Retention of Graduate Students Through Learning Communities

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Abstract

This manuscript addresses learning communities (LCs) as a strategy to retain graduate students until program completion. Definitions of LCs and their early development are presented. The benefits of LCs to groups of students with common interests are discussed. In addition, reasons for early graduate student attrition are included. Common models of LCs and characteristics of effective LCs are elaborated. Finally, suggestions for further research are given.

Introduction

An emerging trend in higher education is the formation of learning communities (LCs). Historically, a major goal of LCs was to increase undergraduate student success and retention. However, in the past several years, LCs are being studied as a strategy to improve graduate student retention. For example, the attrition rate for doctoral students has been reported to be as high as 40 to 50 percent nation-wide (Bowen & Rudenstein, 1992; Golde, 2000; Smallwood, 2004). Person (2002) found that students who entered career and technical education and other selected graduate programs through TOEFL scores rather than through English as a second language course had a non-completion rate of 28 percent.

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Graduate students will help to shape the future, not only of undergraduate education, but of business and industry as well. Consequently, success of graduate students is important to meet future societal needs. The purpose of this article is to present information about ways in which LCs are defined, background information regarding the development of LCs, benefits of LCs, reasons for graduate student attrition, and common models of LCs for graduate students.

The term "learning community" is defined in different ways, all of which may be appropriate for a given situation. The term "cohort" appears in many of the definitions, and in some cases the two terms are used synonymously. Chairs, McDonald, Shroyer, Urbanski, and Vertin (2002) define a cohort as a group of participants who enter a program together and enroll in most courses together; however, Yerkes (1995) cautioned that learning communities go beyond a cohort of students enrolled in the same courses with the same assignments. She stated that effective learning groups share a common purpose, social interaction, and pursuit of individual and group learning opportunities. Thompson (1998) defined a learning community as follows:

The learning community is intertwined with the academic program and serves as a process of shared decision-making between faculty and students. The purpose of the community is to provide a safe environment for trust building so that students and faculty serve as instructors of one another. Additionally, the community provides opportunities for peer coaching and a resource network. (p. 3)

Norris and Barnett (1994) noted the similarities between the two concepts by defining cohorts as purposely formed and structured groups to create an environment for effective learning. Meiklejohn (1932) suggested that LCs were deliberately restructured curricula designed to meet the educational objectives of a specific cohort of students and their respective faculty. John Dewey (1933) alluded to LCs in his educational philosophy by promoting collaborative learning that would "foster community and poise the teacher as more of a facilitator within a group of learners than merely as an outside authority" (p. 59). He supported relationships between teachers, learners, the curriculum, and learning. Dewey promoted learner-

centered instruction with the teacher as facilitator and guide. These earlier ideas laid the groundwork for more recent inquiry into LCs. For example, Smith and Hunter (1988) suggested that LCs structure curriculum to support and enhance academic relationships between and among teachers and learners over a sustained period of time. They stated that restructuring the curriculum "supports effective learning and creates an enhanced sense of academic community between students and faculty" (p. 39). Rasmussen and Skinner (1999) defined LCs as specially designed curricula in which two or more courses in a single program are coordinated. Hess and Mason (2005) described LCs as classrooms in which students and their teachers work in cooperative groups. Cross (1998) defined a learning community as a cohort of students who take one or more courses together where the courses are linked together through a common theme. Lawrence (2002) suggested that cohort groups and learning communities are inseparable when he stated:

> Collaborative learning—defined as students and teachers engaged in a process of mutual inquiry and reflection through the sharing of ideas, experiences, and perspectives—is at the core of the cohort model…. In a learning community, all participants are responsible for the growth and well-being of every member. (p. 85)

Development of Learning Communities

Indications of LCs can be seen in the Socratic Method of teaching which emphasizes engaging both teacher and students in open-ended discussions of individual beliefs. The work of Meiklejohn (1932), an innovative educational theorist, promoted a method of teaching in the 1920s whereby students would acquire knowledge based on the conduct of their own lives. Specifically, Meiklejohn advocated abolishing mandatory attendance, lectures, and examinations, and creating collaborative learning between and among students and faculty. He implemented his philosophy in 1927 in an experimental college in a small, intensive, residence-based program for the first two years of college within the University of Wisconsin. The program was controversial and lasted only five

years, perhaps for reasons due more to differences in personalities, philosophies, funding, and bureaucrats than to pedagogy. However, Meiklejohn's work laid the foundation for another learning community at the University of Wisconsin in 1948 when the University implemented a wide variety of general education programs in response to post-war needs for a more sophisticated approach to education, especially in the sciences. The Integrated Liberal Studies program, as the name implies, integrated the physical sciences and the fundamentals of several other sciences. Siegfried (1997) reported that the program is still operational today.

