two groups revealed no significant differences on demographic variables including (a) *age,* (b) *race/ethnicity,* (c) *anticipated first-semester GPA*, or (d) *financial aid status*. From these results, it can be concluded that the only pre-existing differences between CLC and non-CLC students in academic ability is in math, with CLC students performing at a lower level on the ACT subscore.

*Research Question Two*

The second research question was asked to determine if there were differences in academic success (as defined by first-semester GPA and credit hours completed in the

first semester) in students who participate in the curricular learning community (CLC) as compared to those who do not. An analysis of the results of IIS respondents revealed no significant differences between the two groups for the variables, *first-semester GPA,* and *credit hours completed*. Similarly, an analysis of the results of the entire sample revealed no significant differences between the CLC and non-CLC groups for the variables *first-semester GPA* and *credit hours completed*. From these results it can be concluded that there are no differences between the CLC and non-CLC groups in academic performance (as measured by GPA), or in credit hours completed as a result of participation in a learning community.

*Research Question Three*

The third research question was asked to determine if learning community participants reported a higher level of integration, as measured by the *Institutional Integration Scale* (IIS), than non-participants. An analysis of the results indicated both CLC and non-CLC students reported the greatest mean for *institutional and goal commitment* and the lowest mean for *interactions with faculty* subscales. However, the differences were not significant using an alpha level of .05. Furthermore, no significant differences were found between the two groups on the remaining subscales of (a) *peer group interaction*, (b) *faculty concerns with student development and teaching*, and (c) *academic and intellectual development*. From these results, it can be concluded that students participating in the CLC group achieved no greater degree of integration, as measured by the IIS scale, than students in the non-CLC group as a result of their experiences.

*Research Question Four*

Research question four was asked to determine if there were differences in first to second semester persistence rates for CLC and non-CLC participants. In the analysis of the IIS survey respondents, no significant differences were found between the two groups. In addition, the two CLC and non-CLC groups were compared again, using the entire sample of 471 students. The analysis of the results revealed no significant differences between the two groups. From these results, it can be concluded that participation in a CLC had no significant effect on short-term persistence rates. These held true for IIS survey respondents as well as the entire sample group.

## *Discussion*

As stated previously, there were no significant differences between the CLC and non-CLC groups on any of the variables studied such as credit hours completed, first-semester GPA, and persistence to the second semester of studies. Moreover, no significant differences between the two groups were found after analyzing responses from the IIS subscales. Additionally, the two groups of students were nearly identical, in terms of ACT composite scores and high school GPA. The only significant difference between the two groups was on the ACT math subscore, which was lower for the CLC than the non-CLC students. Thus, for all intents and purposes, the students could be considered equivalent comparison groups at the beginning of the Fall 2011 semester.

The results of the research findings of the current study are contradictory to much of the existing literature on learning communities, which typically report greater academic and social integration, positive impact on GPA, and increased student persistence (Stassen, 2003; Tinto, 1997, 2003; Tinto & Russo, 1994). The results suggest the CLCs in the current format at the institution studied are not achieving desired

outcomes for participating students. However, the more important question becomes, "Why not?" To identify these reasons will require additional in-depth research over a longer time period. For example, in terms of student persistence, most of the studies (Tinto & Russo, 1995; Zhao & Kuh, 2004) examine fall-to-fall, not fall-to-spring retention rates, so this may be a factor to examine in more detail. Furthermore, administrative decisions of whether to suspend students at MSU are under the purview of the dean of the college for students' majors. These decisions vary greatly by dean and by college. For instance, the researcher has personally observed two students enrolled in a CLC with identically poor first semester GPAs (less than a 1.0). One of the students was immediately suspended for a semester per University policy, while the other student was allowed to reenroll for the following semester. Therefore, with inconsistent suspension policies applied to students, it is difficult to ascertain if persistence rates are accurate based upon student performance. Students may have the same GPA, but outcomes (independent of the CLC experience) may vary widely, in terms of suspension and persistence.

