

Community: Influencing Learning Outcomes and Retention

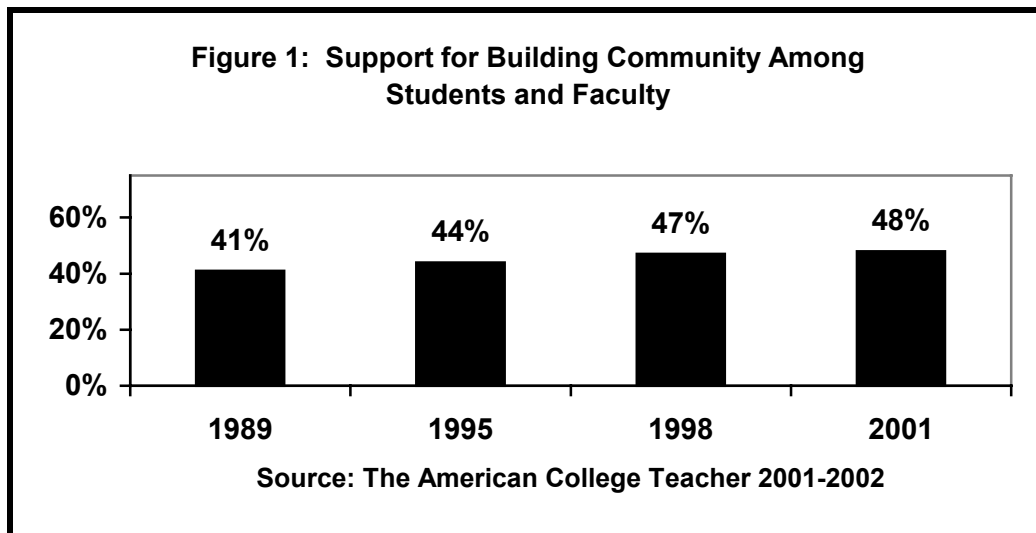
Robert Springer
Director of Institutional Research
Elon University
Campus Box 2309
Elon, NC 27244-2010
Phone: 336-278-6644
Fax: 336-278-5430
springer@elon.edu

ABSTRACT

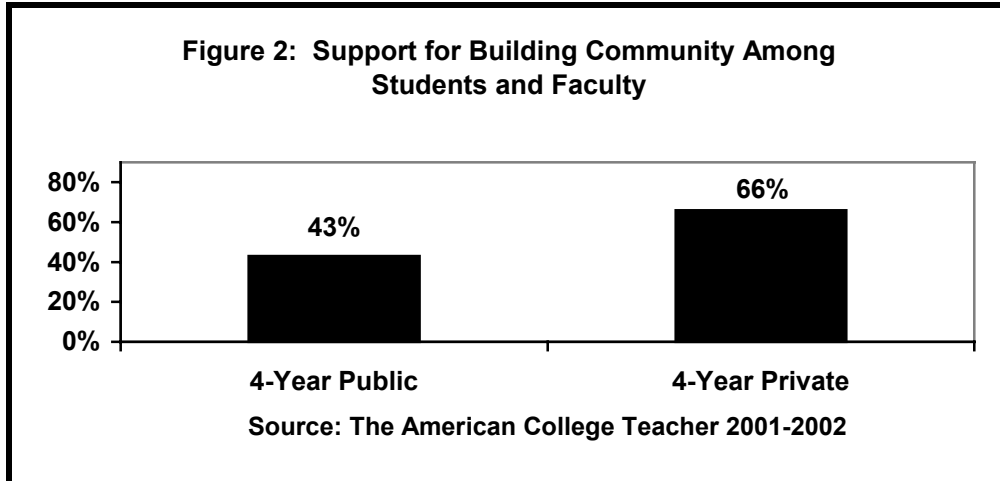
A campus community is hard to define, but you know it when you see it. Doesn't that sound familiar? Most any institution would embrace a heightened or stronger sense of community on their campus. It's a hard concept to grasp, but one that appears to be well worth the effort. Findings from the 2002 Your First College Year survey presented in this paper indicate that a students' sense of campus community is significantly related to the educational experience, has a noticeable effect on retention, and has an effect on various learning outcomes.