John Dewey (1916) advocated that a major role of education is to prepare students to participate effectively as citizens in a democracy. Dewey (1938) recognized the importance of experience and the application of knowledge and skills to real-world situations. He provided a theoretical framework for LCs by emphasizing collaborative learning between and among teachers and students as critical to a learner's education.

Tussman (1969), following in the footsteps of his mentor, Meiklejohn, introduced the idea of LCs in the University of California at Berkeley. His work helped to provide an impetus for the development of LCs in community colleges and universities. The growth of LCs continued throughout the 1970s, 1980s, and 1990s in community colleges and universities at the undergraduate level. Today virtually all types of institutions have some form of LCs. Recently, the benefits of LCs are being acknowledged as valuable for graduate students as well. Results of a study on doctoral student retention by Dorn and Papalewis (1997) showed that doctoral students who belonged to a group felt encouraged to remain in their programs and to progress in a timely manner toward their degree.

Benefits of Learning Communities

There is a paucity of literature and research on learning communities in adult education and career and technical education. However, the relationship between LCs and increased retention of undergraduate college students in programs other than career and technical education is well documented in the literature. The early

work of Tinto (1973) set the stage for later studies on student attrition. Lenning and Ebbers (1999) and Rao (2005) indicate that LCs yield significant benefits to faculty members, as well as to students. Chickering and Gamson (1987) contended that student-faculty interactions, both in and out of classrooms, contribute to student retention and yield greater student satisfaction with their educational programs. For example, results of a study by Tinto, Goodsell-Love, and Russo (1994) indicated that students at Seattle Central Community College who were involved in a coordinated studies program had higher academic achievement and lower attrition rates compared to their counterparts who were enrolled in traditional courses (52 percent compared to 66.7 percent respectively). Schulte (2002) investigated ethical climate of cohort and non-cohort students and found that both groups perceived ethical climate as an important student retention factor; however, cohort students rated ethical climate more positively than their non-cohort peers.

Freeman, Field, and Dyrenfurth (2001) developed a nonresidential, non-collateral course-based technology learning community (TLC) in which student feedback indicated that the value of continual interaction with industrial mentors gave them the opportunity to discuss the importance and relevance of their coursework, as well as receive feedback and positive reinforcement. Baker and Pomerantz (2001) reported that students who participated in LCs at a commuter metropolitan university had higher grade point averages and were more satisfied with their college experiences than those students who did not participate in a learning community. Tinto (1998) reported that students at LaGuardia Community College in New York City who participated in a learning community were more satisfied with their educational experiences as indicated by their persistence rates. Those in a learning community persisted at a rate of 69.8 percent compared to students who were not in a learning community who had a persistence rate of 62.6 percent. The Washington Center for Improving the Quality of Undergraduate Education at the University of Washington reported an increase in students' academic achievement and intellectual development, involvement, and motivation when students were involved in a

learning community. In addition, students in LCs persisted in school and completed their degrees in a timely manner.

Results of a study by the Office of Institutional Research at Bowling Green State University (2001) revealed that students' academic and social integration into college life have a greater impact on their retention than their pre-college academic skills. Dorn and Papalewis (1997) suggested that cooperation and collaboration within a group are equally important as the tasks to be performed. Wilkie (n.d.) compared student outcomes on retention, student performance, student development, and faculty-student ratios of students in LCs to students in traditional stand-alone courses. Results of Wilkie's study revealed that retention rates were greater for students in coordinated classes than for those in non-coordinated classes - 87 percent and 81 percent respectively for students enrolled from Fall of 1986 to Winter of 1989. For students enrolled four or more quarters from Fall of 1988 to Winter of 1990, the difference in the retention rate was even greater, 78 percent for those in the coordinated classes compared to 50 percent for those in the non-coordinated classes. Cross (1998) stated:

> …students who are involved with the people and activities of LCs are significantly more likely than their less involved peers to show growth in intellectual interests and values, and apparently more likely to get more out of their college education. (p.7)

Andrade (2007) reported that while learning communities had positive effects on student achievement and satisfaction; it was difficult to discern which aspects of the learning communities (e.g., integrated courses and assignments, study skills training, or mentoring) actually affected the students most.

Reasons Graduate Students Drop Out of College

Gilliam and Kritsonis, (2006) recognized that doctoral student attrition is an invisible problem. Students often leave their programs without announcing their intentions and with no follow-up by faculty. Smallwood (2004) reported that humanities and social sciences programs have a higher attrition rate than the sciences.

Bowen and Rudenstine (1992) reported that 40 percent to 50 percent of carefully selected doctoral students drop out before completing their degree. Lovitts (2001) reported that underrepresented groups may exceed the 50 percent attrition rate. Berg and Ferber (1983) found that women tend to have higher attrition rates than men.

