



The
UNIVERSITY
of VERMONT

A DRAFT REPORT ON:

RETENTION AT THE UNIVERSITY OF VERMONT

AUGUST 13, 2001

Prepared by the Committee to Study Retention:

Joan M. Smith, Chair

Nguyen K. Bach

Fred A. Curran

Jane F. Lawrence

Ross D. Thomson

RETENTION AT THE UNIVERSITY OF VERMONT

Part I: Retention Patterns at the University of Vermont

The problem

Between the fall of 1996 and the fall of 1998, the University of Vermont enrolled 5,395 first-time, first-year students. Nine hundred and thirty-one of them or 17 percent did not return for their second year. Put another way, the University had a retention rate of 82.7 percent. This rate fell from the early 1990s, when we retained 84 percent of our first-time, first year students into their second year (see Table 1). Retention continued to decline for Fall 1999 first-year students, among whom under 80 percent remained for their second year, with the result that the average retention rate for entrants from Fall 1997 through Fall 1999 fell to 81.3 percent. With declining retention into the second year, it is not surprising that retention into the third year has slipped as well; from about 70 percent in the early 1990s, our two-year retention rate fell to less than 67 percent for Fall 1998 first-year students.

Table 1
Trends in One-Year and Two-Year Retention Rates by Residence
of First-Time, First Year Students Entering the University of Vermont
Fall 1990 to Fall 1999

Class Entering In:	One-Year Retention Rate			Two-Year Retention Rate		
	Vermont	Out-of- State	All Students	Vermont	Out-of- State	All Students
Fall 1990	83.6%	85.2%	84.6%	71.2%	71.6%	71.5%
Fall 1991	82.2%	85.7%	84.3%	68.2%	73.8%	71.5%
Fall 1992	82.9%	83.0%	83.0%	68.9%	69.5%	69.3%
Fall 1993	81.6%	85.2%	84.0%	71.3%	67.8%	69.0%
Fall 1994	78.9%	81.7%	80.8%	67.9%	65.0%	65.9%
Fall 1995	81.7%	81.4%	81.5%	69.8%	67.7%	68.3%
Fall 1996	85.0%	82.8%	83.5%	74.0%	67.4%	69.6%
Fall 1997	83.7%	82.1%	82.7%	72.3%	69.4%	70.4%
Fall 1998	83.7%	80.2%	81.3%	68.1%	66.3%	66.9%
Fall 1999	81.6%	79.0%	79.9%	---	---	---

The magnitude of the problem

To put the University’s current retention rates into perspective, it is helpful to compare them with other similar institutions, e.g., other public doctoral institutions; those public and private schools with which we compete for students and those public and private schools which form what we have come to call our aspirant group.

The University of Vermont's first-year retention rates of 80% to 83% in the past few years compares favorably to the 76% to 80% reported for public doctoral institutions and the 72% for all public institutions (see Tables 2.1 and 2.2).

Table 2.1
One-Year Retention Rates
for the Cohort Entering CSRDE-Participant Institutions in Fall 1999¹

<u>Institutional Selectivity</u>	<u>All Participant Institutions</u>	<u>Public Institution Participants</u>	<u>Private Institution Participants</u>
All Institutions	79.8%	79.8%	80.1%
Highly Selective	86.8%	87.0%	85.1%
Selective	79.5%	79.7%	77.7%
Moderately Selective	73.5%	73.3%	75.1%
Less Selective	68.7%	68.7%	67.8%

Table 2.2
One-Year Retention Rates
for the Cohort Entering Doctoral Level and All Institutions in Fall 1998²

<u>Institutional Selectivity</u>	<u>Public Institutions</u>	<u>Private Participants</u>
<u>All PhD Institutions</u>	76.5%	83.6%
Highly Selective	91.0%	92.6%
Selective	80.5%	85.4%
Traditional	72.4%	77.2%
Liberal	67.6%	65.4%
Open	65.0%	83.0%
<u>All Institutions</u>	71.9%	75.1%

Nevertheless, among private schools with which we compete for students, the University of Vermont's retention rate was second to the bottom in the most recent four-year averages. Among public schools with which we compete, the University did somewhat better, ranking six out of nine in first-year retention rates (see Figures 1 and 2). The University of Vermont's first-year retention average for the past four years is 15 percentage points below the average for the private schools in the aspirant group. Among public aspirant schools, UVM's retention record is not much better, registering 12 percentage points below the four-year average for this group.

¹ *2000-01 CSRDE Report: The Retention and Graduation Rates of 1993-99 Entering Freshman Cohorts in 344 Colleges and Universities*. Center for Institutional Data Exchange and Analysis: The University of Oklahoma: May, 2001.

² Source: *National College Dropout and Graduation Rates, 1999*. ACT Web Site. *ACT National Dropout Rates, 1983 to 2001*. Postsecondary Education OPPORTUNITY Web Site.

Figure 1
Comparison of Four Year Averages of One-Year Retention Rates:
UVM versus Some Current and Aspirant PUBLIC Institution Peers

