2004 Bachelor's Degree Recipients Alumni Survey

Student Engagement & Development

In Spring and Summer 2005, the Office of Institutional Research conducted a one-year follow-up survey of the 1,673 alumni who received a bachelor's degree in fiscal year 2004 (July 1, 2003 to June 30, 2004). Three mailings of the survey resulted in a response rate of 24.3% and a final sample of 388 respondents.[1]

As part of this survey, alumni were asked to respond to a series of questions regarding student engagement and development at UMBC. These questions were borrowed with permission from the National Survey of Student Engagement (NSSE), a research effort in which UMBC participated in 2000, 2001, 2004, and 2005. The National Survey of Student Engagement (NSSE) is a national survey of first-year and senior-level undergraduate students at both public and private four-year institutions. NSSE began in 1998 with support from the Pew Charitable Trusts, was piloted in 1999, and nationally launched for annual administration in spring 2000. The project is directed by Dr. George Kuh, Chancellor's Professor of Education at Indiana University's Center for Post-Secondary Research & Planning. The NSSE gauges the extent to which colleges are providing educational experiences associated with important learning and personal development outcomes for their undergraduates.[2] The excerpted NSSE questions used in the 2004 Bachelor's Degree Recipients Alumni Survey assessed three student development areas—Knowledge, Skills, and Personal—with five questions in each category. Several of the questions align with the Maryland Higher Education Commission and the Middle States accreditation student learning outcomes assessment guidelines.

Findings

General Trends in Student Engagement & Development

Alumni were asked about UMBC's contribution to their knowledge, skill, and personal development, with responses ranging from "very much" to "very little" (Table 1). Chart 1 illustrates the percentage responding "very much" or "quite a bit" to each question, as well as the percentage indicating "not applicable." Unless stated otherwise, we focus on the percentage of alumni who responded "very much" or "quite a bit." Alumni overwhelmingly credited UMBC with a number of cognitive developments, including (a) acquiring a broad education (79%), (b) thinking critically and analytically (79%), and (c) learning effectively on your own (71%).

Alumni were least likely to acknowledge UMBC in their development of civic engagement. For instance, the two items that scored the lowest were found in the Personal Development category, "contributing to the welfare of your community" and "fulfilling your civic duty by voting in local, state and national elections" (38% and 24% respectively). Apparently, a notable percentage of alumni also believed that it was not UMBC's duty to develop their sense of civic engagement, as both of these items had relatively high percentages of "not applicable" (9% and 16%). Of the Personal Development items, about two-thirds of respondents indicated that UMBC contributed to their ability to "work effectively with others" and "understanding people of other racial and ethnic backgrounds" both reflecting the culture of diversity on UMBC's campus (66% and 64%, respectively).

Turning to the development of particular skills, there are some mediocre results that are consistent with the CY2003 alumni survey. It can be argued that three of the five items in this category encapsulate general education outcomes for UMBC graduates—writing clearly and effectively, speaking clearly and effectively, and using computing and information technology. Approximately 60% of alumni responded that UMBC contributed to their ability to write clearly and effectively and to use computing and information technology (60% and 58%, respectively). Less than half of all respondents stated that UMBC contributed to their ability to speak clearly and effectively (48%).

Program Area

Table 2 illustrates UMBC's contribution to knowledge, skills and personal development by program area. Chi-square tests were conducted to understand any significant relationship between program area and percentage of alumni

[1] An incentive was offered as a strategy to increase participation.
[2] Kuh, Hayek, Carini, Ouimet, Gonyea, & Kennedy (2001). *NSSE Technical Norms Report*. Bloomington, Indiana: Indiana University for Postsecondary Research & Planning.

crediting UMBC "very much/quite a bit" or "some/very little" with any one of the 16 development items. The percentage of alumni by program area responding "very much/quite a bit" is reported for significant relationships. Although data for Interdisciplinary Studies alumni are shown, the small number of graduates (n=10) in this program area does not support their inclusion in these comparisons.

