Assessment News

Do We Have the Resources to Adequately Meet the Academic Needs of New Students: A Case Study From the Entering Class of 2011

Jack Williamsen, Bob Rutter, and Tawny Lathrop

The September 6, 2011 issue of the St. Norbert Times featured this semester’s entering freshman cohort as their lead for the year. The quick facts about this entering class are: 580 domestic students (the majority from Wisconsin), plus International students; gender ratio 57% women, 43% men; pre-entrance academic indicators HSGPA of 3.5 and ACT Composite of 25.

The capsule demographics above obviously do not capture all the characteristics of this entering class. Fortunately, we do have additional perspectives about SNC’s newest cohort from responses to The Freshman Survey, administered annually through the Higher Education Research Institute (HERI) at UCLA.

At St. Norbert College, the Survey is administered during each of the four sessions of Summer Orientation. As a result, the College has completed surveys from almost 100% of domestic freshmen, increasing our confidence that the responses are indeed representative of the majority of the class, including the entering freshmen of 2011.

We selected self-ratings of academic abilities and skills for examination in this article. These self-ratings provide us with student perceptions of qualities essential to success in college. They also can alert the institution to possible areas of concern that should be addressed to increase chances of positive accomplishment in the crucial first semester.

The self-ratings on The Freshman Survey ask respondents to compare themselves to “the (Continued on Page 2)
Do We Have the Resources to Adequately Meet the Academic Needs of New Students: A Case Study From the Entering Class of 2011
(Continued from Page 1)

average person your age,” using a five point rating scale that extends from “lowest 10%” through “below average,” “average,” “above average” to “highest 10%.” Of course, respondents probably have no clear idea of the “average person your age,” but they do have useful knowledge of the skills and abilities of classmates, their likely reference for these self-ratings.

The chart below shows the percentage of 2011 SNC freshmen rating themselves in the “top 10%.” The majority of high school graduates going to college view themselves as “above average” or higher on many self-ratings when comparing themselves to all their secondary school classmates. So, to better highlight differences among the six academic ability ratings in our chart, we focused on the percentage of “top 10%” placements. These are shown in descending order in the chart.

As the chart shows, 18% of the freshman raters placed themselves in the top 10% on academic ability when comparing themselves to the “average person your age.” Conversely, only 3% chose this rating when assessing their computer skills. In fact, for three of the self-ratings above, fewer than ten percent of the entering freshmen placed themselves in “the top 10%.”

However uncertain we may be about the relationships between these ability self-ratings and real world behaviors, the chart above clearly shows that students discriminate among their abilities. This finding is useful in pointing to potential areas of entering student concern. Note again the three abilities/skills with the lowest percentage of “top ten” ratings. Only three percent of the 2011 freshmen place themselves in the top ten percent category in computer skills, suggesting that exposure to technology in high school does not necessarily lead to self-perceptions of high proficiency with computing, particularly if one had a number of “geeky” classmates and is not intending to major in computer science or a related field.

Perhaps of more interest are the relatively low self-rankings for writing and math, the former a skill that is pervasively necessary throughout college and beyond, and the latter crucial to the sciences and useful to all who would like to be—or should be—“numerically informed” citizens. Let’s take a closer look at these two, using other items from The Freshman Survey to better understand the implications of what the entering class of 2011 is telling us.

Below are two tables that provide information on the percentage of the 558 respondents to The Freshman Survey who report they had tutoring or other remedial assistance for writing (first table) or math (second table) in high school. The tables also show the percentage of this class who say they need assistance at St. Norbert.

(Continued on Page 3)
Do We Have the Resources to Adequately Meet the Academic Needs of New Students: A Case Study From the Entering Class of 2011 (Continued from Page 2)

To highlight the top chart: 85% of respondents did not have assistance with writing in high school and do not want it at St. Norbert. However, 15% of this group report they want help at SNC. This percentage is slightly higher than the comparable percent (13%) for those who did have assistance in high school. The total number of 2011 freshmen indicating a desire for writing assistance (82) represents about 15% of the class.

More entering students are concerned about help with mathematics. Seventy of the 558 (about 13%) had assistance in high school, but even more students (169, or 30%) want SNC assistance. Over half (53%) who had high school math help want to continue with this support in college. This compares with only 13% who want to continue with writing assistance.