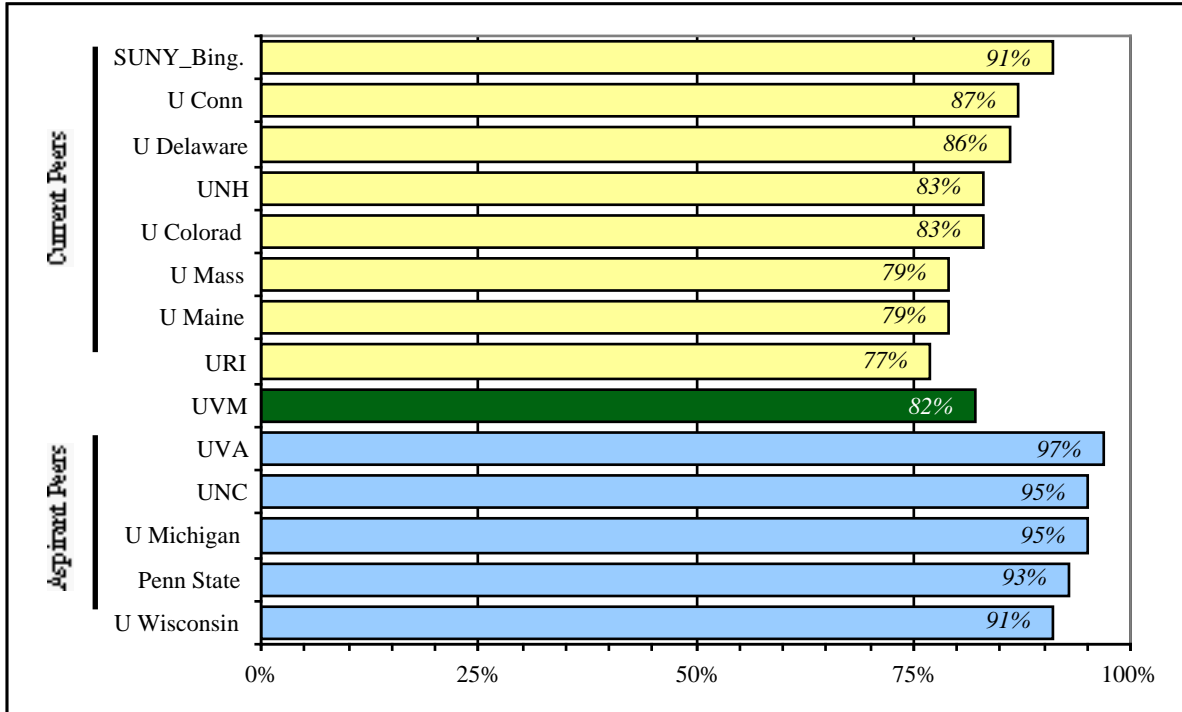
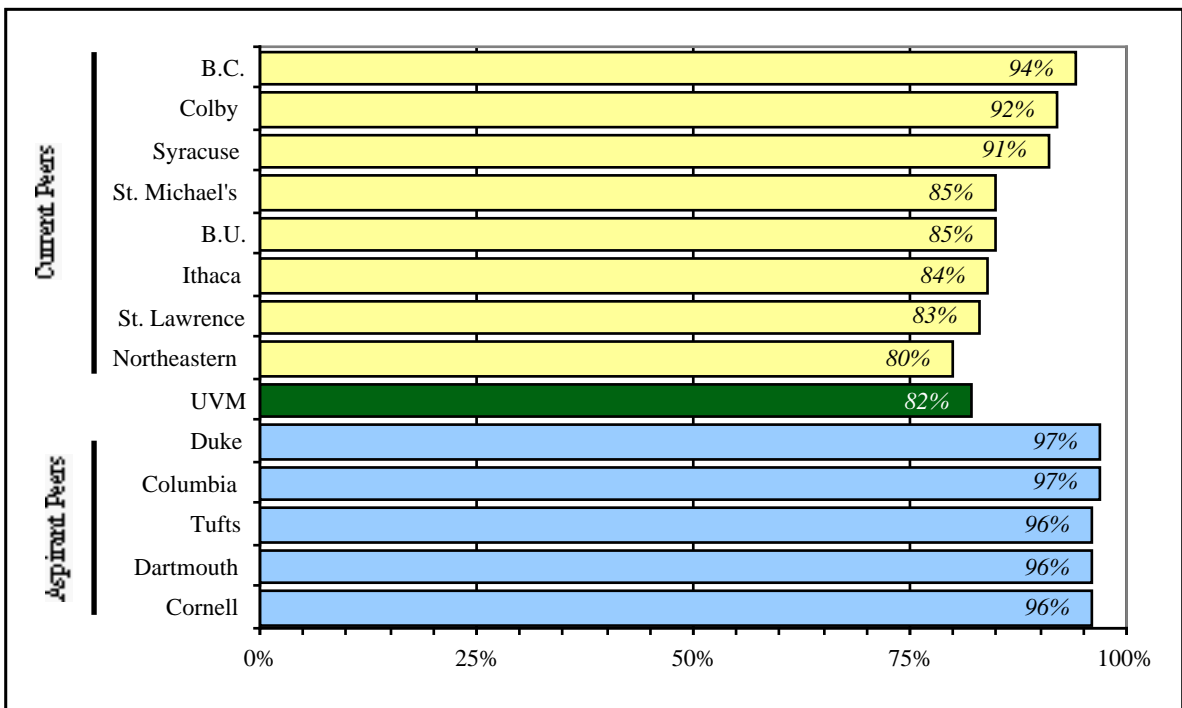


Figure 2
Comparison of Four-Year Averages of One-Year Retention Rates:
UVM versus Some Current and Aspirant PRIVATE Institution Peers

The University of Vermont's recent retention record forms a serious problem that the



University must address. We are losing students a rate much greater than we should whether we compare ourselves to those institutions with which we compete or to those we would aspire to be like.

Many students leave school because they feel their needs are not being met, and the University should do more to meet these needs. This is the most fundamental reason to care about retention. It is a bellwether signaling how the University is doing in meeting the needs of students. But low retention also has other adverse consequences.

Reputation and attractiveness to prospective students. Not only are retention rates an important benchmark measuring the degree to which institutions are meeting the needs of their students, they also play an important role in a school's ability to recruit and retain high quality students. When these rates fall so too does the reputation of the institution, leading to a decline in the enrollment of high-quality students who usually have a higher retention rate than students of lesser quality. This in turn leads to a downward spiral that can only be reversed through draconian efforts. The University of Vermont is far from that spiral, and by taking steps now to reverse current retention trends it will avoid more critical problems in the future.

Loss of revenues. As we have seen, retention rates are an important indicator of quality; they also have an important impact on a school's reputation. In addition, however, low retention rates also have an impact on the institution's budget. If the class entering in 1999 had a retention rate of five percentage points higher than it did, after four years the institution would have realized an additional \$3 million in net tuition dollars.

What is an acceptable rate of retention?

Although some level of attrition is inevitable, even healthy, the question is what is an acceptable level of attrition and what does the University of Vermont's relatively high attrition rate tell us.³ The answers to these questions rest on what kind of institution we aspire to be. If the University of Vermont intends to compete with highly selective schools, we should expect retention rates that are consistent with that ambition. On the other hand, if we are willing to accept that the University of Vermont competes with less selective schools, we would target a less ambitious retention rate.

Given the University's teaching and research capacity, its place in the state's pantheon of higher education institutions, its tuition rates, and its record of retention in the not so distant past, it seems appropriate to set our sights on retaining students at the rates of highly selective "public" schools. Thus, a first year retention rate of a minimum of 85 percent seems an appropriate goal.

³ Seventeen and 18 year-old students are still trying to find their way. They are encountering a radically new experience for which some are not as well prepared as others. Some find that their academic interests change. However, it is important to note that students are counted as retained if they transfer from one UVM unit to another. Given the plethora of choices UVM offers students, we should strive for a retention rate higher than schools that offer fewer academic opportunities.

To achieve this target, the University must develop a retention plan that can provide the basis for concerted action. This report attempts to lay the groundwork for developing such a plan by identifying the characteristics of student attrition at UVM, summarizing major conclusions of the national literature, and pointing to some components of a retention plan. It is then up to the University community to form and implement a plan that meets the needs of our students and builds on our considerable strengths.

In order to understand attrition at UVM, we begin by identifying the characteristics of those who leave. We focus here on first-year retention, that is, on the share of first-time, first-year students who are active in their third semester. Though attrition also occurs later in the students' college careers—most importantly in the sophomore year—we focus on the first year because most attrition occurs then. Later studies will address retention over the sophomore year. To identify features of students who stay and leave, we undertake a study of first-time first-year students entering in Fall 1996, 1997 and 1998 (hereafter the 1996-98 cohort). These data give us large enough numbers to draw meaningful conclusions, and will also be used in analyzing sophomore retention. To provide some indicators of trends, we will also consider students entering in Fall 1999.

Who leaves UVM?

