Feedback Report on Learning Communities and First Year Programs at BGSU, March 2002

ABSTRACT

This report describes the results of a formative study concerning the effectiveness of learning communities and first year programs. Program outcomes, including retention, graduation, grade point averages, credit hours earned, student-program interaction effects, student perceptions collected through surveys, and income vs. expense analyses, were studied using a variety of methods. Several assessments carried out by the program staff were also highlighted. It was recommended that a learning community and first year program assessment group be formed to expand these feedback efforts. It was concluded that the Chapman Learning Community, the Honors Program, the Literacy Serve and Learn Program, the Springboard Program, the UNIV100 class, and the University Program for Academic Success are contributing the most at this time towards retention, graduation, grades, and credit hours earned. Several important assumptions and caveats concerning the procedures used for the study are noted.

BACKGROUND AND PROCEDURE

Many criticisms exist of contemporary American higher education. There are tales of public, employer, and legislative concern with the attention that faculty give to undergraduate learning. There has been increasing skepticism concerning the quality and utility of a liberal arts education. Similarly, there has been fear that students are not developing critical competencies such as communication, critical thinking, and a developed sense of social responsibility. Colleges and universities must respond to these criticisms at the same time that students come to us with an increasingly diverse array of experiences, preparation, and expectations (Shapiro & Levine, 1999).

Several longitudinal studies carried out in recent years and across a wide variety of institutions have highlighted problems affecting the state of undergraduate learning in the United States. Such problems include a discontinuity between K-12 schools and colleges, institutional confusion over purposes and goals, the tension between the liberal arts and professional curricula, faculty feeling split between their loyalty to their institutions vs. their disciplines and between their interests in teaching and research, and the divisions between academic and student affairs on campuses. These studies highlight the need to draw more explicit connections between the classes students take as well as between their in- and out-of-class experiences, the need to become more student-centered, the need to promote student-faculty and student-student interaction and collaborative and active learning activities, the need to improve and make explicit student engagement, high expectations, and assessment, and the need to emphasize competency over content and collaboration over competition (Astin, 1993; Boyer, 1987; Gamson & Chickering, 1987; Joint Task Force, 1998; Kellogg Commission, 1997; Kuh, Schuh, & Whitt, 1991; National Institute of Education, 1984; Pascarella & Terenzini, 1991; Schneider & Schoenberg, 1998).

Institutions are responding by restructuring their activities in a variety of ways, one of which is the establishment of learning communities and first year programs. While not a new concept, these efforts have been experiencing a renaissance in recent years (Cross, 1988; Smith & Hunter, 1988; Shapiro & Levine, 1999). Many definitions and statements of the purposes of learning communities and first year programs exist. Learning communities involve curricular structures that link together courses to encourage deeper understanding of course material and more meaningful interactions between students and faculty and among groups of students (Gabelnick, MacGregor, Matthews, & Smith, 1990). Learning communities and first year programs may involve co-curricular experiences, common career interests, residential living experiences, and avocational interests. They are designed to help students overcome feelings of isolation common on large campuses and to encourage a sense of group identity and strengthen connections between various college experiences (Astin, 1993). The programs upon which the current study is focused share many of the characteristics noted by Shapiro & Levine (1999). They break students and faculty into smaller units than are normally found on campus. They encourage connections between curricular offerings. They help students build support networks. They provide a setting for students to understand the

expectations of college life. They bring faculty together in meaningful ways to encourage learning. They help both faculty and students to focus upon learning outcomes. They provide a community-based setting for delivery of academic support programs. Finally, they offer a critical perspective for examining the first year experience.