INTRODUCTION

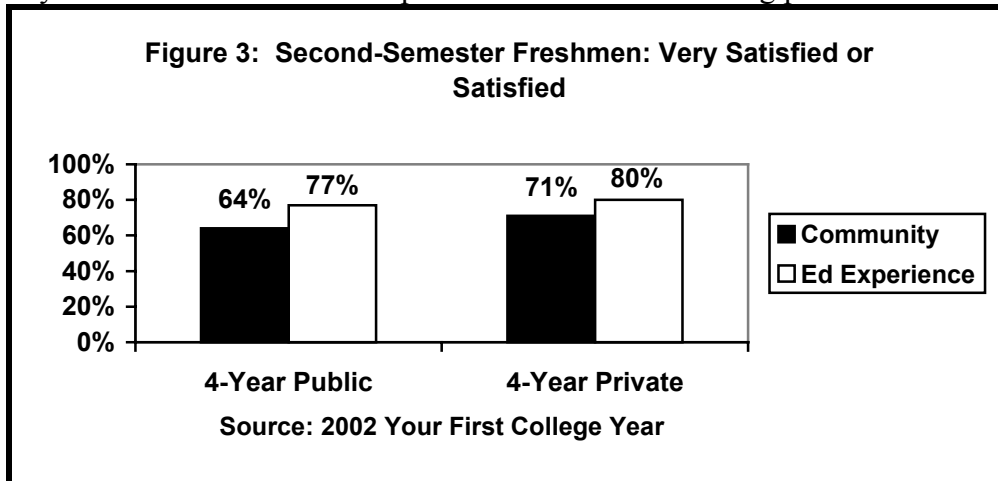
Is a strong student sense of community on colleges and universities important? If so, why is this the case? Empirical evidence of the importance of community can be found from two national surveys. Sponsored by the Higher Education Research Institute at UCLA, Your First College Year (YFCY) survey and the College Student Survey (CSS) asks students to rate their satisfaction level with the sense of student "community" on their campuses. These are just two examples of surveys also ask students to evaluate a handful of attributes that can be identified with community such as frequency of communication, and participation in various academic and non-academic activities. Similarly, the Higher Education Research Institute (HERI) Faculty Survey asks faculty to rate the priority in developing a sense of community among students and faculty at their institution. Figure 1 indicates that since 1989 faculty have reported an increasing emphasis within their institutions on developing a sense of campus community among students and faculty.



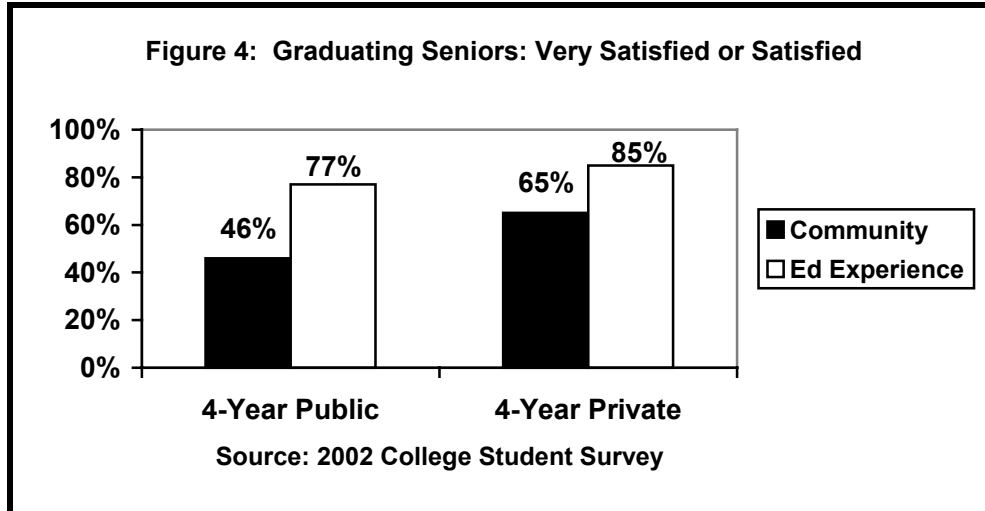
While Figure 1 indicates that less than half of all reporting faculty see this emphasis on their campus, there are apparent differences between faculty members of 4-year public and 4-year private institutions. As indicated by their respective faculty members, public institutions clearly put less emphasis on community building than private institutions (see Figure 2).