Many factors combine to illuminate retention at the University level. Here we present some factors that proved significant by many measures, including both univariate and multivariate analyses. We present them singly, but, recognizing that factors interact, we also describe some important interactions.⁴

Voluntary and involuntary attrition

Most attrition is voluntary in the sense that it did not result from dismissals for academic or behavioral reasons. In the 1996-98 cohort, only 2.4 percent of students were dismissed, just one-seventh of the 17.3 percent attrition rate of this cohort.⁵ In other words, almost 15 percent of our first-year students left voluntarily. The dismissal rate was roughly constant over the

⁴ In this report, we examined retention only at the University level. As part of this focus, we did investigate retention rates among the University's colleges and schools. When controlling for other factors in a multivariate study, there were no significant differences among colleges and schools, except that Allied Health students were more likely to be retained into their second year. The conclusions of this study apply to the whole University, but may not apply equally to each school and college. We would be happy to generate similar data for schools and colleges, if that would be useful.

⁵ As noted earlier, students are considered retained if they enroll for courses at UVM in their third semester. Students who are studying abroad are defined to be inactive, though the vast majority will return. For many purposes, they should be considered active students, since their programs are part of their UVM education. This does not affect the first-year retention rate much, since only 11 of the 5,395 students in the 1996-98 cohort studied abroad in their third semester. This would become a much bigger factor in considering retention into the third year. Students taking leaves of absence are in a more ambiguous category, because a leave of absence is temporary and many, but far from all, of these students return. These students made up about 2.7 percent of the 1996-98 cohort.

1990s, so that dismissals cannot explain the declining retention rate over the decade. Interestingly, dismissals doubled to 4.9 percent for 1999 entrants, which contributed to the lower retention rate for this cohort. But as we will see, students with low GPA's are far more likely to leave in any case, so that many if not most of dismissed students would have left anyway. The effect of dismissals, treated separately from academic failure more generally, is modest.

Ability and retention

It seems apparent that high-ability students are much more likely to succeed in college and hence to return for their second year than are students of lesser ability. As Table 3 documents for the 1996-98 cohort, students with the highest ability as measured by their Academic Composite Evaluation scores (that is, their admissions ratings, formerly called FRAT scores) had a retention rate of 85.8 percent—7.5 percentage points higher than students with the lowest ratings.⁶ This relation was true for both Vermonters and out-of-state students, though the gap between the highest and lowest was much greater for Vermonters (13.7 percentage points) than for out-of-state students (3.5 percentage points). For both Vermonters and out-of-staters, students with moderate admission ratings (4 to 6) had retention rates in between the rates of high and low-ability students.

Table 3
One-Year Retention Rates by Academic Composite Evaluations (ACE) by Residence
for First-Time, First Year Students Entering UVM from Fall 1996 to Fall 1998

ACE Score	All Students		Vermont		Out-of-State	
	Number	Retention Rate	Number	Retention Rate	Number	Retention Rate
1 to 3	623	78.3%	328	77.4%	295	79.3%
4 to 6	2,591	81.2%	677	79.9%	1,914	81.7%
7 to 9	2,174	85.8%	794	91.1%	1,380	82.8%
Total*	5,388	82.7%	1,799	84.4%	3,589	81.9%

* Seven (7) students did not have an ACE score.

According to data drawn from the class entering in 1999, selectivity played an even more important role. The gap in retention rates between the highest and lowest groups of admission ratings was 10.2 percentage points, and the gap for out-of-state students had risen to 8.0 percent (see Table 4). Decreased retention from the 1996-98 cohort to 1999 entrants occurred in all admission ratings. The decrease was least—though still significant—for high-ability students; out-of-state high-ability students did not decrease at all. Two trends deserve note. First, high-ability Vermonters, by all accounts the students we should succeed best at keeping, had a 3.4 percentage point decline in retention. Second, the highest decrease occurred among moderate-ability students from out of state.

⁶ ACE scores are a combination of test results, high school rankings and the like and run from a low of 1 to a high of 9. Students scoring between 7 and 9 are considered high-ability students; students scoring between 1 and 3 are considered low-ability students.

Table 4
One-Year Retention Rates by Academic Composite Evaluations (ACE) by Residence
for First-Time, First Year Students Entering UVM in Fall 1999

ACE Score	All Students		Vermont		Out-of-State	
	Number	Retention Rate	Number	Retention Rate	Number	Retention Rate
1 to 3	210	74.3%	114	73.7%	96	75.0%
4 to 6	900	77.6%	253	79.8%	647	76.7%
7 to 9	708	84.5%	220	87.7%	488	83.0%
Total	1,818	79.9%	587	81.6%	1,231	79.0%

If the University could improve its selectivity would there be a corresponding improvement in retention? Using the 1996-to-98 cohort of students, suppose that the University had the opportunity to forego the 623 students that ranked the lowest in ACE scores and replace them with a corresponding number with moderate ACE scores. Under this scenario, the overall University first-year retention rate would increase by slightly more than 0.3 percentage points. Under an even more optimistic scenario in which all of the low-ranking students are replaced in the top most rank, retention rates would go up by no more than 0.9 percentage points. If these students were distributed among moderate and high-ability students in proportion to their numbers, total retention would rise by 0.6 percentage points. Because selectivity was more strongly related to retention among 1999 entrants, the effect of eliminating the lowest admission ratings would be larger, but since low-quality students make up a little more than one-tenth of our first-year class, one cannot expect their relative reduction to dramatically alter retention as a whole.

The University has set as a priority increasing selectivity in its *Strategic Action Plan*. Obviously, there are strong reasons to continue to improve on selectivity, and the effect on retention adds one more justification. Should the institution be able to reduce students from the lowest admissions ratings and to increase the number of students in the middle and highest admissions ratings by just five percent in each rank, we could anticipate an increase of more than a half a percentage point in retention rates. But by itself, this change will not be sufficient to increase our retention rate to 85 percent. Of course, it might be the case that reducing the number of weak students will improve retention among stronger students, whose education may be enhanced by their learning from other talented students. Even if this were so, increased selectivity cannot be expected to span the 5 percent gap needed to reach our target retention rate.

Academic achievement and retention

Much like ability, academic achievement is strongly related to retention. Consider the following. Students with annual grade point averages below 2.0 had a retention rate that was just 61.7 percent, about 26 percentage points beneath students with GPA's above 2.0 (see Table 5).⁷ The most recent 1999 data indicates that there is even a larger tendency for low achieving students—those with GPA's below 2.0—to leave school before their second year. These rates went from not quite 62 percent for the prior three years to less than 51 percent in 1999. It would appear that there is a threshold GPA around 2.0 beneath which attrition rises dramatically. One important anomaly complicates the relation of achievement and retention. Students with mid-range academic achievement (with GPA's between 2.0 and 2.99) had retention rates slightly higher than students with the highest rankings. These mid-range students chalked up a retention rate of 88.0 percent, 0.7 percent higher than their more accomplished colleagues. This anomaly was due solely to the retention behavior of out-of-state students; Vermonters with GPA's above 3.0 exceeded mid-range achievement students in retention.⁸

Table 5
One-Year Retention Rates by 2nd Semester Cumulative Grade Point Averages (GPA) by Residence for First-Time, First Year Students Entering UVM from Fall 1996 to Fall 1998

GPA's	All Students		Vermont		Out-of-State	
	Number	Retention Rate	Number	Retention Rate	Number	Retention Rate
No GPA	69	14.5%	34	17.6%	35	11.4%
Under 2.0	849	61.7%	324	59.3%	525	63.2%
2.0 to 2.99	2,637	88.0%	813	90.2%	1,824	87.1%
3.0 and Over	1,840	87.4%	629	93.5%	1,211	84.3%
Total	5,395	82.7%	1,800	84.4%	3,595	81.9%

If ability and achievement both correlate with retention, we might ask what role each play in retaining students in the 1996-98 cohort. Table 6 addresses this problem by separating student in any ACE score range according to their GPA's.