With the majority of the research literature touting the positive benefits of CLCs of various configurations (Barefoot, 2004; Engstrom & Tinto, 2007; Johnson, Johnson, & Smith, 1998; Pascarella & Terinzini, 2005), the findings from this study should not be construed that CLCs cannot be effective at Missouri State University. Rather, the results suggest additional program and faculty development, increased efforts of program evaluation, and rigorous assessment should be implemented to determine potential areas of improvement. As is the case nationally, a lack of empirical evidence and analysis at the institutional and program levels justifies the need for additional study of CLCs.

Although this study was limited in scope, the results have provided insight into how similar CLC and non-CLC groups were, in terms of academic preparation and other demographic factors prior to participating in the fall semester. Additionally, although the findings of the study were very limited, it provides further support for the notion that the degree of curricular and co-curricular integration of the CLC is of critical importance, in terms of substantially impacting students' experiences in ways that improve student success and persistence.

### *Limitations*

In this study, a number of issues existed which limited the scope and generalizability of the findings, and must be acknowledged. First, the study only included a single institution (Missouri State University), a large public, four-year university in the Midwest. Therefore, the study was limited to the Carnegie Foundation classification of "large," which requires the enrollment of at least 10,000 full-time, degree-seeking students (The Carnegie Foundation for the Advancement of Teaching, 2004). Additionally, a convenience sample of 471 students was used, further limiting the ability to generalize findings beyond the sample. A truly randomized sample would have provided more support for generalizing the results (Mertens, 2005).

Second, the survey instrument used in the study, the modified *Institutional Integration Scale* (Pascarella & Terenzini, 1980), only captured self-reported student data. The inherent nature of self-reporting data provides the opportunity for students to present socially acceptable responses (Aneshensel, Estrada, Hansell, & Clark, 1987). Thus, the self-reported data may have been skewed, depending on respondents' perceptions of their experiences.

Third, the limited timeframe the data was collected, i.e., at the end of the first semester of college rather than at the end of the first year, likely affected the findings. A longitudinal study examining student differences at the one year point may yield additional useful information on the potential benefits to participants and impacts on persistence. This is supported by research findings which suggest many of the benefits of learning communities may not be evident until much later (Pascarella & Terenzini, 2005; Smith et al., 2004).

Finally, the response rate of 26% may have limited the study results. Since participants were not required to answer all questions, varying *N* values were reported throughout the study. Additionally, 75% of survey respondents were female, even through participants were more evenly divided by gender. Thus, results may have been different if respondents were more evenly divided in terms of gender. Furthermore, the race/ethnicity of respondents was 91.1% White or Caucasian, which is slightly over-representative of the student population. In particular, the Hispanic or Latino student perspective was under-represented in survey respondents as compared to the overall student population.

### *Implications for Practice*

As noted previously, CLCs have been shown in numerous studies to have a positive impact on first-year students' academic and social integration, and indirectly, on student persistence to the second year (Smith et al., 2004; Tinto, 2009). Furthermore, successful implementation of CLCs has the potential to transform pedagogical practices, with faculty members utilizing more active teaching and learning methods in the classroom which positively impacts student engagement and learning (Zhao & Kuh,

2004). The question becomes, "How can the widespread success of CLCs be replicated at Missouri State University?" The results of the study provide indirect evidence of where institutional efforts might be focused.

It is clear from the research findings of the current study there appears to be no significant difference in the students who elect to participate in CLCs (in terms of ACT scores, high school GPA, etc). In other words, self-selection bias, potentially a confounding variable in similar comparison studies, may not be a significant issue. Thus, faculty members should not assume that CLC students are less academically prepared than their non-CLC counterparts, and should not be hesitant in providing rigorous, academically challenging activities for students. It should be noted there may be a possible confounding variable for the non-CLC group, which includes students' other first-year integrating experiences. It is possible some of the non-CLC students have participated in other experiences during the first semester which fostered academic and social integration, which may explain the lack of differences on these variables between the two groups.