Are there differences reported among students attending public versus private institutions? The 2002 YFCY findings (Figure 3), a survey of second-semester freshmen, indicate that students attending public institutions appear to be less satisfied with overall community and overall educational experience than those attending private institutions.



The 2002 CSS provides some insight into graduating seniors' satisfaction levels with overall community and overall educational experience as well. Figure 4 indicates that the same pattern prevails with seniors as with freshmen. Seniors attending public institutions appear to be less satisfied with the overall campus community and their overall educational experience than those of private institutions. While the YFCY, CSS, and HERI Faculty survey results are not nationally representative figures, the results do provide some insight into the value placed on community among responding institutions.



Descriptively, campus community is important. National surveys also seek to gauge faculty members' perception of its emphasis and students' level of satisfaction with overall community on their campuses. However, depending upon the institution, community importance, emphasis, and satisfaction level varies.

DEFINING COMMUNITY

While the definition of community can be found in literature from the primary and secondary education arena, this paper's focus is upon that of post-secondary education within the context of an institution. With this back drop in mind, there are two well know and highly recognized authors that have defined community - Earnest Boyer and John Gardner. How do we define a community? Perhaps the most cited and best known post-secondary definition of community is found in Boyer's *Campus Life: In Search of Community* (1990). He indicates that six principals compose community and that each college and university should strive to achieve this community. Specifically he states the following: 1) purposeful, 2) open, 3) just, 4) disciplined, 5) caring, and 6) celebrative.

Boyer's research into the importance of community is supported from the results of the 1989 National Survey of College and University Presidents. Survey results indicate that ninety-seven percent (97%) of the 382 responding institutions agree that administrators *should make a greater effort* to strengthen common purposes and shared experiences and that ninety-six percent (96%) agree with the statement, "I strongly believe in the importance of community" (Boyer, 1990, p. 65). While there are more recent survey results of college and university presidents' perceptions, beliefs, and attitudes, none could be found that provides an updated response to this or a similar question.

In addition to Boyer, Gardner's *On Leadership* (1990, p. 116) defines a healthy community as containing the following: (1) wholeness incorporating diversity, (2) a shared culture, (3) good internal communication, (4) caring, trust, and teamwork, (5) group maintenance and government, (6) participation and the sharing of leadership tasks, (7) links with the outside world, and (8) developing young people.

While each definition is slightly different, there is substantial over-lap among the two. Some commonalities among these and other academic resources are shared ideas,

values, goals, or objectives. *Sharing* is the one word that best conveys the underlying theme for these and other authors' definitions of community. Although not limited to the following, it is through the sharing of cultures, purposes, objectives, tasks, and celebrative events that students' sense of community is developed and strengthened.

PURPOSE

This research paper seeks to answer the following questions specifically related to freshmen students at one institution. Does a student's sense of campus community have an effect upon their educational experience? Does a student's sense of campus community have an effect upon learning outcomes during the first year of college? Does a student's sense of campus community have an effect upon retention? If community is proven to have a positive affect on each investigated question, should colleges and universities focus or re-focus efforts to strengthen the sense of community at their respective campuses?

Access to national data for retention studies is a difficult, if not impossible, task. The following analysis shows how one institution used a national survey to conduct an institution-wide assessment of the impact of campus community on a students' overall educational experience, various learning outcomes and on freshmen-to-sophomore retention. If findings from this evaluation are used for program enhancements, then addressing program improvements as a result of assessment is fulfilled (which is typically an accreditation mandate). Thus, an institution can use the following method for accreditation efforts.

THE YFCY SURVEY

The Your First College Year survey (YFCY) is coordinated through the Higher Education Research Institute at UCLA. While the survey is designed to measure a students' first year experience at college, it also measures student change since matriculation. Questions on the four-page student self-reported instrument are relevant to residential and commuter students at 2-year and 4-year institutions. Survey administration procedures are at the discretion of the each participating institution.