Tinto (1973) believed that student retention was related to: (1) students' background, (2) goals and commitment to education, (3) experiences at the institution related to interactions with academics, faculty, and peers, (4) external commitments while in college, and (5) integration both academically and socially. Lovitts' (2001) stated that students drop out of doctoral programs for many reasons other than academic, such as personal, financial, professional, and institutional influences. Her study showed no academic ability differences between completers and non-completers.

A study conducted by Lundquist, Spalding, and Landrum (2002) revealed that faculty attitudes and behaviors had a significant effect on students' decisions to drop out of college. Smallwood (2004) reported that dropout rates for Ph.D. students are related more to selection procedures than to students' ability to do the work. Smallwood stated:

While some students certainly leave Ph.D. programs because they can't do the work, deans say the problem is not usually students' struggling to measure up. A larger portion of the dropout total can be attributed to grad schools' having made bad admission selections. That doesn't mean the students aren't bright enough. Deans and researchers talk, instead, about that hard-to-define "bad fit." (p. 120)

Ph.D. students face many challenges during the period between completing course work and completing the dissertation. Few studies could be found that address admissions criteria and student success. However, Lovitts (2008) and Gardner (2008) noted that conducting independent research is difficult for many students. In other words, selecting an appropriate research topic, developing the proposal, and writing the dissertation are challenges that may prolong a student's time in a program or lead to the student's dropping out. The reasons that graduate students' drop out pose a complex issue with some responsibility on the universities and some on the students. For

example, Golde and Dore (2001) reported that 35 percent of graduate students did not feel that their graduate course work prepared them for conducting independent research. The selection process may be biased; thus, failing some potential students. Results of a study by Attiyeh and Attiyeh (1997) showed that Graduate Record Examination (GRE) scores are highly significant determinants as to whether or not an applicant is admitted to graduate school; however, admissions committees may make adjustments on scores for the verbal portion of the GRE for applicants from non-English speaking countries. Attiyeh and Attiyeh noted:

A conjecture suggested by the empirical findings is that graduate programs used the admissions process to obtain diverse enrollments by adopting higher standards for applicants from relative large applicant groups. Overall, but not with uniform consistency, this behavior appears to have been responsive to the prevailing public policy that encouraged universities to increase participation of historically underrepresented groups and to give greater emphasis to serving U. S. citizens. (p. 547)

Lovitts (2008) suggested that admission procedures may be flawed in that GRE scores and grade point averages may not be valid predictors of graduate student success when these measures are used alone. She contends that practical and creative ability are important determinants as to whether a student can move from course work to independent research. Lovitts stated: "Above a certain threshold of demonstrated academic ability (e.g., undergraduate GPA and GRE scores), they [university admissions committees] might consider focusing more on measures or predictors of practical and creative ability and less on measures of analytical ability" (p. 323). Walpole, Burton, Kanyi, and Jackenthal (2002) found that graduate admissions committees desired more information on understanding students' non-cognitive qualities, such as interpersonal skills, motivation, and persistence to assist in reducing attrition.

The interviewing process to ascertain prospective students' career goals and interest in a specific program of study may not reveal indicators for potential success. For example, a student's motivation to earn the Ph.D. degree may not indicate a student's match to a program and his/her interest and dedication to a program.

When students are admitted into programs for which they discover later that they have little interest, they can become prime candidates for early attrition. For example, Walpole et al. (2002) reported that some graduate students leave their programs because they were "simply not enjoying the work as much as expected" (p. 20). Sadly, these students have already used valuable resources, their own and a university's. Walpole et al. stated:

While some graduate programs are quite large, requiring relatively automated, impersonal admission procedures, many programs are relatively small and have hand-tailored admission procedures, meant to match each student with a mentoring faculty advisor. In this sense graduate admission procedures are strikingly different from undergraduate or professional school admission procedures. . . . A finely tuned match between discipline, student, faculty, and environment is desirable. (p. 21)

Results of over 100 interviews with graduate school faculty and staff conducted by Walpole et al. revealed that while provisions for financial support of graduate students is an important key to retention, other factors such as personal reasons, lack of academic success, lack of motivation or drive, and the inability to conduct research were also factors in attrition.

Models of Learning Communities

As a result of increased interest in LCs as incentives to maintain student retention, several different models of LCs have evolved. The researcher was unable to locate models of learning communities or studies addressing learning communities at the graduate level for career and technical education students. However, the following models, which have been shown to be effective at the undergraduate levels may offer guidance in forming learning communities for career and technical education students. Such practices are now being seriously considered by university faculty members as they strive to retain graduate students to program completion.