Next, the lack of significant differences found from the *Institutional Integration Survey* (IIS) results in several areas suggests the need for additional intentional integration efforts in the CLCs. In particular, for the subscales *interactions with faculty*, and *academic and intellectual development*, the CLC groups should have demonstrated higher mean scores. This suggests additional professional development and education of participating faculty members on the importance of more thoroughly integrating academic content might produce better outcomes for students.

Additionally, the learning community model used at MSU, paired or clustered courses, is acknowledged in the literature as the most basic approach to learning communities in terms of curricular integration (Laufgraben, Shapiro, & Associates, 2004; Shapiro & Levine, 1999). Consequently, the lack of significant findings may be attributable, in part, to the low levels of curricular integration. Furthermore, at MSU many of the linked courses (e.g., English composition) are taught by graduate teaching assistants, whose teaching experience and commitment may be negatively impacting student learning outcomes. For example, it is conceivable that the level of integration of the instructor's teaching in the CLCs may be vary widely, with graduate teaching assistants demonstrating a much lower level of integration with the institution. These factors may be contributing to implementation failure of CLCs. Rossi, Lipsey, and Freeman (2004) defined implementation failure as a situation in which desired program outcomes are not achieved, because program activities necessary to bring about desired improvement did not actually occur.

Finally, the institution studied has experienced multiple changes in high level leadership during the implementation phase of CLCs, including the positions of president, provost, and several deans and department heads overseeing the primary courses involved. With varying degrees of knowledge and support of such programmatic initiatives, there has not been a strong, consistent message to faculty leaders and faculty members of the importance of encouraging participation in CLCs. The end result has often been a lack of commitment from those involved, which undercuts the potential impact of CLCs, and therefore, they have remained a marginalized initiative at best. As stated previously, the current administration appears to be focused on recruitment and

growth as primary intuitional goals, rather than on retaining current students by supporting retention-related initiatives. Until institutional resources and personnel are aligned to effectively develop, administer, and evaluate these programs, substantive beneficial results from CLCs at MSU are unlikely.

### *Recommendations for Future Research*

While the current study revealed no significant differences between students' participation in a CLC on several outcomes of interest including GPA, credit hours completed, and student persistence to the second semester, more research is needed to understand the potential impact of learning communities on first-year students. It is important to note this particular study focused only on the impact of participation in a CLC on the academic success, academic and social integration, institutional commitment, and persistence of first-year students at Missouri State University (MSU), a Midwest, public, four-year university. Several limitations of the study must be acknowledged, including use of a quantitative-only design, single-institution study, convenience sample, statistical analysis utilized, and timeframe of the study. Future research on the impact of CLCs should attempt to mitigate some of these issues, in order to glean a more complete picture.

To obtain a more complete understanding of the potential impact of CLCs, several recommendations are offered. First, a mixed-method design is recommended for consideration for future research. A mixed-method design would provide the researcher a more comprehensive understanding of the CLC program impact on individual students, since it would provide an opportunity to explore the more nuanced experience of students' participation in the individual CLCs which may not be obtained through a

survey. For example, the use of focus groups should be considered to obtain an in-depth narrative of the students' experiences in the CLCs (Creswell, 2009).

Next, future research should explore CLCs beyond the single institution studied, perhaps looking at identified benchmark institutions for Missouri State University. This would allow researchers to obtain a broader understanding of the impact of CLCs at similar institutions. However, it would be important to understand the particular type of CLCs being used at other institutions to allow for a fair comparison, since part of the impact of CLCs may be dependent upon the design of the CLCs, as well as who is teaching in them; for example, graduate teaching assistants as compared with full-time faculty members. Furthermore, additional research should examine the level of integration of the faculty members involved to determine if there are differences between graduate teaching assistants, non-tenure track or staff instructors, and ranked faculty.

Finally, future research should consider utilizing a longitudinal design. This design would allow researchers to determine if the impact of CLCs, especially on GPA and persistence, might be more noticeable at the one year point. Several researchers (Pascarella & Terenzini, 2005; Tinto, 2009) observed some of the benefits on persistence for CLC participants are not realized until later.