XYZ UNIVERSITY

XYZ University is located in central North Carolina. It is a highly selective, private, religious affiliated institution. Its enrollment is approximately 4,500 students (4,200 are undergraduates). Approximately seventy-percent of its freshmen student body is from out-of-state. While most of its out-of-state students are from the northeastern area, in recent years there has been increasing enrollment from southern, mid-western, and western states. Its freshmen gender composition is 62% female. The average age of the freshmen class is eighteen. Freshmen and sophomores are required to live on-campus. The only night classes offered at the institution are for one of its three graduate programs (business, education, and physical therapy). Its one-year retention rate fluctuates around 85%. The university is consistently recognized as a highly engaging and dynamic institution. For the purposes of this paper, one-year retention rate is defined as the proportion of first-time-in-college, full-time freshmen enrolling during the fall term and re-enroll in the sequent fall term (freshmen-to-sophomore retention).

THE YFCY at XYZ UNIVERSITY

In order to answer the three research questions (community effect upon educational experience, learning outcomes and retention), either a new instrument is created or, if appropriate, an existing instrument is used. The YFCY is an instrument in use at XYZ University. As a result, it was evaluated for its applicability. The YFCY asks students to rate their level of satisfaction with campus community among students, it provides a learning outcomes self-evaluation component, and because it collects student identifiers it can be merged with institutional data for retention studies. As a result, the YFCY instrument is used to answer the three research questions. Terenzini and Pascarella (1991, p.147) address any concerns about the validity of self-reported information for growth during college. They indicate that self-reported information has proven to be a “reasonable, if not totally adequate, indicator of cognitive growth”.

The YFCY survey was conducted during the 2002 spring term at XYZ University. The survey was administered through a set of freshmen common core courses (English and General Studies). A response rate of 58% was achieved (614 out of 1,054 students participated). A chi-square goodness-for-fit test indicates statistically non-significant differences between population and survey demographics

Table 1
Chi-Square Goodness-of-Fit:

Demographic Category	Spring Freshmen N=1,054	Survey Results N=614	Sig.
Gender (Male)	38%	37%	Not Sig.
Ethnicity/Race (White)	87%	87%	Not Sig.

ANALYSIS

The impact or effect of a variable can be measured by using various documented and well-accepted statistical techniques. In order to measure the effect size of campus community in the fore mentioned questions, correlation, ANOVA, and linear regression are the statistical procedures presented in this paper. In all cases in this paper, the H_0 is that there is no significant difference between the means scores being tested ($H_0: \mu_1 = \mu_2$). The alternative hypothesis, H_A , is that there is a significant difference between the means scores being tested ($H_A: \mu_1 \neq \mu_2$). In addition, since multiple t-tests are being conducted, a Bonferroni correction will be applied (0.05 divided by the number of items).

When sample sizes are large, we expect to see fairly high power (β), which is the proportion of times the effect size would be significant. It ranges from zero to one (0.0 to 1.0). Typically, a β value that approaches 0.80 is considered good. The effect size (measure of the strength of association) reported in this paper is omega-squared (ω^2). Values for ω^2 range from 0.0 to 1.0. Cohen (1988) provides some guidelines for interpreting ω^2 . A small effect size has a value that approaches 0.01, a medium effect size has a value that approaches 0.09, and a large effect size has a value that approaches 0.25 (note: these guidelines are based upon the effect sizes usually found in studies in the behavioral science and education). Adding some perspective to the effect size, Cohen states that a medium effect size is “... visible to the naked eye ...” (p.26). Omega-squared is calculated using the following formula:

$$\omega^2 = \frac{SS_{Treatment} - (k - 1)MS_{Error}}{SS_{Total} + MS_{Error}}$$

Where SS = Sum of Squares, MS = Mean Square, k = (number of groups).

CAMPUS COMMUNITY AND EDUCATIONAL EXPERIENCE

Does a student's sense of campus community have an effect upon their educational experience? Students are asked to rate their level of satisfaction with the overall sense of community among students and their overall college experience. Response options for these questions are on a 4-point scale: very satisfied, satisfied, neutral, or dissatisfied. The results of the 2002 YFCY survey indicate that the overall educational experience and overall sense of community among students at XYZ University are significantly and highly correlated with each other in a positive direction (Sig.=0.000, R=0.638). These results support Astin's (1993, p.279) findings that *lack of community* has a *negative* affect on a student's overall educational experience.

