



*Retrospective Analysis
Of Total Time to Completion:
2002-2003 Associate Degree Recipients*



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Retrospective Analysis Of Total Time to Completion: 2002-2003 Associate Degree Recipients

Midlands Technical College

Genesis of Project/Methodology

The desire to provide some validation for the findings from our previous study conducted in 2000 along with concern over the college's graduation rate and general questions concerning the timely progress of students toward graduation, prompted the Office of Assessment, Research and Planning (ARP) to repeat the retrospective analysis study. This retrospective analysis will allow college administrators to examine graduates time to completion of an associate's degree based on variables that potentially impact their progress.

The previous study of 1997-98 graduates was restricted to a sample of graduates due to the labor intensive nature of the process required to collect the data elements. Data for this study of 2002-03 graduates was obtained from computer files from our computer systems. This represents significant improvement in the research offices, ability to efficiently study the entire population of 789 students who were awarded Associate degrees in 2002-03.

As with the previous study, data collection involved determining if students carried an all-DVS, all-curriculum level, or mixed course load in their first semester after admission; the number of times the student changed academic majors; whether the student brought in any transferred hours and from how many institutions; the calendar date of their first semester at MTC and the date on which they received the Associate degree; and the total number of terms they enrolled at MTC and whether they finished the term successfully. These variables were collected and merged with basic demographic variables including the academic major in which the degree was awarded, division, gender and race.

This study also analyzed the impact of support courses, high school GPA, and financial aid award status on student time to graduation. Several new variables were created: those students reporting transfer hours or none were grouped into "transfer" and "native" groups, the amount of time lapsed between entry to MTC and graduation was calculated into years and called "gradtime". Those students who completed their Associate degree in less than 36 months at MTC were further defined by a variable denoting completion within 3 years.

One should note that the definition of "time at MTC" for purposes of this study reflects the calendar time lapsed between the first time the student enrolled at MTC and the date they received an Associate degree in 2002-2003. It does not consider stopouts, semesters in which the student dropped or failed all classes, or other measures of continued progress toward the degree.

Also, we were unable to determine from student transfer data the amount of time it took to earn these credits, nor whether the credits were earned before or at some point during the student's MTC career.

One important limitation must be noted. While the guiding purpose of the research was to assess any student characteristic that influence completion of an Associate degree, one additional aspect was on the influence of the 150 percent rule. This national Graduation Rate Survey (GRS) criteria mandates that colleges identify first-time, full-time freshmen and track them to completion of their degrees. While this research project was able to count time to completion, it did not attempt to identify which of the 2002-03 degree recipients were among the college's initial cohort of first-time, full-time freshmen. This project does address characteristics of students who completed Associate degrees in three years or less and in more than three years, but these cohorts are not equivalent to those used to measure and report compliance with the 150 percent GRS rule. These cohorts include students with transfer hours and students who were not full-time their first semester. This research sought to describe all of the 2002-03 graduates and not just those in the GRS first-time, full-time cohort.

Analysis

Profile of Graduates

The entire population of 789 graduates is summarized by gender and race in Table 2 below.

Table 2: 2002-03 Graduates by Gender and Race

Race/Gender	Frequency	Percent	Cumulative Frequency	Cumulative Percent
White Males	177	22.43	177	22.43
Nonwhite Males	90	11.41	267	33.84
White Females	315	39.92	582	73.76
Nonwhite Females	207	26.24	789	100.00

The largest group of students were white females (39.92 percent) followed by nonwhite females (26.24 percent), white males (22.43 percent) and nonwhite males (11.41 percent). The population is summarized by division in table 3 below:

Table 3: 2002-03 Graduates by Division

Division	Frequency	Percent	Cumulative Frequency	Cumulative Percent
Arts & Sciences	224	28.39	224	28.39
Bus/Info Systems	287	36.38	511	64.77
Industrial/Engr Tech	120	15.21	631	79.97
Nursing/Health Science	158	20.03	789	100.00

The largest group of graduates majored in Business/Information Systems (36.38 percent), followed by Arts & Sciences (28.39 percent), Nursing and Health Sciences (20.03 percent), and Industrial/Engineering Technologies (15.21 percent).