There are a few significant relationships between program area and the degree to which alumni credited UMBC "very much/quite a bit" or "some/very little" to their cognitive development, they include: (1) acquiring a broad education, (2) analyzing quantitative problems, and (3) acquiring job or work-related knowledge and skills. First, alumni who majored in the Arts & Humanities and the Social Sciences were more likely than those who majored in the Science, Technology, Engineering & Mathematics (STEM) areas to credit UMBC with their acquisition of a broad education. Conversely, STEM majors were more likely than Arts & Humanities and Social Science alumni to report that UMBC influenced their ability to analyze quantitative problems. Of all the discipline areas, Engineering, Computer & Information Sciences alumni were most likely to report that UMBC contributed to their acquisition of job or work-related knowledge or skills (67.3%).

There were three significant relationships between program area and UMBC's contribution to alumni's skill development, they include: (1) writing clearly and effectively, (2) designing and conducting experiments, and (3) using computing and information technology. Arts & Humanities and Social Sciences alumni were more likely than STEM alumni to state that UMBC contributed to their ability to write and speak clearly and effectively, whereas alumni who majored in the Math & Sciences were much more likely than all other alumni to credit UMBC with their ability to design and conduct experiments. Engineering, Computer and Information Sciences alumni were most likely to reply that UMBC contributed to their ability to use computing and information technology (78.1%).[3]

Finally, there were four significant relationships between program area and personal development, they include: (1) fulfilling one's civic duty by voting in elections, (2) contributing to the welfare of one's community, (3) understanding people of other racial and ethic backgrounds, and (4) understanding oneself. These significant relationships revealed a consistent pattern in alumni responses by program area. Namely, alumni who majored in the Social Sciences were more likely than all other alumni to respond that UMBC contributed to their sense of civic engagement. Social Sciences alumni were also more likely than other alumni to credit UMBC with their ability to understand people of other racial and ethnic groups.

Matriculation Type

Table 3 shows the relationship between matriculation type and student engagement and development items. In all instances new transfers were significantly more likely than new freshmen to credit UMBC with the following developments: (1) analyzing quantitative problems, (2) speaking clearly and effectively, (3) working effectively with others, (4) fulfilling one's civic duty by voting in elections, and (5) developing a personal code of values and ethics.

Matriculation Type and Program Area

Table 4 presents data to understand if matriculation type conditions the relationship between program area and UMBC's contribution to student engagement and development. Regarding the acquisition of general knowledge, in table 2 we saw a significant relationship between program area and (1) acquiring a broad education and (2) acquiring job or work-related knowledge and skills. These relationships remained significant for alumni who matriculated as new freshmen but not as new transfers. Likewise, in table 2 there was a significant relationship between program area and UMBC's contribution to alumni's ability to analyze quantitative problems. This relationship remained significant for only those alumni who came to UMBC as new transfers.

Previously we noted that alumni from the Arts & Humanities and the Social Sciences were more likely than STEM alumni to attribute UMBC with their ability to write and speak clearly and effectively, whereas alumni who majored in the Math & Sciences were much more likely than all other alumni to credit UMBC with their ability to

[3] In later analyses we tested if matriculation type had any statistical effect on the relationship between program area and alumni's ability to use computing and information technology. This relationship is significant for alumni who matriculated as new freshmen and as new transfers. Engineering, Computer, and Information Sciences alumni were more likely than other alumni to credit UMBC with their ability to use computing and information technology.

design and conduct experiments. When controlling for matriculation type, we found that these relationships remained significant for alumni who initially matriculated to UMBC as new transfers.

Matriculation type conditioned the relationship between program area and one item in the personal development area—the ability to understand oneself. Arts & Humanities and Social Sciences alumni who matriculated as new freshmen to UMBC were more likely than STEM majors to credit UMBC with their self discovery. Matriculation type did not condition the relationship between program area and alumni crediting UMBC with their ability to contribute to their communities. For alumni who matriculated as new freshmen, those who majored in the Social Sciences and the Arts & Humanities were more likely than STEM majors to credit UMBC with this facet of civic engagement. On the other hand, for alumni who matriculated as new transfers, those who majored in the Social Sciences and the Math & Sciences were more likely than other majors to credit UMBC with this aspect of civic engagement.