Table 2
ANOVA Analysis:
Interaction Between Community and Educational Experience

Dependent Variable = Overall College Experience						
Interaction	df	N	F	Sig.	ω^2	β
Overall sense of community among students	3	602	141.861	0.000	0.412	1.000

As indicated in the Table 2, the interaction between students' overall sense of community and their overall college experience is significant (Sig.=0.000) and there is high power ($\beta = 1.000$).

In sum, these results indicate that overall sense of community among students is statistically significant and the effect size is also significant and large ($\omega^2=0.412$). In other words, the sample size is not the sole factor for this variable being significant. Thus the perceived overall sense of community among students has practical significance on their perceived overall satisfaction with their college experience.

LEARNING OUTCOMES AND CAMPUS COMMUNITY

Does a student's sense of campus community have an effect upon learning outcomes during the first year of college? For the purposes of this study, the YFCY asks a series of questions that are considered desirable learning outcomes that students are asked to rate their improvement since entering college from much stronger, stronger, no change, weaker, to much weaker. The following table, sorted by highest ω^2 , summarizes twelve learning outcomes and the interaction each has with overall sense of community. Table 3 clearly indicates that overall sense of community among students is statistically significant in its interaction with eight of the twelve identified learning outcomes at the Bonferroni correction value of 0.004. Knowledge of a particular field/discipline, understanding of national issues, understanding of global issues and religious beliefs yield non-statistically significant results.

Table 3
ANOVA Analysis:
Interaction Between Community and Learning Outcomes

Dependent Variables = Learning Outcomes
Compared with when you entered this college, how would you now describe your:

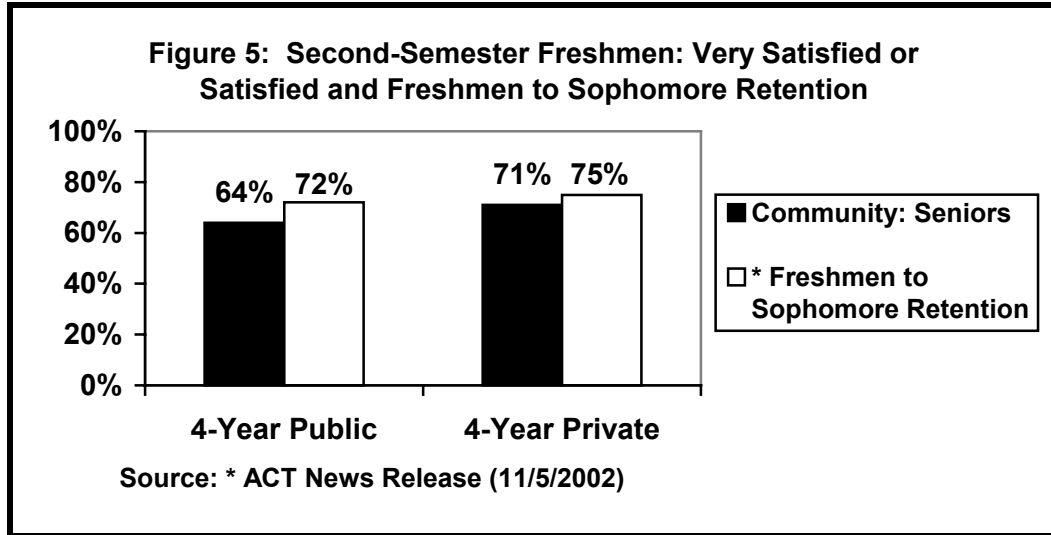
Learning Outcomes	df	N	F	Sig.	ω^2	β
Critical thinking skills	3	593	11.304	0.000*	0.050	0.999
Understanding the problems facing your community	3	598	9.026	0.000*	0.039	0.996
Ability to work as part of a team	3	595	8.821	0.000*	0.038	0.995
Ability to get along with others	3	597	8.514	0.000*	0.036	0.994
Library/research skills	3	598	7.326	0.000*	0.031	0.984
Analytical and problem solving skills	3	597	7.053	0.000*	0.030	0.981
General knowledge	3	596	5.913	0.001*	0.024	0.955
Knowledge of people from different races/cultures	3	595	5.771	0.001*	0.023	0.950
Knowledge of particular field/discipline	3	596	4.355	0.005	0.017	0.870
Understanding of national issues	3	597	3.628	0.013	0.013	0.796
Understanding of global issues	3	597	2.607	0.051	0.008	0.640
Religious beliefs	3	596	1.336	0.262	0.002	0.357