⁷ If we include in this number the 69 students who completed no courses and hence did not have a grade point average, the retention rate becomes an abysmal 58 percent. This group of students—those with no grade point averages and those below 2.0—made up 17 percent of the total group but, not surprisingly, 41 percent of those who left by the end of their first year.

⁸ This paradox is discussed further when we consider the retention patterns among out-of-state students.

Table 6
One-Year Retention Rates by ACE Scores by Grade Point Averages (GPA)
for First-Time, First Year Students Entering UVM from Fall 1996 to Fall 1998

<u>ACE Scores</u>	<u>No GPA</u>	<u>GPA Under 2.0</u>	<u>GPA 2.0 to 2.99</u>	<u>GPA 3.0 and Over</u>
<u>No ACE Score</u>				
Retention Rate	----	0.0%	100.0%	100.0%
Number	0	1	2	4
Share in ACE Group	----%	14.3%	28.6%	57.1%
<u>1-3 ACE Scores</u>				
Retention Rate	6.7%	61.5%	89.4%	83.3%
Number	15	187	349	72
Share in ACE Group	2.4%	30.0%	56.0%	11.6%
<u>4-6 ACE Scores</u>				
Retention Rate	17.6%	62.0%	87.9%	85.0%
Number	34	508	1,470	579
Share in ACE Group	1.3%	19.6%	56.7%	22.4%
<u>7-9 ACE Scores</u>				
Retention Rate	15.0%	61.4%	87.6%	88.9%
Number	20	153	816	1,185
Share in ACE Group	0.9%	7.0%	37.5%	54.5%

If we look at retention rates within any GPA group (by looking down the columns of the table), we can see that there were very similar retention rates for each set of ACE scores. For example, among students with GPA's under 2.0, retention rates were 61.5 percent, 62.0 percent, and 61.4 percent for students of low-, medium-, and high-ACE scores, respectively. The one caveat occurs among high-achievement students (with GPA's above 3.0), among whom retention improved as ACE scores increased. Overall, then, ability had little effect on retention of students with similar grades. The effect of ability on retention comes in its tie to achievement levels. A higher share of low-ability students received low grades than high-ability students. Again reading down the columns, we discover that 30 percent of students with the lowest ACE scores had GPA's under 2.0, but only 7 percent of students with the highest ACE scores has such low achievement. At the other end of the spectrum, only 12 percent of low-ability students had GPA's above 3.0, while 55 percent of high-ability students were in the highest GPA group. High-ability students, on average, get better grades and were retained in higher proportions for this reason.

As the national literature notes, a whole set of other factors affected students' intellectual and social development in college, and these affected their academic achievement and retention. Thus, some students with low ACE scores had outstanding academic records. At the other extreme, 715 students had moderate to high ability and yet registered grade point averages below 2.0 or never completed a course; 42 percent of these students left UVM. These students,

comprising 13 percent of all students, has admission ratings high enough to expect better performance, and it is important to understand why they did so poorly.

Clearly, students with low grades or no grades were much more likely to leave. Yet attrition was not solely, or even predominantly concentrating among students with low achievement. Indeed, almost three-fifths of students leaving UVM after their first year had GPA's above 2.0. We cannot expect to improve retention to 85 percent by concentrating only on students with low GPA's. Instead we must improve the intellectual and social environment for all students in a way that can improve academic achievement and retention.

Residence and retention

In the three years under review here, first-year students drawn from out of state had a retention rate of 81.9 percent, meaningfully beneath the 84.4 percent chalked up by students drawn from in state. The same gap was true for the 1999 cohort, when Vermonters' retention rate of 81.6 percent remained above the 79.0 percent for out-of-state students.

Lower retention by out-of-state students marks a significant change. In the early 1990s, out-of-state students were retained at a higher rate than Vermonters. In the intervening years, the proportion of the entering class made up of out-of-state students has grown while at the same time their retention rates have declined. It is only a slight exaggeration to say that up until the class entering in 1994, students drawn from out of state were responsible for the institution maintaining close to acceptable retention rates using the standards described above. *This role has not only been abandoned; it has been reversed.* The falling retention of-out-of state students explains much of the decline of UVM's retention rate over the decade.

Lower retention is concentrated among a specific group of out-of-state students, namely the high-ability students we most want to keep. Among students in the 1996-98 cohort with low and moderate ACE scores, out-of-staters actually had *higher* retention rates than Vermonters; 81 percent of those out-of-state students were retained, two percentage points above in in-state students with similar admissions rankings. Exactly the opposite was true among those with the highest ACE scores. Vermont students who are ranked among the most able had a retention exceeding 91 percent. *High-ability students drawn from out of state stand in marked contrast.* Their retention rate was just 83 percent. In the three years under review here, less than nine percent of highly able Vermont students failed to return for their second year as compared to twice that proportion of students drawn from out of state.⁹ In Fall 1999 this contrast moderated a bit, but for a disconcerting reason: retention of high-ability Vermonters fell, while retention of high-ability out-of-state students remained constant.¹⁰

⁹ This result can be put a different way. Among students drawn from Vermont, there is a major difference between the retention rates of the most able students and those in the bottom two ranks. The Vermont students who were in the lower admissions ranks had a retention rate of just 79 percent, twelve percentage points lower than those in the highest admission rankings. For out-of-state students, the gap was only 1.4 percentage points.

¹⁰ One other change in Fall 1999 is worth noting. Medium-ability out-of-state students fell greatly in retention, from 81.7 to 76.7 percent. Hence, while their retention exceeded the 79.9 percent registered by in-state students in 1996-98, it fell beneath the 79.8 percent for comparable in-state students entering in 1999. This change resulted from higher shares of moderate-ability out-of-state students with low grades and lower retention rates

Similarly, attrition was higher for out-of-state students only among those with high grades—again exactly the ones we would most want to keep. Among students with GPA's below 3.0 in the 1996-98 cohort (or who had no grades), 80.7 percent out-of-state students were retained, 1.2 percentage points above the 79.5 percent for Vermonters. In stark contrast, 93.5 percent of Vermonters with GPA's above 3.0 were retained, far above the 84.3 percent for high-achieving out-of-state students. Likewise, in the 1999 cohort, retention rates were the same for students with GPA's under 3.0, but for those above 3.0, retention rates for Vermonters exceed those for out-of-state students by 6.2 percentage points.

This result is a something of a paradox. One would expect academic success to result in greater retention. This was certainly true for Vermonters. Those with the highest GPA's, above 3.0, have a rate of retention almost three and one-half percent higher than in-state students with the next highest GPA's. *When we turn to students drawn from out of state the relationship is reversed.* The retention rate among these students with the highest GPA's, was about three percent *lower* than among those with GPA's between 2.0 and 2.99.