Concluding Remarks

These analyses revealed general trends in 2004 bachelor degree recipients' perceptions of UMBC's contribution to their cognitive, skill, and personal development, as well as some observed and significant differences by discipline area and matriculation type. While we expected to see differences by program area for certain skills that tended to be more discipline specific, there were a number of items representing general education requirements. With these items, we expected that UMBC had contributed "very much" or "quite a bit" across all respondents, but this was not the case.

The majority of respondents credited UMBC "very much" or "quite a bit" with a number of cognitive developments for which all higher education administration and faculty strive to inculcate and nourish in their graduates: a broad general education, the ability to learn effectively on one's own, and the ability to think critically and analytically. There were some less favorable results for items emphasizing a number of general education outcomes for UMBC graduates: speaking and writing clearly and effectively and using computing and information technology. Between 48 – 60% of respondents replied that UMBC contributed "very much" or "quite a bit" to the development of these skills with another 38 – 50% replied that UMBC contributed "some" to "very little" to the acquisition of these skills. Logically, alumni who majored in the Arts &Humanities and the Social Sciences were more likely than STEM alumni to respond that UMBC contributed to their ability to write clearly and effectively, whereas Engineering, Computer, and Information Sciences alumni were more likely than other alumni to credit UMBC with their ability to use computing and information technology. Alumni who transferred to UMBC were as likely as or more likely than new freshmen to attribute UMBC "very much" or "quite a bit" with the acquisition of these skills. Alumni who matriculated to UMBC as new transfers were significantly more likely than those who came to UMBC as new freshmen to credit the institution with their ability to speak clearly and effectively.

There was a consistent pattern in alumni responses to personal development items by program area. There was a significant relationship between program area and two personal development items representing aspects of one's sense of civic engagement: voting in elections and contributing to the welfare of one's community. Alumni who majored in the Social Sciences were more likely than all other alumni to respond that UMBC contributed "very much" or "quite a bit" to a sense of civic engagement; these alumni were also the least likely of all alumni to respond that this item was "not applicable" to them. Further, this sense of civic engagement resonated with alumni who had matriculated to UMBC as new freshmen and as new transfers.

The questions borrowed from the National Survey of Student Engagement are a way to assess the extent to which UMBC is providing educational experiences that are associated with various learning and personal development outcomes one-year after graduating from UMBC. It can be argued that the interim period (between graduating and being contacted for this survey) allows recent graduates to reflect upon their educational experiences in the context of the new challenges they are encountering in the workforce, or in graduate/professional school. Most evident is that there are areas for improvement in ways to engage students to develop their written and oral communication skills, as well as their technical fluency. The anticipated implementation of the revised General Education Program (scheduled for fall 2007) should address these areas where alumni were less likely to respond that UMBC contributed to their skill acquisition.