Curricular learning communities (CLCs) have been shown in numerous studies to positively impact academic success, academic and social integration, institutional commitment, and persistence (Pascarella & Terenzini, 2005; Smith et al., 2004; Tinto, 2009; Upcraft et al., 2005). The current study attempted to understand and measure the short-term impact of students' participation in a CLC on first-year students at Missouri State University. Although the results of this study suggest a limited short-term impact,

the results should not be interpreted to suggest CLC programs have no value to students and the institution. Rather, the results underscore the need to take a closer look at CLCs through a program evaluation process at MSU. Additionally, an emphasis on continuous assessment efforts to determine what is working well in the current CLC model, and what should be changed or improved, should be explored.

Furthermore, it is imperative upper-level administrators understand the potential positive impact of these first-year initiatives, and thus allocate resources appropriately. If CLCs or other high impact practices are to be fully and effectively implemented to reach every new student, additional resources (particularly personnel) must be considered, so that programs can be developed to the degree necessary to have a substantial impact on new students. Otherwise, CLCs and other first-year initiatives will continue to have a marginal impact at best.

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*APPENDIX A*

Permission to Use the *Institutional Integration Scale* (IIS).

**From:** Wood, Michael B [mailto:MikeWood@missouristate.edu]

**Sent:** Tuesday, October 18, 2011 8:25 PM

**To:** Pascarella, Ernest T

**Subject:** Institutional Integration Scales, since 1980? Tentative permission to use for my dissertation?

Dear Dr. Pascarella,

I'm hoping you might offer some guidance. I am in the beginning stages of a literature review as part of my dissertation proposal, and I have found multiple references to the *Institutional Integration Scales* you created with Dr. Terenzini in 1980. I see that in the past, you have granted permission to at least twenty other doctoral students to utilize your instrument, and I would like to request permission to be the next student to do so, assuming it's appropriate for my proposed study. (Tentative working title: *The impact of participation in a curricular learning community on academic performance, academic and social integration, institutional satisfaction, and persistence rates of first-year students at a four year public university.)*

However, I'm also curious if the instrument has been updated since 1980, or if there are other instruments I might also consider that effectively measure Tinto's constructs of academic and social integration? Any guidance would be greatly appreciated.

Thank you in advance for your time, and I look forward to hearing from you.

Sincerely, Mike Wood

**From:** Pascarella, Ernest T [ernest-pascarella@uiowa.edu]

**Sent:** Tuesday, October 18, 2011 10:59 PM

**To:** Wood, Michael B

Mike: You certainly have my permission to use the scales in your dissertation. As for updating I suggest you go to Google Scholar and enter "institutional integration scales". I'm sure you'll get the articles using it since we put the scales together. Pat and I haven't done much with the scales since their original development as we turned our attention to college impact research. Best of luck with your dissertation research. Ernie

*APPENDIX B*

IRB Approval Letter

**Campus Institutional Review Board**
**University of Missouri-Columbia**

485 McReynolds Hall
Columbia, MO 65211-1150
PHONE: (573) 882-9585
FAX: (573) 884-0663

February 28, 2012

Principal Investigator: Wood, Michael B
Department: Educational Leadership & Policy Analysis

Your Application to project entitled *THE IMPACT OF PARTICIPATION IN A CURRICULAR LEARNING COMMUNITY ON ACADEMIC SUCCESS, ACADEMIC AND SOCIAL INTEGRATION, INSTITUTIONAL COMMITMENT, AND PERSISTENCE OF FIRST-YEAR STUDENTS AT MISSOURI STATE UNIVERSITY* was reviewed and approved by the MU Campus Institutional Review Board according to terms and conditions described below:

| | |
|---|---|
| IRB Project Number | 1201257 |
| Initial Application Approval Date | February 27, 2012 |
| IRB Expiration Date | February 27, 2013 |
| Level of Review | Expedited |
| Project Status | Closed - Data Analysis Only |
| Expedited Categories | 45 CFR 46.110.a(f)(5) |
| Risk Level | Minimal Risk |
| Type of Consent | No Consent Required |