A possible resolution for this paradox comes when we examine the possible educational alternatives for students. Students pursue high “value for price,” that is an education that provides high quality in relation to its cost. Given equal value, cost can be decisive. Let us assume that all high-achievement students are equally satisfied with a UVM education, and that, in considering whether to transfer, all compare a UVM education to that of other high-quality institutions. Vermonters, however, face a much higher premium for transferring, since their in-state tuition rate is far lower than that of other students. Given the same perception of the relative benefits of an education at UVM and elsewhere, Vermonters are less likely to transfer to institutions with perceived higher quality. Students with lower accomplishment at UVM may not have the record required to be accepted at colleges to which they would want to transfer.

That the University of Vermont's high-ability, high-achieving out-of-state students are considerably less likely to return for their second year than comparable students from Vermont is a cause for concern. Rather than ability and achievement acting as stimuli for out-of-state students to remain for their second year, they appear to act as a deterrent. The tendency of high-ability, high-achieving out-of-state students to leave at a rate considerably higher than that of their Vermont peers has a significant impact on the institution's retention rate. Let us assume, for example, that high-quality out-of-state students were retained at the same rate as high-quality in-state students. Under this assumption, in the combined 1996-to-1998, three-year cohort, there would have been 115 more students returning for their second year. The retention rate for the entire first year class, in-state and out-of state students included, would have reached 84.9 percent—essentially at our 85 percent target. Virtually the same effect could be achieved if out-of-state students with high GPA's had the same retention rates as in-state students.¹¹ These

among such students with low grades or no grades. This change was important; had out-of-state retention among medium-quality students remained constant in Fall 1999, 32 more students would have been retained and the University's retention rate would have risen from 79.9 to 81.7 percent.

¹¹ Before we jump to the conclusion that this is the solution to our retention problem, consider the Fall 1999 experience, with its lower retention rate. If high-quality out-of-state students were retained at the same level as

assumptions are obviously unrealistic, especially because the cost differences involved in transferring to other institutions affect retention among high-quality students. But it does suggest that—both for retention and quality reasons—we must try to improve retention among our best out-of-state students. As we will argue later, we must improve retention for high-ability out-of-state students through exactly the same means as for high-ability in-state students: a combination of improved academic, co-curricular and residential quality and merit-based financial aid.

Merit scholarships and retention

Given the paradoxical role played by ability among out-of-state students, the investment in merit scholarships may be one way to increase retention among this group as well as among the highest ability Vermont students. While the data is very preliminary, there is good reason to believe that such is the case.

Table 7
One-Year Retention Rates for First-Time, First Year Students Who Entered UVM
from Fall 1996 to Fall 1998 with ACE Scores of 7 to 9 and Did or Did Not Receive Merit Aid

Merit Aid Status	All Students		Vermont		Out-of-State	
	Number	Retention Rate	Number	Retention Rate	Number	Retention Rate
No Merit Aid	1,897	84.7%	533	89.9%	1,364	82.6%
Has Merit Aid	277	93.5%	261	93.5%	16	93.8%
Total	2,174	85.8%	794	91.1%	1,380	82.8%

Consider the following: in the 1996-98 cohort 277 out of 2174 students with the highest admissions rankings – those with ACE scores from seven to nine – received merit scholarships. As Table 7 indicates, the retention rate of those students with these scholarships was 93.5 percent. Among those without merit scholarships, the retention rate was not quite 85 percent. This pattern is impressive. Among Vermonters, 261 high-ability students gained merit aid, and their retention rate, at 93.5 percent, was well above that the 89.9 percent for other high-ability Vermonters. The contrast of high-ability Vermonters was sharper in the 1999 cohort, as Table 8 indicates; 93.6 percent of those with aid were retained, far above the 82.0 percent of those without aid.

We are just beginning to make substantial numbers of merit scholarships available to out-of-state students. Only 16 merit scholarships were received by these students in the 1996-98 cohort. Out-of-state students first gained merit aid in significant numbers in Fall 1999, when 153 received such aid. Their retention rate was 84.3 percent, compared to 82.4 percent for high-ability out-of-state students without aid. This gap was far more modest than that for in-state students, but it does suggest that such aid had a positive retention effect. Whether changes in the number and average size of these scholarships will further enhance the retention of high-

high-quality Vermonters, UVM’s retention rate would have risen from 79.9 percent to 81.1 percent—a meaningful increase but far from our 85 percent target retention rate.

ability out-of-state students is something the University will have to study as the scholarship program continues.

Table 8
One-Year Retention Rates for First-Time, First Year Students Who Entered UVM
in Fall 1999 with ACE Scores of 7 to 9 and Did or Did Not Receive Merit Aid

Merit Aid Status	All Students		Vermont		Out-of-State	
	Number	Retention Rate	Number	Retention Rate	Number	Retention Rate
No Merit Aid	446	82.3%	111	82.0%	335	82.4%
Has Merit Aid	262	88.2%	109	93.6%	153	84.3%
Total	708	84.5%	220	87.7%	488	83.0%

Having declared a major and retention

When students enroll at the University of Vermont they are classed within two groups — those who declare a major and those who do not. In itself, choosing a major seemed to have little impact on retention rates in the three-year data, though undeclared students were retained in modestly higher proportions, as Table 9 demonstrates. However for 1999 entrants, declared students had modestly higher retention rates. On balance, having declared a major had little effect on retention into the second year, though we have reason to believe that those without declared majors had lower retention into the third year.

Table 9
One-Year Retention Rates by Major Status (Undeclared vs. Declared Major)
for First-Time, First Year Students Who Entered UVM from Fall 1996 to Fall 1998

Major Status	All Students (Vermont & Out-of-State)	
	Number	Rate
Undeclared Major	1,375	83.9%
Declared Major	4,020	82.3%
Total	5,395	82.7%

Declared major status interacted with academic success in a suggestive way. Students who chose a major and did not do well academically had a retention rate six percentage points lower than students who did not do well and had not chosen a major (see Table 10). This may be considered a “discouraged major” phenomena. Those students who were determined to major in one area when first entering and who subsequently did poorly in this area may have been discouraged enough to leave school, whereas those students who were still open to searching out a major were more likely to stay in school and seek areas in which they might do better.

Table 10
One-Year Retention Rates by 2nd Semester Cumulative Grade Point Averages (GPA) by Major Status
for First-Time, First Year Students Who Entered UVM from Fall 1996 to Fall 1998

<u>GPA's</u>	<u>All Students</u>		<u>Undeclared Major</u>		<u>Declared Major</u>	
	<u>Number</u>	<u>Retention Rate</u>	<u>Number</u>	<u>Retention Rate</u>	<u>Number</u>	<u>Retention Rate</u>
No GPA	69	14.5%	13	46.2%	56	7.1%
Under 2.0	849	61.7%	227	66.1%	622	60.1%
2.0 to 2.99	2,637	88.0%	699	88.8%	1,938	87.7%
3.0 and Over	1,840	87.4%	436	86.5%	1,404	87.7%
Total	5,395	82.7%	1,375	83.9%	4,020	82.3%

Campus residence and retention

It is the policy of the University that first and second year students live on campus. Nevertheless, for a variety of reasons, each year a handful of first-year students live elsewhere. In the years under consideration here, 260 students or 4.8 percent of the first-time, first-year students lived off campus. About 71 percent of those who lived off campus returned for their second year compared to about 83 percent of those who lived on campus (see Table 11). The lower retention of off-campus students largely reflects worse academic performance; a somewhat higher share had GPA's under 2.0 but more importantly off-campus students comprised over one-third of the 69 students who received no grades. However they had somewhat lower retention rates among students with GPA's above 2.0, suggesting that, consistent with the national literature, some may have left because they were insufficiently integrated into campus life.