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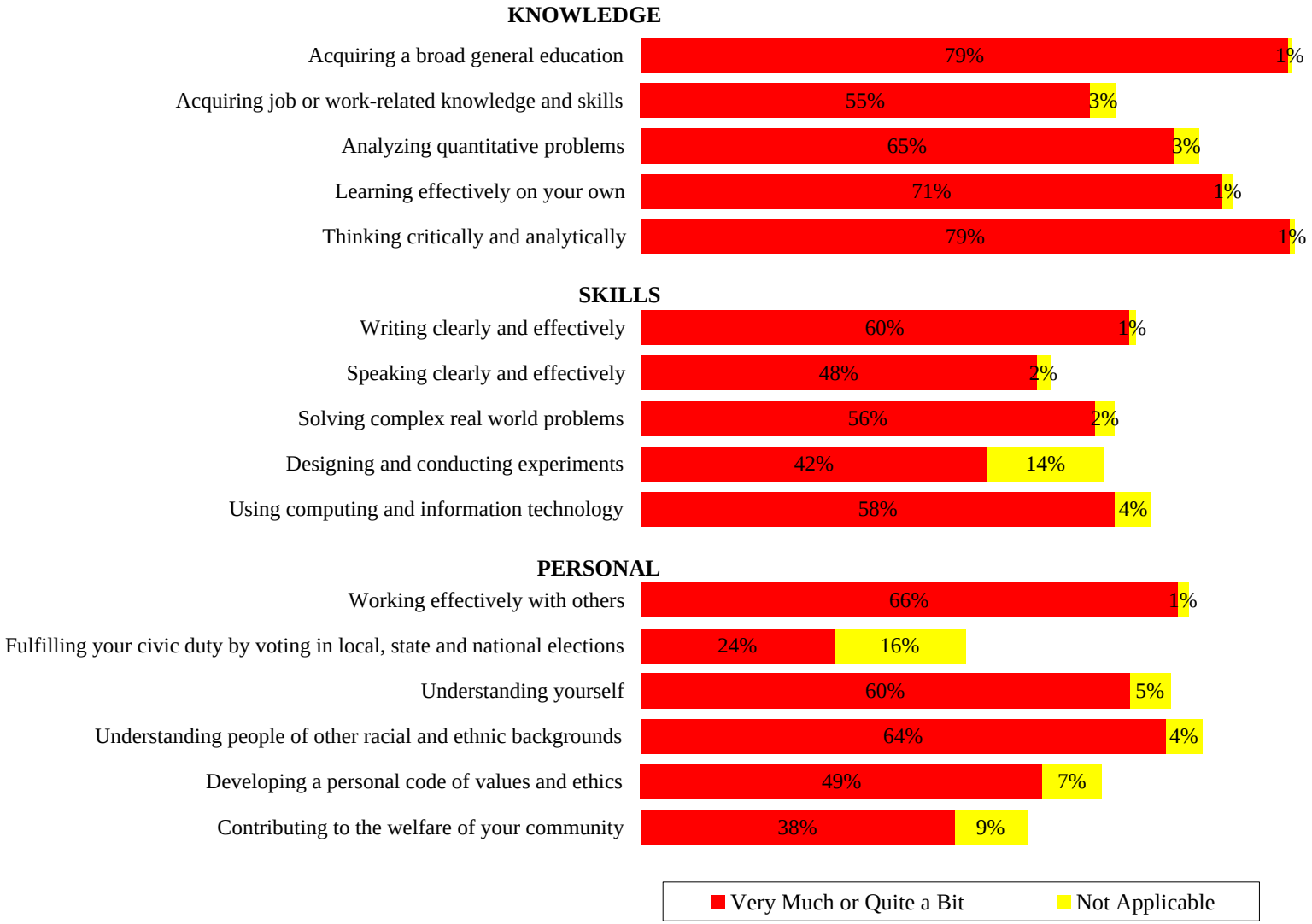
Fiscal Year 2004 Bachelor's Degree Recipients Alumni Survey
STUDENT ENGAGEMENT QUESTIONS

TABLE 1: TO WHAT EXTENT HAS YOUR UMBC EDUCATION CONTRIBUTED TO YOUR KNOWLEDGE, SKILLS, AND PERSONAL DEVELOPMENT IN THE FOLLOWING AREAS?
% REPORTING "VERY MUCH/QUITE A BIT," "SOME/VERY LITTLE," or "N/A"

		Very Much or Quite a Bit		Some or Very Little		Not Applicable		
		#	%	#	%	#	%	TOTAL
KNOWLEDGE								
1	Acquiring a broad general education	306	*79%*	79	*20%*	2	*1%*	387
2	Acquiring job or work-related knowledge and skills	211	*55%*	161	*42%*	12	*3%*	384
3	Analyzing quantitative problems	252	*65%*	123	*32%*	12	*3%*	387
4	Learning effectively on your own	275	*71%*	107	*28%*	5	*1%*	387
5	Thinking critically and analytically	307	*79%*	78	*20%*	2	*1%*	387
SKILLS								
6	Writing clearly and effectively	231	*60%*	153	*40%*	3	*1%*	387
7	Speaking clearly and effectively	187	*48%*	193	*50%*	6	*2%*	386
8	Solving complex real world problems	215	*56%*	163	*42%*	9	*2%*	387
9	Designing and conducting experiments	164	*42%*	168	*43%*	55	*14%*	387
10	Using computing and information technology	223	*58%*	148	*38%*	17	*4%*	388
PERSONAL								
11	Working effectively with others	254	*66%*	128	*33%*	5	*1%*	387
12	Fulfilling your civic duty by voting in local, state and national elections	92	*24%*	234	*60%*	62	*16%*	388
13	Understanding yourself	232	*60%*	137	*35%*	19	*5%*	388
14	Understanding people of other racial and ethnic backgrounds	249	*64%*	122	*31%*	17	*4%*	388
15	Developing a personal code of values and ethics	190	*49%*	169	*44%*	28	*7%*	387
16	Contributing to the welfare of your community	149	*38%*	205	*53%*	34	*9%*	388