Arguably, the percentage of entering freshmen who report wanting assistance from SNC with writing (13%) or with mathematics (30%) can be viewed as an underestimate of the total need for services. Note that almost 90% of those receiving help in high school for writing and almost half of those reporting assistance with math indicate they do not believe they will need support in college. How realistic is this belief?

The lack of specifics regarding the type and extent of assistance provided in high school makes it difficult to be precise, but a reasonable case can be made that youthful hope and optimism trump academic realism here. In the 87% of entering freshmen reporting high school help for writing but no current need, and the corresponding 47% for math, there must be a substantial portion who are in for an unpleasant surprise. It is very likely that the total number of freshmen who should be offered assistance with writing and/or math is considerably higher than the number of students reporting this need on The Freshman Survey.

Let’s take a closer look at data that can provide further information on “student realism.” Specifically, do students who rate themselves below average in writing and/or math also say they want assistance from SNC, as one might reasonably expect? The two tables below show the relationships between self-ratings of ability (the five rating options noted at the beginning of this article are collapsed into “Below Average” and “Average or Above”) and reported need for help at SNC.

Information in the tables above indicates that a larger percentage of students rating their abilities below average want help at SNC when compared with their average or above average peers. Fifty-one percent of students rating their writing ability below average so indicate, as do 68% of those with self-rated below-average mathematics ability (this compares with 9% and 19%, respectively, for those rating themselves “average” or higher in writing or math). That’s the “good news.”

The “bad news” is that 49% of those self-rating below average on writing and 32% with the same self-rating for math did not indicate a need for help at SNC. These two groups must contain a substantial proportion who are not aware of the demands soon to be placed on them by our General Education requirements or those of various majors, or who are in a state of denial regarding the disconnect between their self-perceptions and academic realities.

Whatever the case, we conclude again that the number of entering freshmen likely to need some kind of support for writing or math exceeds the number self-reporting the need for such assistance. That is certainly true when one includes the nine percent (N= 43) of self-raters with average or above ability in writing asking for assistance and the nineteen percent (N = 81) of similar raters seeking support in math. Perhaps these students are being excessively pessimistic but—if they seek services—they will add to the demand for them. (Continued on Page 4)
Do We Have the Resources to Adequately Meet the Academic Needs of New Students: A Case Study From the Entering Class of 2011 (Continued from Page 3)

Here’s the takeaway. Academic success (defined at a minimum as passing all courses taken) in the first semester is linked to student satisfaction and retention: students passing all courses retain at a higher rate than those who fail or drop at least one course first term. “Nothing succeeds like success,” goes the hoary cliché. Conversely nothing sours the relationship between student and college (and, perhaps, student and parents) more than failing to meet expectations by falling behind academically at the very beginning of one’s college career. More money and time will need to be expended just to be even, and academic self-assurance takes a hit. If the number of first year students having such an unpleasant experience can be reduced by the timely identification of academic needs and consequent offers of useful support everyone gains.

*******************************

Clickers in the Classroom: A Simple Technique to Increase Student Learning (Continued from Page 1)

Research Results

Question Level and Student Performance

Results indicated that the type of clicker question and type of exam question had an interactive effect on student exam performance (Figure 1). Moreover, the use of high cognitive level clicker questions tended to lead to increased student performance on high cognitive level exam questions. To our surprise, contrary to our hypothesis, high cognitive level clicker questions did not improve performance on all exam questions. We discovered that student performance on low cognitive level exam questions was lower when high cognitive level clicker questions were used. Therefore, students may be relying on class activities to guide their study efforts; students learn what they study. This emphasizes the importance of aligning goals for learning with what is taught in the classroom (NRC, 2000; Beatty et al., 2006; Zhu et al., 2007).

Figure 1. Comparison of student performance on low and high cognitive level exam questions when low and high cognitive level clicker questions were used in class. Error bars: 95% CI.

Conclusions and Suggestions for Implementation

This study is the first to clearly show that the cognitive level of the clicker questions used in class does impact student learning. Our results show that high cognitive level clicker questions increase students' conceptual understanding, as measured by performance on high cognitive level exam questions. However, practice with high cognitive level questions does not necessarily improve learning at the knowledge level. We recommend using a mix of high and low cognitive level clicker questions combined with an active teaching strategy to promote learning knowledge and the development of critical thinking skills.