The principal investigator (PI) is responsible for all aspects and conduct of this study. The PI must comply with the following conditions of the approval:

1. No subjects may be involved in any study procedure prior to the IRB approval date or after the expiration date.
2. All unanticipated problems, serious adverse events, and deviations must be reported to the IRB within 5 days.
3. All modifications must be IRB approved prior to implementation unless they are intended to reduce risk.
4. All recruitment materials and methods must be approved by the IRB prior to being used.
5. The Continuing Review Status Report must be submitted to the IRB for review and approval at least 30 days prior to the project expiration date.
6. Maintain all research records for a period of seven years from the project completion date.
7. Utilize the IRB stamped consent documents and other approved research documents located within the document storage section of eIRB.

If you have any questions, please contact the Campus IRB at 573-882-9585 or umcresearchcirb@missouri.edu.

Thank you,

Charles Borduin, PhD
Campus IRB Chair

*APPENDIX C*

Survey of Impact of Curricular Learning Communities

Utilizing Pascarella and Terenzini's (1980) Institutional Integration Scale

Copy of the Web-Based Survey Instrument

**Informed Consent Statement**

If you agree to be a part of this study, "The Impact of Curricular Learning Communities at MSU", you will be asked to complete a short questionnaire which should take no longer than 5-10 minutes to complete. To continue, you are asked to mark "I agree to participate" at the bottom of this page.

- What are the risks? The risks associated with this study are minimal since participation in the survey in no way affects your grade.

- What are the benefits? The benefits which may reasonably be expected to result from this study are the opportunity to help evaluate and improve Curricular Learning Communities for future students, which may increase student success at Missouri State University.

- How will my privacy be protected?

- The results of this study are confidential and only the investigator will have access to the information which will be kept in a locked facility at the University. Your name or personal identifying information will not be used in any published reports of this research. All information gathered during this study will be destroyed one year after completion of the project.

I have read and understand the information in this form. By selecting "I agree to participate", I agree voluntarily to participate in this study. I know that I can withdraw from the study at any time.

Note: If you have any questions about the study or your role in it, be sure to contact Mike Wood and he will answer them for you. You may contact him at 417-836-8343, or by email: mikewood@missouristate.edu.

Thank you!

Sincerely,
Mike Wood
University of Missouri, Doctoral Candidate

1. Please select one of the options below.

□ I agree to participate

□ I do not agree to participate

PLEASE INDICATE YOUR LEVEL OF AGREEMENT WITH THE STATEMENTS THAT FOLLOW

| | Strongly Disagree | Disagree | Slightly Disagree | Slightly Agree | Agree | Strongly Agree |
|---|---|---|---|---|---|---|
| 2. Since coming to this university I have developed close personal relationships with other students here. | ❑ | ❑ | ❑ | ❑ | ❑ | ❑ |
| 3. The student friendships I have developed at this university have been personally satisfying. | ❑ | ❑ | ❑ | ❑ | ❑ | ❑ |
| 4. My interpersonal relationships with other students at this university have had a positive influence on my personal growth, attitudes, and values. | ❑ | ❑ | ❑ | ❑ | ❑ | ❑ |
| 5. My interpersonal relationships with other students at this university have had a positive influence on my intellectual growth and interest in ideas. | ❑ | ❑ | ❑ | ❑ | ❑ | ❑ |
| 6. It has been difficult for me to meet and make friends with other students at this university. | ❑ | ❑ | ❑ | ❑ | ❑ | ❑ |
| 7. Many of the students I know at this university would be willing to listen to me and help me if I had a personal problem. | ❑ | ❑ | ❑ | ❑ | ❑ | ❑ |
| 8. Most students at this university have values and attitudes different from my own. | ❑ | ❑ | ❑ | ❑ | ❑ | ❑ |
| 9. My non-classroom interactions with faculty at this university have positively influenced my personal growth, values, and attitudes. | ❑ | ❑ | ❑ | ❑ | ❑ | ❑ |
| 10. My non-classroom interactions with faculty at this university have positively influenced my intellectual growth and interest in ideas. | ❑ | ❑ | ❑ | ❑ | ❑ | ❑ |
| 11. My non-classroom interactions with faculty at this university have positively influenced my career goals and aspirations. | ❑ | ❑ | ❑ | ❑ | ❑ | ❑ |
| 12. Since coming to this university I have developed a close, personal relationship with at least one faculty member. | ❑ | ❑ | ❑ | ❑ | ❑ | ❑ |
| 13. I am satisfied with the opportunities to meet and interact informally with faculty members at this university. | ❑ | ❑ | ❑ | ❑ | ❑ | ❑ |