Note: Rows may not equal 100% due to rounding.

Chart 1: FY2004 Bachelor's Degree Recipients Alumni Survey
Student Engagement: UMBC'S Contribution to Student Development



Prepared by: UMBC Office of Institutional Research, 7/05.

Fiscal Year 2004 Bachelor's Degree Recipients Alumni Survey
STUDENT ENGAGEMENT QUESTIONS BY PROGRAM AREA

TABLE 2: TO WHAT EXTENT HAS YOUR UMBC EDUCATION CONTRIBUTED TO YOUR KNOWLEDGE, SKILLS, AND PERSONAL DEVELOPMENT IN THE FOLLOWING AREAS?
% REPORTING VERY MUCH & QUITE A BIT OR NOT APPLICABLE
(BY PROGRAM AREA)

		Program Area									
		Arts & Humanities (n=66)		Engin., Comp. & Info. Sciences (n=105)		Social Sciences (n=150)		Math & Sciences (n=57)		Interdisciplinary Studies (n=10)	
		% Very Much or Quite a Bit	% N/A	% Very Much or Quite a Bit	% N/A	% Very Much or Quite a Bit	% N/A	% Very Much or Quite a Bit	% N/A	% Very Much or Quite a Bit	% N/A
KNOWLEDGE											
1	Acquiring a broad general education **	83.3%	1.5%	76.2%	1.0%	84.6%	0.0%	63.2%	0.0%	90.0%	0.0%
2	Acquiring job or work-related knowledge and skills *	42.4%	6.1%	67.3%	1.0%	53.4%	2.0%	52.6%	7.0%	44.4%	0.0%
3	Analyzing quantitative problems ***	43.1%	6.2%	72.4%	1.0%	66.7%	4.0%	73.7%	0.0%	60.0%	10.0%
4	Learning effectively on your own	81.8%	0.0%	68.3%	1.9%	70.0%	1.3%	66.7%	1.8%	70.0%	0.0%
5	Thinking critically and analytically	83.1%	0.0%	75.2%	1.9%	80.7%	0.0%	78.9%	0.0%	80.0%	0.0%
SKILLS											
6	Writing clearly and effectively **	74.2%	1.5%	50.0%	1.9%	64.7%	0.0%	49.1%	0.0%	50.0%	0.0%
7	Speaking clearly and effectively	56.1%	0.0%	41.3%	4.8%	51.3%	0.7%	44.6%	0.0%	50.0%	0.0%
8	Solving complex real world problems	50.0%	3.0%	61.5%	1.9%	58.7%	2.0%	43.9%	3.5%	50.0%	0.0%
9	Designing and conducting experiments ***	20.0%	27.7%	43.8%	13.3%	42.7%	12.0%	64.9%	3.5%	40.0%	30.0%
10	Using computing and information technology ***	37.9%	10.6%	78.1%	0.0%	55.3%	3.3%	47.4%	7.0%	60.0%	10.0%
PERSONAL											
11	Working effectively with others	69.7%	0.0%	66.3%	1.9%	66.7%	1.3%	57.9%	0.0%	60.0%	10.0%
12	Fulfilling your civic duty by voting in local, state and national elections **	25.8%	18.2%	15.2%	20.0%	32.7%	12.0%	14.0%	17.5%	20.0%	10.0%
13	Understanding yourself *	65.2%	4.5%	50.5%	4.8%	68.0%	4.0%	49.1%	7.0%	60.0%	10.0%
14	Understanding people of other racial and ethnic backgrounds *	62.1%	6.1%	56.2%	4.8%	73.3%	2.7%	57.9%	7.0%	60.0%	0.0%
15	Developing a personal code of values and ethics	53.0%	7.6%	42.9%	11.4%	56.4%	4.7%	36.8%	5.3%	50.0%	10.0%
16	Contributing to the welfare of your community ***	36.4%	10.6%	24.8%	13.3%	50.7%	4.7%	29.8%	10.5%	60.0%	0.0%