Note: Deborah Anderson and Stuart Korshavn conducted this research. Students enrolled in Anderson’s Human Biology Course (Fall 2010) were the subject of the research project. Korshavn helped design the data collection and conducted the statistical analysis portion of the project. A journal article, currently undergoing revision, has been submitted to CBE-LSE. (Continued on Page 5)
REFERENCES (Continued from Column 1)


**********************************************************************

Student Satisfaction and Retention

Bob Rutter, Jack Williamsen, Lauren Lathers

St. Norbert College’s Retention Plan includes a goal to raise freshmen to sophomore retention to 90%.

<table>
<thead>
<tr>
<th>Cohort</th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
</tr>
</thead>
<tbody>
<tr>
<td>% Retained</td>
<td>85%</td>
<td>81%</td>
<td>88%</td>
<td>80%</td>
<td>85%</td>
<td>84%</td>
<td>80%</td>
<td>84%</td>
</tr>
</tbody>
</table>

From St. Norbert College Fact Book 2010-2011

Achieving 90% will require high levels of student satisfaction, although satisfaction is not the only contributor to student retention. The HERI College Student Survey, administered to SNC seniors every Spring, asks graduating seniors about their overall satisfaction with the College as well as their satisfaction with selected aspects of their college experience. While it can be argued that the data are skewed by a sample made up of seniors who have persisted (persistence is itself a rough measure of satisfaction), correlating aspect satisfaction with students’ overall satisfaction begins to provide some insight into which aspects of students’ experience on campus currently contribute to student retention and which do not.

Over the last 4 years, seniors have reported generally high levels of overall satisfaction with the College. While high levels of overall satisfaction bode well for retention, overall satisfaction data alone provide little indication of how to increase satisfaction further.

2008-2011 Seniors: Overall Satisfaction with SNC

2008 | 2009 | 2010 | 2011
---|---|---|---
Very Dissatisfied/Dissatisfied | 4% | 1% | 4% | 2%
Neutral | 7% | 7% | 7% | 6%
Satisfied | 41% | 48% | 45% | 45%
Very Satisfied | 49% | 44% | 45% | 47%

Continued on Page 6
Underlying students’ global evaluation are differences in student satisfaction with various aspects of the College. The chart below shows that students are most satisfied with class size, contact with faculty, quality of instruction, major courses, ability to find a mentor, and sense of community. Seniors are less satisfied with racial/ethnic diversity, laboratories, residence halls, and job placement services.

"Satisfaction" responses from N = 813 2008-2011 Seniors responding to the Senior Survey.
By correlating these items with overall satisfaction, a clearer picture of which aspects of the college experience do and do not contribute to students’ overall satisfaction begins to emerge.

<table>
<thead>
<tr>
<th>Satisfaction Item</th>
<th>2008-2011</th>
<th>Satisfaction Item</th>
<th>2008-2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>Satisfaction with overall sense of community among students</td>
<td>.496</td>
<td>Satisfaction with humanities courses</td>
<td>.277</td>
</tr>
<tr>
<td>Satisfaction with availability of campus social activities</td>
<td>.458</td>
<td>Satisfaction with student housing (e.g., residence halls)</td>
<td>.269</td>
</tr>
<tr>
<td>Satisfaction with overall quality of instruction</td>
<td>.411</td>
<td>Satisfaction with career counseling and advising</td>
<td>.255</td>
</tr>
<tr>
<td>Satisfaction with ability to find a faculty or staff mentor</td>
<td>.400</td>
<td>Satisfaction with social science courses</td>
<td>.246</td>
</tr>
<tr>
<td>Satisfaction with respect for the expression of diverse beliefs</td>
<td>.385</td>
<td>Satisfaction with racial/ethnic diversity of the student body</td>
<td>.236</td>
</tr>
<tr>
<td>Satisfaction with relevance of coursework to everyday life</td>
<td>.376</td>
<td>Satisfaction with library facilities</td>
<td>.209</td>
</tr>
<tr>
<td>Satisfaction with courses in your major field</td>
<td>.356</td>
<td>Satisfaction with student health services</td>
<td>.196</td>
</tr>
<tr>
<td>Satisfaction with general education or core curriculum courses</td>
<td>.355</td>
<td>Satisfaction with computing assistance</td>
<td>.192</td>
</tr>
<tr>
<td>Satisfaction with amount of contact with faculty</td>
<td>.339</td>
<td>Satisfaction with science and mathematics courses</td>
<td>.189</td>
</tr>
<tr>
<td>Satisfaction with relevance of coursework to future career plans</td>
<td>.338</td>
<td>Satisfaction with laboratory facilities and equipment</td>
<td>.185</td>
</tr>
<tr>
<td>Satisfaction with class size</td>
<td>.337</td>
<td>Satisfaction with student psychological services</td>
<td>.179</td>
</tr>
<tr>
<td>Satisfaction with academic advising</td>
<td>.297</td>
<td>Satisfaction with job placement services for students</td>
<td>.175</td>
</tr>
<tr>
<td>Satisfaction with financial aid package</td>
<td>.280</td>
<td>Satisfaction with tutoring or other academic assistance</td>
<td>.066</td>
</tr>
</tbody>
</table>