Studies have shown that learning communities and first year programs can be effective in promoting student academic achievement, academic and social integration, involvement, satisfaction, sense of community, and persistence (Avens & Zelley, 1992; Borden & Rooney, 1998; Buckner, 1977; Hill, 1985; Lacy, 1978; Levine & Tompkins, 1996; Matthews, Smith, MacGregor, & Gabelnick, 1996; Schroeder & Hurst, 1996; Smith, 1991, 1993; Tinto, 1994; Tinto & Love, 1995; Tinto, Russo, & Kadel, 1994). It has also been suggested that non-participants in learning communities may benefit from interaction with their learning community participant peers (Inkelas, 1999). Some of the more rigorous studies include one carried out by Borden & Rooney (1998), where significant differences in grade point averages and retention between program participants and non-participants were analyzed after controlling for student background characteristics such as pre-college academic achievement, age, and ethnicity. A study sponsored by the National Center on Postsecondary Teaching, Learning and Assessment (Tinto, Love, & Russo, 1993) examined the effectiveness of programs at three different institutions. Barefoot et al. (1998) summarized research conducted about the outcomes of first year seminars at 47 institutions; the most frequently studied outcomes included retention, grade point averages, credit hours attempted and completed, student satisfaction, graduation rates, student adjustment/involvement, and evaluations of specific components of the seminars. Shapiro and Levine (1999) discussed research and evaluation activities concerning learning communities across a variety of institutions; the outcomes studied included student achievement and retention, intellectual and social development, student involvement, classroom experiences, and the effect of learning communities upon faculty and upon institutions.

This study follows from a request from President Ribeau in the Fall of 2001 to provide feedback about the effectiveness of the variety of learning communities and first year programs that currently exist at BGSU, some of which have existed for many years and others of which are brand new. It was requested that the study should act as a formative, point-in-time means of feedback to the program staff and the university community, rather than a high stakes summative evaluation from which resource allocation decisions would result. After review of the literature on learning communities and first year programs and consideration of the available background information about those at BGSU, a multi-method approach to the assessment was conceived (McLaughlin, McLaughlin, & Muffo, 2001), with the following research questions developed to guide the study:

1. What are the demographic and educational characteristics of participants in learning communities and first year programs?
2. What are the retention and graduation rates, mean cumulative grade point averages, and mean student credit hours earned for program participants and how do these outcomes compare to those for non-participants?
3. What significant differences exist in retention rates, mean cumulative grade point averages, and mean student credit hours earned for participants versus non-participants after gender, race, and high school grade point average are controlled for?
4. What significant interaction effects exist between program participation and gender, race, and high school grade point average as shown in retention rates, grade point averages, and student credit hours earned?
5. What significant differences exist in the results of the BGSU New Student Transition Questionnaire for participants versus non-participants after gender, race, and high school grade point average are controlled for?
6. What significant differences exist in the results of the National Survey of Student Engagement for participants versus non-participants after gender, race, and high school grade point average are controlled for?
7. What are the results of income vs. expense analyses for the learning communities and first year programs?

8. What are the results of locally administered assessments of learning communities and first year programs?

Brief Description of Learning Communities and First Year Programs at BGSU

- The BG Effect Mentoring Program matches first year students with university faculty and staff in order to facilitate students' social and academic transitions to campus life.

- Within the Chapman Residential Learning Community students live and learn together through close interaction with each other and some of the university's best faculty; special programming includes study groups and seminars, regularly scheduled social activities, increased involvement with student organizations, and development of leadership skills through increased interaction with students, staff and faculty.

- The Health Science Residential Community is designed to provide students studying the health and natural sciences with a unique living-learning environment where faculty and staff members provide special assistance including tutoring, mentoring and advising.

- The Honors Program offers qualified students academically enriched classes, a residential opportunity, and a wide range of activities such as guest speakers, a service learning program, discussions led by honors faculty, informal reading groups, special programs of personal interest to students, and a peer mentor program for first-year students.

- The Literacy Serve and Learn program is a collaborative effort between the university and local public schools that provides service learning opportunities for students and instructional support for schools.

- The Center for Multicultural and Academic Initiatives focuses on multicultural initiatives on campus by providing educational programs, mentoring opportunities, scholarships, and training for students and staff; in addition, the Center staff provides individual support through advising, tutorial services, study skill sessions, and counseling.

- The President's Leadership Academy provides educationally, economically, and culturally disadvantaged students with opportunities to develop academic and leadership skills.