* $p \leq .05$; ** $p \leq .01$; *** $p \leq .001$

Note: The n for each discipline varies slightly across items given the number of valid cases.

Each item was transformed such that "not applicable" was recoded as missing data to test the relationship between program area and the likelihood to respond "very much or quite a bit" or "some or very little."

Interdisciplinary Studies was excluded from the analyses using the Chi-square test due to its small group size.

Fiscal Year 2004 Bachelor's Degree Recipients Alumni Survey
STUDENT ENGAGEMENT QUESTIONS BY MATRICULATION TYPE

TABLE 3: TO WHAT EXTENT HAS YOUR UMBC EDUCATION CONTRIBUTED TO YOUR KNOWLEDGE, SKILLS, AND PERSONAL DEVELOPMENT IN THE FOLLOWING AREAS? % REPORTING VERY MUCH & QUITE A BIT OR NOT APPLICABLE (BY MATRICULATION TYPE)

		MATRICULATION TYPE			
		New Freshman (n = 162)		New Transfer (n = 208)	
		% Very Much or Quite a Bit	% Not Applicable	% Very Much or Quite a Bit	% Not Applicable
KNOWLEDGE					
1	Acquiring a broad general education	80.3%	0.0%	78.3%	1.2%
2	Acquiring job or work-related knowledge and skills	52.4%	2.4%	56.5%	4.3%
3	Analyzing quantitative problems *	60.6%	2.9%	69.6%	3.7%
4	Learning effectively on your own	68.3%	1.0%	73.3%	1.2%
5	Thinking critically and analytically	76.9%	0.0%	80.7%	1.2%
SKILLS					
6	Writing clearly and effectively	57.7%	0.0%	64.6%	1.2%
7	Speaking clearly and effectively **	43.0%	1.0%	55.9%	1.9%
8	Solving complex real world problems	52.7%	1.0%	58.0%	3.7%
9	Designing and conducting experiments	42.5%	14.0%	40.7%	14.8%
10	Using computing and information technology	56.3%	4.3%	57.4%	3.7%
PERSONAL					
11	Working effectively with others **	60.6%	0.5%	73.3%	1.9%
12	Fulfilling your civic duty by voting in local, state and national elections *	20.7%	11.5%	28.4%	21.6%
13	Understanding yourself	54.8%	4.8%	66.0%	4.9%
14	Understanding people of other racial and ethnic backgrounds	62.0%	2.9%	66.0%	6.2%
15	Developing a personal code of values and ethics *	45.4%	6.3%	54.9%	8.0%
16	Contributing to the welfare of your community	37.0%	6.7%	40.1%	10.5%

* $p \leq .05$; ** $p \leq .01$; *** $p \leq .001$

Note: The n for new freshmen and new transfers varies slightly across items given the number of valid cases.

Each item was transformed such that "not applicable" was recoded as missing data to test the relationship between matriculation type and the likelihood to respond "very much or quite a bit" or "some or very little."