Table 11
One-Year Retention Rates by Campus Residency (Off-Campus vs. On-Campus)
for First-Time, First Year Students Who Entered UVM from Fall 1996 to Fall 1998

<u>Campus Residency</u>	<u>All Students</u> <u>(Vermont & Out-of-State)</u>	
	<u>Number</u>	<u>Rate</u>
Off-Campus	260	71.2%
On-Campus	5,135	83.3%
Total	5,395	82.7%

Conclusion to Part I: What we have learned

Four factors we have investigated have a relation to retention clear enough and strong enough that they must be included in a retention plan. Ability and achievement are two such factors. The more able students with higher achievements during the first year are more likely to return for their second year. Increases in selectivity – an already established goal of the University and one in which the Admissions Office is actively engaged – and in student achievement will produce a more favorable rate of retention. However a viable retention plan cannot focus solely on low-ability and low-achievement students. Over half of all students

leaving had neither low admission ratings nor low achievement. That is, attrition occurs among students of all levels of ability and accomplishment, and a retention plan must reflect this fact.

Out-of-state residence is a third factor, especially among students of high ability and/or high achievement. While high ability and achievement are associated with greater retention for in-state students, they play less of a role than we would expect in retaining similarly accomplished out-of-state students. This is not surprising. The most salient difference between in-state and out-of-state students is their tuition levels, and there is much in the literature that suggests that the cost of a college education is a key factor in persistence. The choice of a college always involves tradeoffs between the value gained and the price paid. If out-of-state students can get a better education with only a marginal increase in investment or the same education at a significantly lower investment, there is a strong incentive to leave the University. When first-year out-of-state students have a choice to leave—choice as measured by academic performance that would warrant acceptances elsewhere—they are much more likely to leave UVM than when they have more limited choices. This might solve the paradox of high achieving students from out of state having a retention rate *lower* than those who have not had as successful a first year. To keep these students, a UVM education must have higher value to these students or lower real costs.

Merit scholarships are a fourth factor. This is clearly so for high-ability Vermonters, who are retained in higher proportions when they receive merit aid. Because we are just beginning to provide significant numbers of merit scholarships for out-of-state students, it is too early to tell whether such support will improve retention among these students, though our first evidence suggests some positive effects of such aid.

Other factors have less importance. The choice of an off-campus residence is associated with higher attrition, but the numbers of students are too small and their circumstances too diverse to have much overall affect on retention. Whether or not students have chosen a major plays little role in retention into the second year. When other factors are taken into account, the choice of which major, or which college, plays little role in retention.

In one sense the most important conclusion about retention is its widespread character and multiple sources. Students of all levels of ability and achievement and with all residences leave Vermont. As a result, multivariate models trying to predict who will leave have low predictive power. Part of the problem is that we may not be examining the right factors, and our consideration of the national literature will point to other factors that should enter into our retention plan.

Two conclusions do follow. First, a viable retention plan must aim at all students, not single populations. That is, we cannot simply increase selectivity, or work with low-GPA students, or target out-of-state students. None of these would be sufficient in itself. Second, no one policy tool will be strong enough to improve retention to our target level. Some combination of improved academic accomplishment and engagement (as detailed in the national literature), increased selectivity, and added financial aid will be necessary to realize this outcome.

Part II: Lessons from the National Literature

The literature devoted to understanding retention at universities and colleges is voluminous. Some of this literature confirms our own conclusions. But much of it identifies factors we did not study at the University level, but which can illuminate our efforts to form a retention strategy. Here we summarize parts of this literature, with particular emphasis on factors pertinent to a retention strategy that were not expressly addressed earlier in this report. Where possible, we connect this literature to the University's experience.

While the literature is highly varied, one core conclusion comes out over and over again: high retention is the outcome of successful educational programs, programs that engage students in high-quality intellectual life inside and outside the classroom. In arguing that retention should not in itself be an ultimate, long-term goal, Vincent Tinto, a leading authority on retention, writes: "Instead, institutions and students would be better served if a concern for the education of students, their social and intellectual growth, were the guiding principle of institutional action. When that goal is achieved, enhanced student retention will naturally follow."¹² In his judgment, improved retention should be achieved by means of improving the educational experience. The insight is entirely consistent with the quality improvements at the center of our Strategic Plan; these improvements, valuable in themselves, may also help in retention.

The question then becomes how does improved quality lead to increased retention. What kind of quality improvements? And under what circumstances? The literature addresses these questions by separating out background factors that occur before and outside college from the college academic and nonacademic experience.

A. Student Background and Retention

As the literature makes clear, many factors shaping retention occur outside and often prior to college. Several have especially relevance to forming our retention strategy.

Ability. Students considered to be of higher ability, as indicated by high-school grades, place in high-school class, character of high school, SAT scores and related measures, have better academic performance and better retention in college. Enrolling more academically talented students can improve retention.¹³ This is consistent with our own analysis.

Student Intentions and Commitment. Students with strong educational aspirations and with the commitment and skills needed to succeed in college have higher retention. This has several features.

¹² Tinto, Vincent. *Leaving College Rethinking the Causes and Cures of Student Attrition*, p. 5.

¹³ As the literature shows, the relation between ability and retention holds all colleges, but not necessarily for any individual college or university. In some colleges or universities considered low in quality, the best students leave to transfer to other institutions. Keeping the best students requires a curriculum and a broader educational environment that meets their educational needs.

- Students with clear educational or career goals that require the completion of undergraduate work and graduate work are most likely to be retained.
- Students with a commitment to study and with good study habits are more likely to be retained. This was consistent with student surveys conducted among the University's first-year students.
- Though students who begin their college career with strong and clear academic goals are much more likely to persist than students who do not, this does not mean that students coming with declared majors will have higher retention. Uncertainty and changing interests is a natural and healthy part of college. Students who are undecided upon coming to college but who have many interests and wish to explore them can have high success and retention rates.
- Retention is adversely affected if students feel that the university has not lived up to the image it presented when the student decided to attend. In this sense, a retention strategy begins during the admission process. The University must project an accurate image of the education students will receive in order to get a good match with student interests, and it must then deliver that education when students attend. The Maguire Report pointed to the need to articulate the University's real educational opportunities so that students seeking them can recognize the fit.
- Students for whom an institution was not their first choice—estimated to be about 25 percent of students in one study—are less likely to be retained.