- Springboard is a graded, one-credit course aimed at assessment and development of skills in communication, analysis, problem solving, judgment, leadership, and self-assurance; through a series of hands-on individual and small group activities, first-year students with their individual coaches (recruited from among faculty, staff, students, community members, alumni, etc.) assess their strengths and development needs and create a personal development plan; this learning community is based upon assessment approaches utilized at Alverno College.

- UNIV 100 is a voluntary two-credit hour course for first year students that exposes them to the resources of the university and promotes the development of intellectual, personal and social skills that will assist in future semesters at the university and beyond; theme sections of the course are also available and serve as an opportunity for new students to strengthen their connections to an academic major or interest.

- The University Program for Academic Success is designed to provide students with lower than average levels of pre-college academic preparation with opportunities to enroll in college courses while receiving special academic support that assists them in making a successful transition to the university environment; this support includes group and individual tutoring, extensive academic advising, and participation in a unique bridge experience.

It should be noted that not all learning communities and first year programs existed for each of the years highlighted in the report and that some programs that may meet the definition of learning communities, such as Greek organizations and intercollegiate athletics, have never been included in studies such as this carried out by the Office of Institutional Research.

Procedures

Electronic lists of new full-time, first year participants in each of the learning communities and first year programs noted have been shared with the Office of Institutional Research each fall semester since fall

1997. Student identification numbers are merged with demographic and enrollment data maintained by the office to produce profiles of program participants and to track their subsequent retention, graduation, cumulative grade point averages, and cumulative credit hours earned.

Logistic regression analyses were carried out to study program participation effects upon retention and graduation after gender, race, and high school grade point average were controlled for. Linear regression analyses were carried out to study program participation effects upon grade point averages and credit hours earned after gender, race, and high school grade point average were controlled for. Interaction terms were computed for program participation (coded 1 or 0) and gender (coded female 1 or 0), race (coded students of color 1 or 0), and high school grade point average (coded high GPA group 1 or 0); program interaction effects upon the same set of outcomes was then studied after controlling for the remaining background variables. Logistic regression is an appropriate statistical analysis technique when the goal is to measure the extent to which a set of independent variables significantly predict or explain changes in dependent variables with only two possible values (e.g., retained or not retained, graduated or not graduated). Linear multiple regression is a similarly appropriate technique when the dependent variables have continuous values (e.g., grade point average and credit hours earned). Working with interaction terms (for example, students being members of one demographic group and also participants in a given program) allows researchers to examine what Pascarella and Terenzini (1991) term conditional effects.

Factor analysis was used to support the development of scale scores from the 2001 BGSU New Student Transition Questionnaire; these then served as dependent variables for the examination of program participation effects after gender, race, and high school grade point average were controlled. Similar procedures were used for examining effects of learning community participation upon results of the 2001 National Survey of Student Engagement.

The income vs. expense analyses were carried out by comparing program expenses to estimated additional revenues gained by the university as a result of program participation. This was done for the 2000-2001 fiscal year. First, the improved retention rate of participants in programs that had clearly demonstrated significantly improved retention in earlier analyses was computed. Since population size may have prevented the increased retention rate for the Health Sciences Residential Community from rising to the level of statistical significance, that program was also included. For the Honors Program, the retention rate of participants was compared to that of students who qualified for Honors but who did not participate. For other programs, the retention rates of participants were compared to that of all students who did not participate in any of the programs. That rate was applied to the number of program participants and the result was multiplied by an estimate of $10,000 per year in tuition and state subsidy for retained students. The $10,000 per year estimate was established by the university's Office of Finance and Administration. Secondly, in addition to revenue gained by the university as a result of improved retention, it was assumed that some number of program participants each year chose to enroll at the university because of the existence of those programs, but there is no way to reliably gage this number. For demonstration purposes, the income vs. expense estimates are shown both with income gained from improved retention only as well as also with income gained from an assumed 5% additional enrollment rate resulting from program participation. The somewhat questionable reliability of the 5% additional enrollment estimate should be kept in mind as the results are considered.

In addition to these assessments carried out by the Office of Institutional Research, a request was sent to the learning community directors, asking them to share information on any participant satisfaction surveys, qualitative assessments, and other means of feedback and the results of these activities. These efforts and their results were summarized.