Fiscal Year 2004 Bachelor's Degree Recipients Alumni Survey
STUDENT ENGAGEMENT QUESTIONS BY PROGRAM AREA AND ORIGINAL MATRICULATION TYPE

TABLE 4: TO WHAT EXTENT HAS YOUR UMBC EDUCATION CONTRIBUTED TO YOUR KNOWLEDGE, SKILLS, AND PERSONAL DEVELOPMENT IN THE FOLLOWING AREAS?
% REPORTING VERY MUCH & QUITE A BIT OR NOT APPLICABLE
(BY PROGRAM AREA & MATRICULATION TYPE)

		Program Area									
		Arts & Humanities (NF = 37; NT = 28)		Engin., Comp. & Info. Sciences (NF = 49; NT = 46)		Social Sciences (NF = 79; NT = 70)		Math & Sciences (NF = 35; NT = 17)		Interdisciplinary Studies (NF = 8; NT = 2)	
	Matriculation Type	% Very Much or Quite a Bit	% Not Applicable	% Very Much or Quite a Bit	% Not Applicable	% Very Much or Quite a Bit	% Not Applicable	% Very Much or Quite a Bit	% Not Applicable	% Very Much or Quite a Bit	% Not Applicable
KNOWLEDGE											
1 Acquiring a broad general education	NF**	83.8%	0.0%	77.6%	0.0%	88.6%	0.0%	60.0%	0.0%	87.5%	0.0%
	NT	82.1%	3.6%	73.9%	2.2%	79.7%	0.0%	76.5%	0.0%	100.0%	0.0%
2 Acquiring job or work-related knowledge and skills	NF**	43.2%	2.7%	72.9%	2.1%	47.4%	1.3%	45.7%	5.7%	50.0%	0.0%
	NT	42.9%	10.7%	63.0%	0.0%	59.4%	2.9%	52.9%	11.8%	0.0%	0.0%
3 Analyzing quantitative problems	NF	40.5%	8.1%	71.4%	0.0%	59.5%	2.5%	65.7%	0.0%	75.0%	12.5%
	NT*	48.1%	3.7%	71.7%	2.2%	74.3%	5.7%	82.4%	0.0%	0.0%	0.0%
4 Learning effectively on your own	NF	78.4%	0.0%	61.2%	2.0%	69.6%	1.3%	62.9%	0.0%	75.0%	0.0%
	NT	85.7%	0.0%	73.3%	0.0%	70.0%	1.4%	70.6%	5.9%	0.0%	0.0%
5 Thinking critically and analytically	NF	78.4%	0.0%	71.4%	0.0%	79.7%	0.0%	74.3%	0.0%	87.5%	0.0%
	NT [a]	88.9%	0.0%	76.1%	4.3%	81.4%	0.0%	82.4%	0.0%	0.0%	0.0%
SKILLS											
6 Writing clearly and effectively	NF	67.6%	0.0%	51.0%	0.0%	59.5%	0.0%	51.4%	0.0%	62.5%	0.0%
	NT *	82.1%	3.6%	51.1%	2.2%	70.0%	0.0%	52.9%	0.0%	0.0%	0.0%
7 Speaking clearly and effectively	NF	45.9%	0.0%	36.7%	2.0%	46.8%	1.3%	35.3%	0.0%	62.5%	0.0%
	NT	67.9%	0.0%	46.7%	6.7%	55.7%	0.0%	64.7%	0.0%	0.0%	0.0%
8 Solving complex real world problems	NF	45.9%	5.4%	56.3%	0.0%	57.0%	0.0%	45.7%	0.0%	50.0%	0.0%
	NT	57.1%	0.0%	63.0%	2.2%	61.4%	4.3%	35.3%	11.8%	0.0%	0.0%
9 Designing and conducting experiments	NF	27.8%	27.8%	44.9%	8.2%	39.2%	13.9%	62.9%	5.7%	37.5%	25.0%
	NT **	10.7%	28.6%	39.1%	19.6%	45.7%	10.0%	70.6%	0.0%	100.0%	0.0%
10 Using computing and information technology	NF *	40.5%	10.8%	77.6%	0.0%	51.9%	3.8%	48.6%	5.7%	75.0%	0.0%
	NT *	35.7%	10.7%	73.9%	0.0%	58.6%	2.9%	47.1%	5.9%	0.0%	0.0%

* $p \leq .05$; ** $p \leq .01$; *** $p \leq .001$

Note: The n for matriculation type (NF, NT) varies minimally across items within discipline given the number of valid cases.
Each item was transformed such that "not applicable" was recoded as missing data to test the relationship between program area and the likelihood to respond "very much or quite a bit" or "some or very little."
Interdisciplinary Studies was excluded from the analyses using the Chi-square test due to its small group size.
[a] Chi-square tests assessing the relationship between student development & learning and program area could not be conducted because the proportion of cells less than 5 is > 20%. This violates one of the assumptions associated with the Chi-square test.