Analyzing the data showed, 457 of the 789 graduates (58.0 percent) were classified as “native” students, meaning they did not complete any coursework at other institutions. The remaining 332 students (42 percent) were classified as “transfer”, meaning they had transferred in at least some coursework from another institution.

The first semester of each student’s work at MTC was also examined to determine if they started in any Developmental Studies (DVS) courses. They were grouped into “All DVS”, “All Curriculum Level”, and “Mixed” groups. Most of the graduates (455 graduates, 57.7 percent) were found to have started “All curriculum level” followed by 263 students (33.3 percent) with a “Mixed” first semester, and 71 students (9 percent) started with a first semester made up entirely of DVS coursework.

A variable was created to denote whether each student met the three-year standard in their progression to graduation. For purposes of this study, this variable was defined broadly. The “start date” from the MTC data file was the month and year of the beginning of their first semester of work, and the “end date” was the month and year in which they received their degree. This variable in no way adjusts for stopouts, full or part-time work or work completed at other institutions. It is merely a raw representation of the amount of time students worked on their degrees at MTC before completion. Another variable was created that represented the total number of semesters students enrolled during their MTC career: the ratio of these two variables gives a rough estimate of the persistence of coursework attempted during that time.

Of the 2002-20003 graduating class of 789 students, 550 (69.7 percent) did not meet the three-year standard, taking longer than three calendar years to complete their degrees; the remaining 239 graduates (30.3 percent) met the standard.

Table 4 summarizes the cross tabulation of the native/transfer variable with the variable measuring whether each graduate met the three-year standard.

Table 4: Native/Transfer Status and Compliance with Three-Year Standard

Group	Frequency	Percent	Cumulative Frequency	Cumulative Percent
MTC only, 3 yrs or less	95	12.04	95	12.04
MTC only, more than 3 years	362	45.88	457	57.92
Transferred, 3 yrs or less	144	18.25	601	76.17
Transferred, more than 3 years	188	23.83	789	100.00

The largest group of graduates (45.9 percent) only attended MTC and did not meet the three-year standard. Almost a quarter of graduates (23.8 percent) brought in transfer hours from other institutions and also did not meet the three-year standard. The next largest group (18.2 percent) transferred hours in and graduated within the three-year standard. The smallest group (12.0 percent) attended only MTC and met the three-year standard.

Other data collected from college files included the number of times each graduate changed program majors and the number of transfer institutions listed and total hours transferred in.

The entire populations of 789 students are summarized by whether or not they met the three-year standard and their curricular standing at the time of admission in Table 4. Of the 789 2002-2003 Associate degree graduates, 455 (57.6 percent) started in all curriculum-level coursework; 181 (39.7 percent) completed their degrees in three years or less and 274 (60.3 percent) took longer. This group had the best rate of compliance with the three-year standard. Compliance with the standard tended to decrease as the amount of DVS coursework in the first semester increased. Among those students who started with a mixed DVS/curriculum-level schedule, only 20.5 percent met the three-year standard; this percentage declined to 5.6 percent among those who started with an all-DVS schedule.

Table 4: Population Analysis, Compliance with Three-Year Standard by DVS Status at Admission

Group	First Term Status			Total
	curric	dvs	mixed	
3 years or less	181	4	54	239
	22.94	0.51	6.84	30.29
	75.73	1.67	22.59	
	39.78	5.63	20.53	
More than 3 yrs	274	67	209	550
	34.73	8.49	26.49	69.71
	49.82	12.18	38.00	
	60.22	94.37	79.47	
Total	455	71	263	789
	57.67	9.00	33.33	100.00

Chi-Square = 51.70, p-value < 0.01, df=2

Analysis of these statistics, indicate that compliance with the Three-Year Standard is significantly related to the first term status at admission variable.

Graduates were then tabulated according to their native/transfer and completion status and first term status for each race/gender category. This is summarized in Table 5.