RESULTS

Demographic and Educational Profiles of Program Participants

Summary profiles of the age, gender, ethnicity, college during the first semester, residency, ACT composite score, and high school grade point average of learning community and first year programs participants (as

well as for students who didn't participate in any of the programs) for Fall 1997 through Fall 2001 cohorts are shown in Tables 1-5, respectively. The profiles demonstrate the diversity among backgrounds of participants.

Retention, Graduation, Grade Point Average, and Credit Hours Earned Tracking

Tables 1-5 also show enrollments and average retention rates, graduation rates, cumulative grade point averages and cumulative credit hours earned each subsequent spring and fall semester for learning community and first year programs participants. A comparison group of students who did not participate in any of the programs is also provided. The basic finding is that the retention rates are higher on average for participants in most of the programs than for students who did not participate in any of them.

Linear and Logistic Regression Analyses Controlling for Background Variables

A valid criticism of the tracking discussed above is that it does not take into account differences in participant characteristics such as gender, race, and pre-college academic achievement that may affect the outcomes studied. For programs such as Honors, for example, the appropriate point of comparison should probably be non-participating students with similar background characteristics as those of the participants. As a response, logistic and linear regression analyses were carried out for the same outcomes as noted earlier but with gender, race, and high school grade point average controlled for. The results of this set of analyses is are shown in Tables 6-17.

The programs showing statistically significant positive effects on retention across multiple cohorts and over multiple years after background variables were controlled for included the Chapman Learning Community (Chapman), the Honors Program (Honors), the Springboard Program (Springboard), and the UNIV100 course (UNIV100). Chapman students graduated within four years at a significantly higher rate as well. Those showing statistically significant positive effects on grade point averages across multiple cohorts and over multiple years after control for background variables included Chapman, Honors, Literacy Serve and Learn (LSL), Springboard, UNIV100, and the University Program for Academic Success (UPAS). Those showing statistically significant positive effects on student credit hours earned across multiple cohorts and over multiple years after control for background variables included Chapman, Honors, and LSL.

Also it should be noted that significant differences in retention rates were found between students in their second to third and third to fourth years as well as over their first years. Some significant differences in grade point averages and credit hours earned continued to be seen across later years as well, but they were found among fewer learning communities and first year programs than was the case concerning retention. The UNIV 131 course was included in these analyses only for its Fall 1997 cohort since the number of first year students in the course after that year was too small to permit the analyses to be carried out.

It is important to state that while statistical control for some potentially confounding background variables is helpful in attributing program participation to the outcomes studied, it would be inappropriate to conclude a strict cause and effect relationship. *There may well be underlying motivational factors that lead to self-selection of students into these programs that could not be taken into account by the study.* Also, the number of participants in the programs may have affected the results; this may have been the case with the Health Sciences Residential Community where the small number of participants may have kept the differences in retention rates and grade point averages from rising to the level of statistical significance.

Interaction Effects Between Program Participation and Gender, Race, and High School GPA

Another important question to be addressed in this assessment is which programs work best for which kinds of students. In response, interaction terms were calculated between program participation and gender, race (students of color vs. white), and high and low high school grade point average groups. The

effect of interaction terms on retention, graduation, grade point averages, and credit hours earned were examined after other background variables were controlled for. These results are provided in Tables 18 through 53. They show that females may particularly benefit from participation in Chapman, Honors, LSL, the Center for Multicultural and Academic Initiatives (MAI), Springboard, UPAS, and UNIV100. Students of color may be more likely to benefit from participation in Chapman, Honors, MAI, Springboard, and UPAS. Finally, students with higher high school grade point averages appear to be more likely to benefit from participation in Honors, LSL, the President's Leadership Academy (PLA), and UNIV100. The UNIV 131 course was not included in these analyses because the number of first year students in the course was too small.