Fiscal Year 2004 Bachelor's Degree Recipients Alumni Survey
STUDENT ENGAGEMENT QUESTIONS BY PROGRAM AREA AND ORIGINAL MATRICULATION TYPE

TABLE 4: TO WHAT EXTENT HAS YOUR UMBC EDUCATION CONTRIBUTED TO YOUR KNOWLEDGE, SKILLS, AND PERSONAL DEVELOPMENT IN THE FOLLOWING AREAS?
% REPORTING VERY MUCH & QUITE A BIT OR NOT APPLICABLE
(BY PROGRAM AREA & MATRICULATION TYPE)

			Program Area									
			Arts & Humanities (NF = 37; NT = 28)		Engin., Comp. & Info. Sciences (NF = 49; NT = 46)		Social Sciences (NF = 79; NT = 70)		Math & Sciences (NF = 35; NT = 17)		Interdisciplinary Studies (NF = 8; NT = 2)	
		Matriculation Type	% Very Much or Quite a Bit	% Not Applicable	% Very Much or Quite a Bit	% Not Applicable	% Very Much or Quite a Bit	% Not Applicable	% Very Much or Quite a Bit	% Not Applicable	% Very Much or Quite a Bit	% Not Applicable
PERSONAL												
11	Working effectively with others	NF	67.6%	0.0%	63.3%	0.0%	55.7%	1.3%	57.1%	0.0%	75.0%	0.0%
		NT	71.4%	0.0%	71.1%	2.2%	78.6%	1.4%	64.7%	0.0%	0.0%	100.0%
12	Fulfilling your civic duty by voting in local, state and national elections	NF	24.3%	13.5%	16.3%	16.3%	24.1%	10.1%	14.3%	5.7%	25.0%	12.5%
		NT	25.0%	25.0%	17.4%	21.7%	41.4%	14.3%	11.8%	47.1%	0.0%	0.0%
13	Understanding yourself	NF *	59.5%	5.4%	40.8%	6.1%	65.8%	3.8%	42.9%	2.9%	62.5%	12.5%
		NT	71.4%	3.6%	60.9%	2.2%	70.0%	4.3%	58.8%	17.6%	0.0%	0.0%
14	Understanding people of other racial and ethnic backgrounds	NF	62.2%	2.7%	53.1%	4.1%	69.6%	2.5%	57.1%	2.9%	62.5%	0.0%
		NT	60.7%	10.7%	58.7%	4.3%	77.1%	2.9%	52.9%	17.6%	0.0%	0.0%
15	Developing a personal code of values and ethics	NF	48.6%	8.1%	40.8%	6.1%	48.7%	6.4%	37.1%	2.9%	62.5%	12.5%
		NT	57.1%	7.1%	45.7%	15.2%	64.3%	2.9%	41.2%	11.8%	0.0%	0.0%
16	Contributing to the welfare of your community	NF *	40.5%	10.8%	22.4%	8.2%	46.8%	5.1%	25.7%	5.7%	62.5%	0.0%
		NT *	28.6%	10.7%	26.1%	15.2%	54.3%	4.3%	41.2%	23.5%	0.0%	0.0%

* $p \leq .05$; **$p \leq .01$; *** $p \leq .001$
Note: The n for matriculation type (NF, NT) varies minimally across items within discipline given the number of valid cases.
Each item was transformed such that "not applicable" was recoded as missing data to test the relationship between program area and the likelihood to respond "very much or quite a bit" or "some or very little."
Interdisciplinary Studies was excluded from the analyses using the Chi-square test due to its small group size.

[a] Chi-square tests assessing the relationship between student development & learning and program area could not be conducted because the proportion of cells less than 5 is > 20%. This violates one of the assumptions associated with the Chi-square test.