| | Strongly Disagree | Disagree | Slightly Disagree | Slightly Agree | Agree | Strongly Agree |
|---|---|---|---|---|---|---|
| 14. At this university, many of the faculty members I have had contact with are generally interested in students. | ❑ | ❑ | ❑ | ❑ | ❑ | ❑ |
| 15. At this university, many of the faculty members I have had contact with are generally outstanding or superior teachers. | ❑ | ❑ | ❑ | ❑ | ❑ | ❑ |
| 16. At this university, many of the faculty members I have had contact with are willing to spend time outside of class to help students. | ❑ | ❑ | ❑ | ❑ | ❑ | ❑ |
| 17. At this university, most of the faculty I have had contact with are interested in helping students grow more than just in academic areas. | ❑ | ❑ | ❑ | ❑ | ❑ | ❑ |
| 18. At this university, most of the faculty I have had contact with are genuinely interested in teaching. | ❑ | ❑ | ❑ | ❑ | ❑ | ❑ |
| 19. I am satisfied with the extent of my intellectual development since enrolling at this university. | ❑ | ❑ | ❑ | ❑ | ❑ | ❑ |
| 20. My academic experience at this university has had a positive influence on my intellectual growth and interest in ideas. | ❑ | ❑ | ❑ | ❑ | ❑ | ❑ |
| 21. I am satisfied with my academic experience at this university. | ❑ | ❑ | ❑ | ❑ | ❑ | ❑ |
| 22. Many of my courses this year have been intellectually stimulating. | ❑ | ❑ | ❑ | ❑ | ❑ | ❑ |
| 23. My interest in ideas and intellectual matters has increased since coming to this university. | ❑ | ❑ | ❑ | ❑ | ❑ | ❑ |
| 24. I am more likely to attend a cultural event (e.g., concert, lecture, etc.) now than I was before coming to this university. | ❑ | ❑ | ❑ | ❑ | ❑ | ❑ |
| 25. I have performed academically as well as I thought I would at this university. | ❑ | ❑ | ❑ | ❑ | ❑ | ❑ |
| 26. It is important to me to graduate from college. | ❑ | ❑ | ❑ | ❑ | ❑ | ❑ |
| 27. I am confident I made the right decision in choosing to attend this university. | ❑ | ❑ | ❑ | ❑ | ❑ | ❑ |

| | Strongly Disagree | Disagree | Slightly Disagree | Slightly Agree | Agree | Strongly Agree |
|---|---|---|---|---|---|---|
| 28. It is likely that I will register at this university next fall. | ❑ | ❑ | ❑ | ❑ | ❑ | ❑ |
| 29. It is important to me to graduate from this university. | ❑ | ❑ | ❑ | ❑ | ❑ | ❑ |
| 30. I have a fairly good idea of what I want to major in. | ❑ | ❑ | ❑ | ❑ | ❑ | ❑ |
| 31. Getting good grades is important to me. | ❑ | ❑ | ❑ | ❑ | ❑ | ❑ |

**Demographic Information**

32. Please enter your BearPass/M# in the box below. E.g., M000X2345 PLEASE NOTE: Your responses to the following questions will be kept confidential. However, your BearPass number is needed to allow us to cross check information such as ACT score, MSU GPA, etc., as part of the research study.