Financial Aid. While the data on the effect of any kind of financial aid on retention is mixed, there seems to be a correlation between persistence and *a grant from the institution itself*. (In contrast to aid that is federal or state based.)¹⁴ Obviously, care should be given in the interpretation of this data. For example, what we might be seeing is a spurious correlation between merit scholarship and retention with the underlying causation being more about student ability and retention. Our analysis in Part I suggests that that merit aid does foster retention when ability (measured by ACE scores) are held constant.¹⁵

Residence. UVM is at the very top of public institutions in the share of students from out of state. We discovered little systematic analyses of how in-state or out-of-state residence affects retention rates in the national literature. We do know the relation here, and we know the relation has changed over time as the quality of out-of-state students (as indicated, no doubt incompletely, by SAT scores) has declined. But the literature does suggest that the cost of education is critical in the initial choice of colleges; higher college costs must be justified by the expectation that students will receive a better education. The same calculation may affect retention, which might explain lower retention among out-of-state students, all else being equal.

¹⁴ Alexander Astin, *What Matters in College? Four Critical Years Revisited*, "...state and federal grants...fail to show any discernible impact...perhaps the key lies in the student's *perception* of the aid. In the case of federal and state grants, the student may view such aid pretty much as an entitlement that is awarded on a more or less mechanistic basis. The same may be true of so-called merit aid that many states now award, simply because the granting of such aid is done largely according to predetermined formulas. Grants from the college...may be perceived as a form of special recognition for the student's *individual* talent and potential."

¹⁵ Expected college debt might also affect retention, though the literature identifies little relation between debt accumulation and retention.

B. Academic Life

The central factor that will increase retention, as Tinto has argued, is to improve the total educational experience. The background factors we have considered can influence retention, but they do so by affecting the composition and expectations of students to be educated. The educational experience involves, at its most fundamental level, mastering a curriculum. But it also involves a host of activities outside the classroom. We consider these is successive sections.

There is no agreement about the features of a high-quality education, nor, given the distinctive missions of colleges, is such disagreement surprising. But the literature does identify many of the pertinent features of such an education that are associated with retention. A high-quality education is challenging, interactive, engaging, active, and meets the needs of students. Because success in such an education leads to retention. it is important to consider the relevant attributes of a high-quality education.

Academic Achievement. Students with high college grades are more likely to be retained across the nation, as well as at UVM. Nationally the lowest retention rates are among students performing unsatisfactorily, and, like at UVM, more of these students leave voluntarily than through dismissal. While retention is often highest among students with highest grades, in some schools, the very best students are more like to leave than students with good grades, presumably to transfer to better schools.

Academic Challenge. High-ability seek a challenging education, and can leave when they feel insufficiently challenged. Time spent in studying strongly correlates with retention.¹⁶ Students find benefit in courses that are demanding, including those that involve extensive writing. They value courses that develop their capacity to use alternative theories and to marshal evidence in favor of an interpretation. Such courses should be structured in ways that form high expectations early in the course and provide substantial feedback throughout the course, perhaps allowing students to revise work.

Faculty-Student Interaction. All of the literature on retention emphasizes close contact with faculty both inside and outside the classroom as a major factor in success and persistence. For example, in a major recent study, Richard J. Light wrote: “students who get the most out of college, who grow the most academically, and who are happiest organize their time to include activities with faculty members, or with several other students, focused around accomplishing substantive academic work.”¹⁷ To offer students at least some small, interactive classes in the first year and to offer them out-of-class intellectual connections to faculty members are

¹⁶ It is interesting to note factors that have a negative correlation with time spent studying: alcohol consumption, smoking, the view that the chief benefit of a college education is to increase one’s earning power, and the goal of being very well off financially. (Astin, *op.cit.* p. 376)

¹⁷ Making the Most of College: Students Speak Their Minds, p. 10.

important ways to improve retention.¹⁸ Universities cannot leave this interaction to chance; there needs to be *structures* that encourage and facilitate a high degree of such interactions in the early years.¹⁹ UVM is not unique in back-loading its curriculum by creating special, small seminar-like courses for seniors and asking first-year students to take predominately large courses. Obviously, success in the major requires specialized upper-level courses but just as obviously, care should be taken that a balance is struck.

Research Orientation of the Faculty. The faculty's involvement in research has two quite opposite effects on retention.

- High-ability students seek a high-quality education in which they can work with leading edge faculty and benefit from their frontier research in the classroom. The Maguire Report made clear that our students have the same ambition.
- But an over-commitment to research, at the exclusion of a real commitment to teaching and to interacting with undergraduates can discourage students.²⁰
- There need not be a disjunction between research orientation of the faculty and a high degree of faculty-student engagement. Though some literature seems to argue that such is the case, there are many counterexamples. We observe a number of ways in which UVM can use the faculty's commitment to research in order to *increase* faculty-student involvement.²¹

Academic Engagement. First-year students who form intellectual communities with faculty and students around areas of their interest are more likely to be retained into their second year. Such communities are best when they integrate students into groups sharing intellectual problems that interest the whole group. There are a number of kinds of contexts in which such groups arise.

- **First-year seminars** have demonstrated benefits in improving grades and retention into the second year. There is much literature demonstrating this nationally. At UVM from Fall

¹⁸ It is true that many high-quality public institutions, including some we aspire to emulate, have both higher retention rates than we do and also have higher student-faculty ratios, larger average class sizes, and in many cases rely more on graduate teaching in the early undergraduate years. This in no way denies the importance of student-faculty interaction in retaining students for two reasons. First, such high-quality publics typically have other advantages that lead to higher retention, including higher selectivity, larger share of students from in-state, much lower tuition rates, remarkable reputations, and engaging campus environments. These factors would lead to higher retention rates in any case. Second, many of these same institutions have come to recognize the importance of student-faculty interaction, and have taken steps to improve this interaction by bringing tenure-track faculty into first-year classrooms, establishing first-year seminars, and so forth.

¹⁹ Faculty involvement can be looked at both as an *institutional* attribute – different institutions place a differential importance on faculty involvement with students – and an attribute of students – students who seek out faculty have a higher level of retention than students who do not.

²⁰ Astin strikes an alarming note. "...there is a significant institutional price to be paid, in terms of student development, for a very strong faculty emphasis on research" p. 338. While this may be a national tendency, there is no reason that UVM should not create structures that *simultaneously* support the research of its faculty while emphasizing close student-faculty interactions. Neither should be sacrificed in the name of the other but it requires deliberate and planful programs to make this so.

²¹ The recent developed Segr-Fame initiative is an example. However, this is a small program and is aimed at upper level students. A similar initiative could be devised which is aimed at first-year students.

1997 through Fall 1999, first-year students in the TAP program, an elective seminar-advising program in Arts and Sciences, had retention rates of 83 percent over the past three years, four percentage above the retention rate of Arts and Sciences students not in the program.

- **Honors programs** have demonstrable effects in increasing the retention of the most able, accomplished students.
- **Interactive programs**, including internships and independent research projects, have similar effects in forming intellectual communities; these too can add to retention.
- **Majors and Minors.** Retention rates do not systematically depend on whether students have decided on a major upon entering college. But students must be involved in a process in which they can come to discover their interests and begin to integrate in a major. Hence sustained uncertainty will reduce retention in later years. A study in the College of Arts and Sciences indicated that students without a declared major at the beginning of the sophomore year were much more likely to leave the institution before their junior year than were students with declared majors.