* Significant at the 0.004 (Bonferroni's Correction value)

Table 3 indicates that six of the twelve learning outcomes have effect sizes of at least 0.030, each of those six has high power ($\beta \Rightarrow 0.981$), and each of the six is statistically significant. Critical thinking skills has the largest effect size, or practical significance with respect to college community, followed by understanding the problems facing your community, ability to work as part of a team, ability to get along with others, library/research skills, and, finally, analytical and problem solving skills. It also appears that as the concept of community is expanded in scope from college, to national, and then to global issues, the effect size, power and statistical significance all decrease. In addition to being non-statistically significant, religious beliefs also results in the lowest power and effect size. Broadly speaking, it appears that community has statistical and practical significance with eight of the twelve identified learning outs.

RETENTION: VALUE IN COMMUNITY?

Does a student's sense of campus community have an effect upon retention? Consider the ACT News Release findings in Figure 5. At first glance it appears to indicate that there is a linear relationship between community and retention. Tinto (1993, p.228) implies that there is a relationship between community and retention, "... student departure is more a function of what goes on within the institution following entry than of what may have occurred beforehand".



The Higher Education Research Institute (HERI) at UCLA was contacted to perform a comprehensive data merge with institutional retention data. The request produced a match rate of approximately 90% (556 out 614 records were matched). A chi-square goodness-for-fit test for the new sample indicates statistically non-significant differences between population and survey demographics.

Table 4
Chi-Square Goodness-of-Fit:

Demographic Category	Spring Freshmen N=1,054	Survey Results N=556	Sig.
Gender (Male)	38%	36%	Not Sig.
Ethnicity/Race (White)	87%	87%	Not Sig.

Table 5 indicates that the interaction between a student’s overall satisfaction with their educational experience and one-year student retention is significant, has high power ($\beta=1.000$), and has an effect size that approaches large ($\omega^2=0.210$).

Table 5
ANOVA Analysis:
Interaction Between Educational Experience and Retention

Dependent Variable = Retained						
Interaction	df	N	F	Sig.	ω^2	β
Overall satisfaction with educational experience	3	541	49.018	0.000	0.210	1.000

Table 6 indicates that the interaction between a student’s overall sense of community among students and one-year student retention is significant, has high power ($\beta=1.000$), and has a medium effect size ($\omega^2=0.102$).

Table 6
ANOVA Analysis:
Interaction Between Community and Retention

Dependent Variable = Retained						
Interaction	df	N	F	Sig.	ω^2	β
Overall sense of community among students	3	540	21.561	0.000	0.102	1.000

Table 6 should come as no surprise, given the results presented in Table 2 (overall sense of community among students is highly correlated with overall satisfaction with their college experience).

Linear regression will add some additional depth to this analysis by indicating how much variance in retention the overall sense of community among students can explain. Table 7 indicates a statistically significant difference (Sig.=0.000) between retention and community and that community explains about 9% of the variance in retention.

Table 7
Linear Regression Analysis:
Community Predicting Retention

Dependent Variable = Retained						
Linear Regression	β	df	N	F	Sig.	R^2
Overall sense of community among students	0.30	1	540	53.217	0.000	0.090

The results indicate that students who prematurely leave XYZ University tend to express *less satisfaction* with their overall educational experience than those who do not leave prematurely. In addition, the results also indicate that students who prematurely leave XYZ University also tend to express *less satisfaction* with their overall sense of community among students than those who do not leave prematurely. These findings appear to be supported by the prior research of Terenzini and Pascarella (1977, p.39), "... stayers had significantly more positive perceptions than leavers of both their academic programs and their nonacademic lives" (it is not unreasonable to view Terenzini and Pascarella's statement as an "overall educational experience" for the student).