Pooling data from the last four graduating classes, four aspects of the college experience yield a coefficient of .40 or above when correlated with overall satisfaction: sense of community among students (.496), availability of social activities (.458), quality of instruction (.411), and ability to find a faculty or staff mentor (.400). Seven additional aspects correlate at .33 or higher: respect for expression of diverse beliefs (.385), relevance of coursework to everyday life (.376), course in major filed (.356), general education or core curriculum courses (.355), contact with faculty (.339), relevance of coursework to future career plans (.338), and class size (.337). Three of the top 5 (sense of community among students, availability of campus social activities, respect for expression of diverse beliefs) appear fairly stable placing in the top 5 for each of the last 3 or 4 years. Four other aspects produced correlations in the top five for 2 of the last 4 years (overall quality of instruction, ability to find a faculty or staff mentor, relevance of coursework to everyday life, general education or core curriculum courses). Continued attention to aspects of students’ SNC experience will help ensure their continued strong contribution to overall satisfaction.

Looking at the annual data, the contribution to overall satisfaction of a few areas appears to have shifted in the last two years. Library facilities was a greater contributor to overall student satisfaction in 2010 and 2011 than it was in 2008 and 2009. This was also true for academic advising and financial aid package. Some areas have not contributed substantially to overall student satisfaction (r<.199) in the last four years, but the data cannot tell us why. It may be that fewer students experience or utilize these aspects and therefore provide only a neutral rating or no rating at all.

In summary, a subset of satisfaction items yield consistently high correlations with overall student satisfaction with the College. To maximize retention, the College should work to ensure that every student experience a high level of satisfaction with these aspects of their college experience. In addition, a few aspects have yielded higher correlations with overall satisfaction in the last two years. This is a helpful sign, demonstrating the possibilities that the aspects of SNC student experience which currently contribute little could contribute more to overall student satisfaction if given appropriate attention and resources. Ideally, overall satisfaction would reflect high levels of satisfaction with all aspects of a SNC students’ college experience.
From the Office of Grant Development…

There are many great funding opportunities available for faculty and staff in an array of fields and disciplines. If you would like to discuss any of the below opportunities further please contact Sarah Ryan at x.3019 or sarah.ryan@snc.edu. You can also visit the Grant Development website to view funding opportunities like the following:

American Philosophical Society offers $6,000 Franklin Research Grants for research in a variety of fields: amphil-soc.org/grants/franklin

National Academy of Education/Spencer Postdoctoral Fellowship is available for $55,000 to support education research for one year full time or two years half-time for faculty who received their doctorate after 1-1-2006: naeducation.org/NAEd_Spencer_Postdoctoral_Fellowship.html

Greater Green Bay Community Foundation offers grants up to $15,000 for programs that improve the quality of life in the community: ggbcf.org/ggbcf/Grants/tabid/72/Default.aspx

American Association of University Women has $6,000 summer/short term research grants for female faculty and staff: act.org/aauw/ampub/

Wisconsin Humanities Council offers grants up to $10,000 to support public humanities programs: wisconsinhu-manities.org/grants_supguide.html

**********************************

ASSESSMENT RESOURCES

Robert A. Rutter, A.V.P. for Institutional Effectiveness (403-3964)
Jack Williamsen, Data Analyst (403-3993)
Kristee Boehm, Director of Assessment (403-3448)
Joanne Blascak, Data Retrieval Specialist (403-3238)
Patricia Wery, Administrative Secretary (403-3855)
Tawny Lathrop, Research Assistant (403-3855)

Office of Institutional Effectiveness
Main Hall, Room 219
(Phone: 403 -3855) FAX: 403-4096
Web site: www.snc.edu/oie/

Higher Learning Commission
Accreditation Visit
Oct. 31-Nov. 2, 2011

Read Self-Study at www.snc.edu/oie/accreditation