C. The Educational Experience outside the Classroom: Advising, Co-curricular Activities, Students Interactions and Dormitories

A central theme of the retention literature is that intellectual and social development of students extends far beyond the classroom. Indeed it is increasingly apparent that such activities can create the basis for academic success. A number of these factors are pertinent to our retention strategy.

Advising. Advising provides a one-on-one engagement with students that allows them to make their education relevant to their interests, and, more broadly, to explore what their educational and career interests are. Advising can have a powerful effect on retention not only by selecting courses that are more appropriate to students, but also by creating a setting where students can have wide-ranging interactions with faculty and staff. As such, good advising can lead to courses that are better attuned to students' skills and interests, to higher grades, to involvement in a wider range of campus activities, and to the discovery of educational and career interests. It can also help identify a major, thus helping to avert attrition beyond the first year. However, as the literature also points out, first-year advising is often haphazard and unused. To work well, a structured program involving ongoing meetings with faculty advisors and staff advisors is required. Universities and colleges have developed myriad models for accomplishing this end.

Orientation. First-year orientation events that precede the start of school (including June Orientation and Connections) can help build clear academic expectations, begin an interaction with faculty (and if at all possible their faculty advisors), introduce university facilities, help establish appropriate schedules, and begin to form productive communities among students. Well-structured Orientation activities can improve student choices, academic performance, and retention.

Cocurricular and Extracurricular Activities. Students who become involved in co-curricular activities, such as lectures and artistic performances, and extracurricular activities, such as

student clubs, student government, are more likely to persist. The literature points to the need to integrate students into organized interactions that can foster their intellectual and social development. Even work-study jobs can have positive retention effects.²²

Informal Student Communities. Productive relations with others are a central feature of student satisfaction and persistence. As Tinto writes, “The degree and quality of personal interactions with other members of the institution are critical elements in the process of student persistence. By contrast, the absence of sufficient contact with other members of the institution proves to be the single most important predictor of eventual departure even after taking account of the independent effects of background, personality, and academic performance.”²³ These interactions take many forms. Contact with faculty is especially important for student persistence. Participation in organized clubs and events is likewise significant. But the informal day-by-day interactions among students can be decisive. Students who are isolated from meaningful informal contacts are more likely to leave. So are students who find their interaction with other students unrewarding or counterproductive. On the other hand, informal interactions can become one of the most engaging sources of intellectual developments for students, as well as forming social communities of great value.

Living in Residence Halls or Off-Campus. Life in the residence halls can support retention, but only if it complements the academic mission of the university. Several connections with retention emerge in this context.

- Students who live on campus are much more likely to persist than those who don't. Why should this be the case? There are a number of reasons offered in the literature. The one most susceptible to *institutional* response is that leaving home has a strong and positive relationship to becoming involved and engaged in the intellectual and social life of the campus.
- When dorm life complements academic life—through classes in the dorms, study groups and so forth—it can foster retention. However when dorms involve sustained behavior that undercuts the academic mission, they can reduce retention, especially among students for whom that mission is most important. Dorms can be structured to help achieve this complementarity, a recognition at the center of the University's exploration of the idea of Theme dorms.
- Life in the dorm can integrate students into social groups of friends, which can foster retention. However, dorms can also introduce a dissonance when students are excluded, or exclude themselves, from a dominant culture. This can reduce retention particularly when the dominant culture undercuts the core intellectual objectives of the university.

²² Not surprisingly, having either a part-time or full-time job off campus has a negative effect on retention. However, if that part-time job is on campus, the relationship is reversed. There is strongly positive relationship to retention and graduation. The reason is obvious. A part-time job on campus increases almost by definition involvement with faculty and students. (Astin, *op.cit.*, p. 388)

²³ *Op. cit.* pp. 64-65.

Part III: Components of a Retention Strategy

UVM's retention should, and can, be improved. Our provisional target is to improve the first-year retention to 85 percent. Ultimately, we will want to address retention into the third year and graduation rates, but it cannot be doubted that these would be improved if more students could be retained into the second year. Achieving this target is a major challenge, since the most recent first-year retention rate, standing below 80 percent, is far below our goal. Nonetheless, we believe that UVM has the assets needed to provide the quality of education that will retain these students, and can acquire the resources to make this education affordable. We do not propose a plan to reach this target; this must be the task of the University community. But we believe we have gained insights into the contours and elements of a successful strategy.

First of all, we believe a retention plan cannot succeed unless it aims at improving academic quality and engagement for all students, and in particular for the high-ability students we most want to attract and keep. In part this is a simple matter of mathematics. We could not increase our retention rate to 85 percent by simply being more selective in our admissions, or working with students with low grades, or by trying to improve retention among off-campus students. Of course we should not ignore these high-risk students, but we need a strategy that affects other students as well. After all, most attrition occurs outside these high-risk groups. In part, the issue is one of principle; our core strategic principles require us to improve the quality and attractiveness of our education so that we can attract growing shares of excellent students.

What then are the components of a retention plan? We identify three.

1. **Quality improvement.** We need to improve the quality of first-year intellectual and social life in a way that offers a challenging education, with extensive interaction with faculty inside and outside the classroom, and with opportunities for intellectual engagement for all students. We also must enable and encourage students to form productive interactions in dorms and extracurricular activities. As Part II noted, the literature identifies many components of quality improvement, ranging from challenging academics, timely academic feedback, academic and career advising, and outside-classroom interactions among students and faculty to campus culture and dormitory experience. While this literature can provide a guide, we will need to build on our own experience to identify quality improvements appropriate to our students.

These improvements must be open to all students, but they must aim to create the kind of educational experience that will attract and keep the high-quality students who would flourish in this setting. By creating a vibrant educational experience for high-ability, high-achieving students, we will also create a magnet that can attract many other students, including students with moderate or average admission ratings, as well as students with high admission ratings who do not presently perform well. Some activities can be aimed at the highest ability students, such as honors programs, but these must also be open to any student who excels once at UVM. In addition, by improving quality, we could better retain high-ability out-of-state students by improving the value of their education in relation to its cost.

2. **Enrollment management and marketing.** UVM can improve its retention through more concerted and focused efforts in enrollment management and marketing. As indicated earlier, a retention strategy begins in the admission process, and we need to project an image of an exciting, engaging education in order to attract students who will flourish in this setting. In other words, we want more academically talented students, but among these students, we seek those for whom the education we offer will best meet their needs. This will require work to define and project the right image, and to ensure that this image is one we can deliver.
3. **Merit-based Financial Aid.** To increase the merit-based aid offered by the University to outstanding students will not only bring more high-ability students to UVM, it will also play an important role in retaining academically talented students from inside and outside Vermont.

These three features are mutually reinforcing. An improved educational experience will itself attract students to UVM, which will allow selectivity to grow. Improved selectivity and a better projection of our educational image will in turn bring students to UVM who will make better use of the quality of education we offer, and will also build intellectual community in ways that will affect other students. Financial aid can allow academically talented students to come who would otherwise not have done so, and can help keep these students here.

Needless to say, the hard work remains of fleshing out these components. It will be equally important to involve the University community in implementing the resulting strategy. We are convinced progress is possible, partly because it is already underway. For the University is already advancing on each of these fronts, and there is substantial consensus that we should endeavor to improve the quality of the undergraduate experience.