DISCUSSION

There are limitations to this study. Results presented are for a single highly selective, private, master degree granting institution. Because the intent of the YFCY is to survey second-semester freshmen, extrapolating these findings beyond that group's perceptions may not be appropriate. Because no existing benchmarks were found, interpreting these findings beyond the confines of XYZ University could also be inappropriate. In addition, because there are no previous benchmarks, power, effect size and R^2 , in this study may or not may not be unique.

However, the benefits appear to be clear from having higher levels of satisfaction with overall sense of campus community among students. The findings in this paper indicate that:

- Satisfaction with overall educational experience is significantly related to retention.
- Community is significantly and highly correlated to satisfaction with overall educational experience.
- Community is significantly related to retention.
- Community is significantly related to learning outcomes, especially critical thinking skills.
- Knowledge of a particular field/discipline yields non-significant results.
- As the concept of community is expanded from college, to national, to global, in scope, its significance decreases.

Knowledge of a particular field/discipline did not yield significant results. This should come as no surprise given the target population of this survey (freshmen students). It is fairly common knowledge that most freshmen students are taking general studies courses. In addition, most freshmen students have not taken enough courses that could expose them to the knowledge or skills associated with a particular discipline.

Understanding of national and global issues resulted in non-statistically significant findings. This could be due to a curriculum that may not adequately address these concepts until the sophomore, junior, or senior year (which might be the planned path for students to follow).

Religious beliefs also resulted in non-statistically significant findings. This is a direct result of institutional focus and mission. For example, XYZ University is broadening its appeal to a more diverse religious student body. It changed the university mascot from the “Fighting Christians” to the “Phoenix” to help broaden this appeal. In addition, religion classes are not required courses for all students. Terenzini and Pascarella provide evidence to support this claim in How Colleges Affect Students, “... , it seems reasonable to conclude that institutional characteristics probably do play a role in the degree to which religious preferences, attitudes, values, and behaviors change during college. It seems equally clear that the nature of those differences vary substantially across kinds of institutions, ...” (p.303).

Based upon these findings, there are two reasons why an institution would want to have higher levels of satisfaction with overall sense of community among students.

The first reason (and perhaps foremost) is what appears to be the effect campus community has upon learning outcomes – community appears to help foster a number of learning outcomes.

Second is that the overall sense of community among students appears to have an impact upon retention. Generally speaking, all institutions want higher retention rates. Higher retention provides stability to an institution. It implies a stable student body and this turn allows faculty greater opportunity to know and interact with students. Higher retention rates also affects the financial stability of an institution - budgeting becomes less volatile and growth (if desired) can be better controlled.

The evidence presented indicates that community and educational experience are highly correlated. In addition, while the evidence indicates that the educational experience has a large effect size upon retention, the findings presented also indicate that

a student's sense of community has a *visibly noticeable* effect upon retention. Astin clearly states, "the student's degree of satisfaction with the college experience proves to be much less dependent on entering characteristics and more susceptible to influence from the college environment" (1993, p.277). Tinto also supports institutional intervention to affect retention (1982, p.698), "... it does imply that institutions can act to reduce, within reason, dropout among certain groups of students ...". Both of these well-known and respected authors elude to the fact that institutions can impact retention by fostering activities and events that promote higher levels of satisfaction with overall sense of community among students.

NEXT STEPS

Since student's sense of community appears to effect learning outcomes and retention, and given the limitations of this study, it might prove beneficial to evaluate other students (sophomores, juniors, seniors, graduate students) as well as other institutions (i.e. public, private, large, small, etc...). In addition, since improving students' sense of community appears to have benefits, it would help to identify the attributes that comprise community to help focus resources for possible improvement(s). XYZ University has developed, tested and implemented a survey that has identified a number of attributes that comprise community. Findings from that survey have already produced beneficial results. For example, school spirit, meaningful rituals, and diversity were all found to be lacking among the freshmen class. In response to the findings, XYZ University is seeking ways to improve identified attributes. In addition, to help richen the research in understanding campus community and its influences upon learning outcomes, XYZ University has announced a call for interest in a pilot survey with other institutions.

RESOURCES:

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