Comparisons of New Student Transition Questionnaire Results

The literature on learning communities and first year programs as well as the stated outcomes of many of the programs at BGSU suggest that student satisfaction, involvement, academic and social integration and development, sense of community and other perceptual factors are important outcomes to study when assessing the results of learning communities. With this in mind it was decided to explore significant differences among the results of two questionnaires that are regularly administered to undergraduates at the institution. Results of the 2001 BGSU New Student Transition Questionnaire were grouped into six scales and these were treated as dependent variables in a series of linear regression analyses where learning community participation was treated as a predictor variable after controlling for gender, race, and high school grade point average. The UNIV 131 course was not included in these analyses because the number of first year students in the course was too small. Reliabilities for the scales ranged from .21 (Academic Involvement scale for the Fall 2000 cohort) to .81 (Social Adjustment scale for the Fall 1999 cohort). The results (shown in Table 54) were not particularly informative since the effect sizes for program participation were very small and the percentage of variance accounted for in the scales due to program participation was very low (the highest was .08). A few significant differences were noted, particularly for BG Effect, the Health Sciences Residential Community (HSRC), Honors, LSL, Springboard, and UNIV100. Sharing of item-by-item comparative results among program directors is probably a more effective means of feedback for the survey results than is the higher level analysis shown in this report.

Comparisons of National Survey of Student Engagement 2000 and 2001 Results

In order to add further depth to the assessment of learning communities and first year programs, significant differences in the results of the National Survey of Student Engagement were also explored across participant groups after gender, race, and high school grade point average were controlled for. The UNIV 131 course was not included in these analyses because the number of first year students in the course was too small. Scales were formed from BGSU NSSE items to create the same "benchmark scores" as used by the NSSE staff, but without the procedures to normalize the data that were done by the NSSE staff (Indiana University Center for Postsecondary Research and Planning, 2000). Reliabilities for the scales ranged from .50 (Enriching Educational Experiences scale for the Fall 1999 cohort) to .72 (Supportive Campus Environment scale for both the Fall 1999 and Fall 2000 cohorts). The results (shown in Table 55) were not as informative as was anticipated since the effect sizes for program participation were moderate at best and the percentage of variance accounted for in the scales due to program participation was low (the highest was .18). A few significant differences were noted, particularly for Honors, Chapman, and LSL. Additional over sampling with the Spring 2001 NSSE was carried out with a sample of Chapman, Honors, and President's Leadership Academy participants and item comparisons were made between program participants and non-participants; several statistically significant differences were found, almost all of which were in a direction that was positive for the programs. Again, this may be a better use of the questionnaire results for program feedback than is the higher level analysis provided in this report.

Income vs. Expense Analysis

See **the background and procedures section of this report** for details of the methodology for this set of analyses. It was decided to carry out income vs. expense analyses for the Chapman Learning Community, the Health Sciences Residential Community, the Honors Program, the Springboard Program, and the

UNIV100 course because the previous analyses were most supportive of the linkage between participation in the program and retention for these programs. Analyses were carried out by counting income gained from improved retention and also by additionally counting income gained from improved recruitment (assuming that some number of program participants each year chose to enroll at the university because of the existence of the programs). The results (shown in Tables 56-60)revealed that the program income to expense ratios were all favorable. The ratio was 1.3 to 1 for Chapman if only income gained from improved retention is considered and 2.3 to 1 if income gained from improved recruitment is also considered. This means that Chapman saw a 30% return rate (30 cents in revenue gained by the University for every dollar spent by Chapman) due to improved retention or a 130% return rate ($1.30 gained by BGSU for every dollar spent by Chapman) owing to both improved recruitment plus retention. The HSRC ratio is 2.3 to 1 (retention only) or 4.6 to 1 (retention and recruitment). The ratio for Honors is 2.4 to 1 (retention only) or 4.3 to 1 (retention and recruitment). For Springboard the ratio is 2.1 to 1 (retention only) or 5.5 to 1(retention and recruitment). The ratios for UNIV100 are different depending upon whether the $50,000 used to pay instructors beginning in 2000-2001 is considered as an expense or whether it is not. The UNIV100 ratios are 5.3 to 1 (retention only with the $50,000 expense included), 17.5 to 1 (retention only without the $50,000 expense), 19.4 to 1 (retention and recruitment with the $50,000 expense), and 64 to 1 (retention and recruitment without the $50,000 expense).