33. Please indicate your gender:

- ☐ Female
- ☐ Male

34. Please indicate your race

- ☐ White, Non-Hispanic
- ☐ Black, Non-Hispanic
- ☐ Hispanic or Latino
- ☐ Asian
- ☐ American Indian or Alaska Native
- ☐ Native Hawaiian or other Pacific Islander
- ☐ More than one race
- ☐ Race/ethnicity unknown

35. My age is:

- ☐ 18-20
- ☐ 21-23
- ☐ 24-30
- ☐ 31-35

- 36-40
- More than 40

36. My anticipated first semester GPA is:
    - Less than 2.0
    - 2.0-2.5
    - 2.6-3.0
    - 3.1-3.5
    - 3.6-4.0
37. Do you receive financial aid?
    - Yes
    - No
38. I am the first person in my immediate family to attend college.
    - Yes
    - No
39. What is the highest level of education your parents (or whoever raised you) received?
    - Graduate Degree (Master's level or higher)
    - College Degree
    - Some College, but no degree
    - High School Diploma
    - GED
    - Less than high school
40. Please choose your GEP 101 section number and instructor from the list below.
    - Section 001: Tracey Glaessgen Mon/Wed, 11:50-12:40pm
    - Section 004: Nora Cox Tues/Thur, 2:00-2:50pm
    - Section 005: Tracy Dalton Tues/Thur, 11:00-11:50am
    - Section 009: Robyn Rowe Tues/Thur, 2:00-2:50pm
    - Section 11: Misty Stewart Tues/Thur, 3:00-3:50pm
    - Section 12: Mark Boyer Tues/Thur, 10:00-10:50am
    - Section 14: Diane Leamy Mon/Wed, 12:55-1:45pm
    - Section 15: Leticia White Mon/Wed, 11:50-12:40pm
    - Section 16: Michael Frizell Mon/Wed, 9:40-10:30am
    - Section 19: Danae Wallace Mon/Wed, 11:50-12:40pm

- Section 91: Andrea Weber Mon/Wed, 9:40-10:30am
- Section 142: Andrew Schussler Tues/Thur, 2:00-2:50pm
- Section 90: Dr. T. Franklin Tues/Thur, 11:00-11:50am
- Section 128: Lenord McGownd Tues/Thur, 1:00-1:50pm
- Section 148: Dr. Tom Moeglin Tues/Thur, 3:00-3:50pm
- Section 84: Molly Bunton Tues/Thur, 10:00-10:50am
- Section 117: Terry Weber Mon/Wed, 12:55-1:45pm
- Section 79: Carrie Lines Mon/Wed, 9:40-10:30am
- Section 69: Alison Coltharp Mon/Wed, 8:35-9:25am
- Section 131: Dr. Cliff Franklin Mon/Wed, 2:00-2:50pm

# *VITA*

Michael Wood was born on April 27, 1970, in Springfield, Missouri to Kenneth and Patsy Wood. He is the older of two children and was raised in Springfield, Missouri. After graduating from Kickapoo High School in 1988, he attended Missouri State University where he earned a Bachelor of Science degree in Psychology in 1993. After working for several years in the mental health field in Springfield and St. Louis, as well as a brief stint serving as a United States Army medic, he returned to Missouri State and earned a Master of Science degree in Counseling in 2001. In 2012, he earned a Doctorate in Education from the University of Missouri. He is married to Angela Wood, and he currently resides in Springfield, Missouri.

Michael's professional education career began as a graduate assistant in the Career Center at MSU in 2000. As part of a practicum, and continuing upon graduation in 2001, he worked at Ozarks Technical Community College providing counseling and advising services. In 2002, he was hired as an Academic Advisor at MSU, and worked with exploratory students interested in health professions.

In 2006, he was selected as the Director of First-Year Programs at Missouri State University, where he continues to serve in that role. He has also presented at regional, national, and international conferences on various topics related to first-year student success. Michael continues to pursue additional opportunities to enhance his ability to improve the first-year experience for students.