This table gives percentages of each race/gender classification-white males, nonwhite males, white females, and nonwhite females, in each combination of First Term Status and the combined native/transfer/compliance with three-year standard variable. Frequencies are listed, along with percentage calculated on the total at the bottom of the table; the denominator is the total number of white males, nonwhite females, etc. for the population. Therefore, comparing the four percentages across rows gives an indication of high or low representation of race/gender in each First Term Status and compliance group.

Unlike the study of 1997-98 graduates, which revealed nonwhite females to be somewhat overrepresented in the group of graduates who started in an all-DVS schedule, were native to MTC, and took more than three years to complete their degrees, this study of the entire population shows a more even distribution. Of the nonwhite females, 10.63 percent fell into this classification, compared to 5.08 percent of white females, 14.44 percent of nonwhite males, and 5.65 percent of white males.

Similarly, the previous study showed nonwhite males were underrepresented among those with all curriculum-level in their first term, were transfers and completed their degrees within three years. This was not the case with this study, nonwhite males for this group were 15.56 percent, compare to 15.82 percent of white males, 19.05 percent white females and 13.53 percent nonwhite females. Likewise, our last study showed nonwhite males to be heavily represented in the category of students who started with mixed DVS/Curriculum-level courses, were native to MTC, and took more then three years to finish. This study shows a

more even distribution, nonwhite males were 25.56 percent, compare to 18.41 percent of white females, 21.26 percent of nonwhite females, and 23.16 percent of white males.

Table 5: First Term status and Compliance with the Three-year Standard in Race/Gender Category

First Term Status	Group	Race/Gender			
		White Males	Nonwhite Males	White Females	Nonwhite Females
All Curric	Native, 3 yrs +	37 20.90	10 11.11	61 19.37	27 13.04
	Native, 3 yrs or less	8 4.52	5 5.56	28 8.89	10 4.83
	Transfer, 3 yrs +	30 16.95	18 20.00	51 16.19	40 19.32
	Transfer, 3 yrs or less	28 15.82	14 15.56	60 19.05	28 13.53
All DVS	Native, 3 yrs +	10 5.65	13 14.44	16 5.08	22 10.63
	Native, 3 yrs or less	1 0.57	0 0.00	0 0.00	2 0.97
	Transfer, 3 yrs +	1 0.57	1 1.11	1 0.32	3 1.45
	Transfer, 3 yrs or less	0 0.00	0 0.00	0 0.00	1 0.48
Mixed	Native, 3 yrs +	41 23.16	23 25.56	58 18.41	44 21.26
	Native, 3 yrs or less	8 4.52	2 2.22	16 5.08	15 7.25
	Transfer, 3 yrs +	11 6.21	3 3.33	18 5.71	11 5.31
	Transfer, 3 yrs or less	2 1.13	1 1.11	6 1.90	4 1.93
Total		177 100	90 100	315 100	207 100

Overall, this study represents a more evenly distributed Race/Gender combination in all categories. This may be attributed to the fact we studied the entire population of 789, 2002-2003 graduates rather than a sample.

Average Years and Semesters at MTC

Table 6 below summarizes the count variables used in this analysis. Distributed by DVS status in initial schedule and completion within the three-year standard, the table lists average

years at MTC, number of semesters completed at MTC, and for those students with transfer hours, the number of other institutions and total hours transferred in.

The first two variables shown in Table 6, “Gradtime” and “Semesters” summarize data for all students, regardless of transfer status; the last two variables “Otherschools” and “Transferhrs” summarize data only for those students in each category who brought in hours from at least one other institution.