Locally Administered Assessments

Chapman, Honors, LSL, Springboard, UNIV100, and UPAS all administer satisfaction/feedback surveys to their participants each semester and/or each year. The results have been used to modify activities and the feedback is favorable. Chapman and Honors also utilize student evaluations of instruction for their associated individual courses. Chapman also administered a follow-up survey to a sample of its original Fall 1997 cohort in the spring of 2001; the results revealed that seniors attributed very positive benefits for their educational and personal development to their first year participation in the program. UNIV100 carries out focus groups with currently enrolled students, course facilitators, and course completers. Chapman plans to carry out focus groups with a random sample of its participants each year in order to add further depth to its assessment efforts.

Springboard maintains an extensive database of pre- and post-assessment information concerning the personal and educational development of its students. Springboard involves a set of intensive one-on-one and small group activities, many of which include videotaping and focus groups. Meta-level assessments of the feedback provided to participants are used to also continually assess and improve the program.

UNIV100 is included in 2001-2002 First Year Initiative Benchmarking Study sponsored by the Pew Charitable Trusts. This consisted of participants completing a questionnaire concerning the effectiveness of the course in terns of their perception that it helped them to improve critical first year transition skills, understand various aspects of the university, and work through important issues related to student success. The survey also asked specific questions about the delivery of the course. Participants' survey results were compared with those of peer universities and implications for changes in practices resulted.

CONCLUSIONS AND RECOMMENDATIONS

The study was carried out in response to a request from President Ribeau for a formative, point in time feedback report about learning communities and first year programs at BGSU, not a summative evaluation study upon which important decisions about the continuance of the programs and resource allocation should be made. Several assumptions were made as the procedures were carried out and other results may have been reached if different approaches were followed. The outcomes highlighted in this study seemed appropriate to include given the program objectives and the availability of the data; they are not necessarily the only ones being achieved by the programs. Readers are reminded that statistical control for the effects of some potentially confounding background variables on student outcomes, while helpful, should not lead to the conclusion on a cause and effect relationship; there may well be underlying motivational factors that lead to self-selection of students into these programs that could not be taken into account by the study. The

number of participants in the programs may have affected the results; this may have been the case with the Health Sciences Residential Community where the small number of participants may have kept the differences in retention rates and grade point averages from rising to the level of statistical significance. Further, for the income vs. expense analyses, the somewhat questionable reliability of the 5% additional enrollment estimate should be kept in mind as the results are considered.

It became clear in the course of the study that a more comprehensive and systematic approach to assessment should be pursued. With this in mind *it is recommended that a learning community and first year program assessment group should be formed*, representing a partnership between the staff of the programs, the Office of Institutional Research, and other important stakeholders. The working group can share experiences about what works best in assessing these programs and can continue to work toward providing meaningful feedback to the university community about their effectiveness.

Despite the formative nature of this study and the several caveats that must be observed, its substantive conclusion is that several of the learning communities and first year programs are making significant impacts upon retention, graduation, grades, and credit hours earned. *The current evidence suggests that the Chapman Learning Community, the Honors Program, the Literacy Serve and Learn Program, the Springboard Program, the UNIV100 class, and the University Program for Academic Success are contributing most towards these outcomes at this time*. A closer examination of the objectives and activities of some of these efforts may suggest some best practices that could be adopted more widely among other programs. The Chapman Learning Community, for example, carries out a wide variety of activities designed to encourage interaction among students and between faculty and students, to break down the boundaries between classroom and co-curricular activities, to highlight linkages between classroom learning and students' other experiences, and to ease the transition between high school and college (Klein, Midden, & Krzesinski, 2000). Perhaps some of these approaches might be considered by other programs at BGSU if they are congruent with their objectives. What remains unclear at this time, however, is which specific activities are most critical to student success.

The staff of the Office of Institutional Research look forward to continuing to carry out these feedback efforts and to providing decision support in a variety of contexts. Questions, concerns, and ideas for improvement are always welcome.

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LIST OF TABLES