Smith (1991) and Tinto (1998) acknowledged that LCs can take many different forms. They suggested one type of learning community as a Freshman Interest Group where an advising

component is included with thematically-related courses. In this kind of learning community, students would meet with an advisor to discuss issues related to college life and forming study groups. Laufgraben and Shapiro (2004) suggested a cohorts-in-large-courses model that is generally designed for freshman in large introductory lecture courses. The cohorts-in-large-courses model is similar to the freshman interest groups suggested by Smith and Tinto where students are organized into smaller interest groups or seminars that provide orientations to college life. This kind of learning community could be designed with the purpose and focus directed toward the needs of graduate students. For example, a Graduate Interest Group could be formed so that professors and doctoral students could discuss advisement procedures, program options, specific courses, program expectations, and timelines.

Another model proposed by Smith (1991) and Tinto (1998) links skill and content courses. For example, an English composition course and a history course could be coordinated. Coordinating courses in problem solving or critical thinking with a mathematics course, or a course in mathematics with a course in science are other examples of linking content courses.

Laufgraben and Shapiro (2004) promoted a model in which paired or clustered courses serve small groups of students (20 to 30). All students within a cluster would be enrolled together in the same block of courses. For example, four or five courses may be scheduled in the block, but only two of the courses may share curricular connections. In addition, a service learning component may be included in requirements for the block. Smith (1991) and Tinto (1998) suggested a clusters concept similar to that of Laufgraben and Shapiro; however, they recommended that three or four courses be linked that address a common theme, such as world progress linking courses in political science, history, sociology, and international relations; or a theme that relates health of body and mind to courses in human biology, human behavior, and sociology. Shapiro and Levine (1999) proposed a team-teaching model in which faculty members collaborate to develop curricula organized around a central interdisciplinary theme. Students may be divided into smaller groups to discuss specific aspects of the centralized theme. Smith and Tinto

proposed a coordinated studies model in which a small cohort of students would participate in a fully integrated 16-credit hour program taught by a group of faculty members. A common theme would tie the courses together.

Characteristics of Learning Communities

Tinto (1998) recommended that nearly all LCs, regardless of their organization, should be organized around a shared or integrated body of knowledge so that students can interact and share as a community of learners. In addition to shared knowledge, Tinto introduced the idea of shared knowing. Shared knowing occurs when students who are enrolled in the same set of courses together cooperate and collaborate in learning the content.

Oertel (2001) reported five essential characteristics of LCs. These characteristics are (1) integrated and interdisciplinary curricula, (2) high level of faculty collaboration and participation in all aspects of the learning community programs, (3) collaborative and active learning, (4) continuous assessments and communication on student outcomes and program results, and (5) consistency of learning community programs with the mission, structure, processes, culture, and climate of the institution. It seems logical that career and technical education programs are natural environments in which such essential characteristics already exist.

Leving and Thompkins (1996) suggested that models for effective LCs include student-faculty interactions and interdisciplinary linkages. The academic and social integration of students with peers and mentors may increase student retention. Addressing a critical component of LCs, Lovitts (2001) stated:

> Working together on a common project appears to be among the best means of achieving academic integration. Thus, to the extent possible departments should do as much as possible to engage all students, especially new students, in the professional tasks of the discipline—paid or unpaid. New students need to work closely with faculty and advanced graduate students on common projects as early as possible in their graduate careers. (p. 269)

The research and literature indicate that social aspects and collaboration with groups provide vital support that enhances learning and encourages retention. Research has shown that doctoral students who are members of cohort groups persist at a higher rate than those not in cohort groups (Brien, 1992; Tinto, 1988). Imel (2002) suggested that learning in cohort groups is a natural arrangement for adult learners, given their focus on group dynamics, adult development, and adult learning theory. According to Gabelnick, MacGregor, Matthews, and Smith (1990), students who participate in LCs earn higher grades, are more satisfied with their educational experiences, feel deeper academic connections to faculty and peers and make healthier educational choices than those enrolled in traditional courses. Effective LCs promote shared learning and discovery, involve inclusive learning environments, and form connections that extend learning across the campus.

Historically, major goals of LCs were to increase undergraduate student recruitment, success, and retention; however, in the past several years, LCs are being studied as strategies to improve graduate student retention. The professional literature and research suggest the overall effectiveness of LCs. However, there is much work to be done in order to fully realize the potential of LCs and to appreciate their value across all educational levels for all academic disciplines. Implementation of LCs at the graduate level, including workforce education, may provide useful information related to attrition. In addition, follow-up studies that address the links between common existing graduate school admission criteria (e.g., letters of recommendations, professional accomplishments) other than GRE scores and GPA and successful doctoral program completion may prove helpful in the student selection process. Also, research on the identification of specific student attributes such as interpersonal skills and creativity may reveal effective indicators of graduate school success.

Development of standardized inventories and scales by which admissions committees can collect and evaluate information on prospective students may help to improve current practices in the admissions process. Finally, the use of electronic data bases on which to store the information collected via standardized inventories and questionnaires may help to ease the admissions process.

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