Table 6: Years and Semesters at MTC, Transfer Variables by DVS Status, Three-Year Standard Compliance

First Term Status	Three-year Standard	N	Variable	N	Mean	STD
All curric	Met	181	Gradtime	181	2.14	0.59
			Semesters	181	6.54	1.93
			Otherschools	126	1.62	1.03
			Transferhrs	130	17.40	11.07
	Not met	274	Gradtime	274	5.85	2.98
			Semesters	274	10.93	4.04
			Otherschools	134	1.51	0.70
			Transferhrs	139	12.92	8.74
All DVS	Met	4	Gradtime	4	2.77	0.32
			Semesters	4	8.00	0.82
			Otherschools	1	2.00	.
			Transferhrs	1	21.00	.
	Not met	67	Gradtime	67	6.79	2.91
			Semesters	67	14.31	4.16
			Otherschools	5	1.40	0.55
			Transferhrs	6	5.50	3.51
Mixed	Met	54	Gradtime	54	2.42	0.50
			Semesters	54	7.44	2.16
			Otherschools	13	1.69	0.85
			Transferhrs	13	11.77	10.21
	Not met	209	Gradtime	209	5.81	2.71
			Semesters	209	11.98	3.70
			Otherschools	40	1.38	0.59
			Transferhrs	43	8.36	5.70

The column to the left of the variable column lists number of students in each classification of initial DVS/Curriculum-level schedule and compliance with the three-year standard; The mean column list the mean or (average) for the four variables with “Gradtime” in years, “Semesters” in semesters, “Otherschools“ in number of other schools and “Transferhrs” in hours. The last column lists the standard deviation for the variables. The standard deviation is only important as an indicator of the variability of each group and is traditionally reported where you see a mean.

From Table 6 we see that graduates that started their careers at MTC with an all curricular level schedule and met the three-year standard had an average graduating time of 2.14 calendar years compared to 5.85 years for students not meeting the three-year standard. Further comparison of graduating time for the all-DVS and mixed first term schedules against meeting and not meeting the standard were 2.77 years compared to 6.79 years and 2.42 years compared to 5.81 years respectively. This shows the fastest graduating group for students meeting the standard was the all-curricular level (2.14 years) followed by the mixed level (2.42 years) and the DVS level (2.77 years). For students not meeting the standard the fastest graduating group was the mixed level (5.81) followed by the all-curricular level (5.85 years) and the DVS level (6.79 years). These results are very similar to the findings of the 1997-1998 study as shown in Table 7.

Table 7: Average Graduating Time Comparison 2002-03 to 1997-98 Graduates

First Term Status	Three-year Standard	2002-2003 Study	1997-1998 Study
All curric	Met	2.14 yrs	2.13 yrs
	Not met	5.85 yrs	5.35 yrs
All DVS	Met	2.77 yrs	2.71 yrs
	Not met	6.79 yrs	5.69 yrs
Mixed	Met	2.42 yrs	2.39 yrs
	Not met	5.81 yrs	5.01 yrs

As we continue to review the data contained in Table 6, we see that the findings are similar for the number of semesters completed; it is important to remember that both variables are listed because “Gradtime” reflects the raw calendar time elapsed between a student’s entry and graduation, and “Semesters” reflects the actual number of semesters enrolled in that time.

Among those who met the standard, the smallest number of semesters is seen among those students who started with an all-curricular level schedule (6.54 semesters). This is followed by the mixed schedule (7.44 semesters) and the all-DVS group (8.00 semesters). Unlike the trend for years the non-compliers behave accordingly; the smallest number of semesters is seen among the all-curriculum level group (10.93 semesters), followed by the mixed schedule group (11.98 semesters) and finally, the all-DVS group (14.31 semesters).

Transfer Institutions and Hours

The last two variables in Table 6 summarize information for a subset of the larger student population: all students who brought in hours from institutions outside MTC. The column to the right of the variable column lists the number of such students in each sub classification. Among the students with at least one transfer institution the majority came from the all curriculum-level schedule, 126 met the three-year standard and 134 did not in this category, this compares to 1 meeting the standard and 5 not meeting it for the all DVS case and 13 meeting the standard and 40 not meeting it for a mixed schedule.

Among graduates reporting transfer hours for the all-curriculum level schedule; those meeting the three-year standard attended an average of 1.62 outside institutions, while those not meeting the standard attended an average of to 1.51 institutions. This compares favorably to 2.00 institutions for those meeting the standard and 1.40 institutions for those not meeting it in the all DVS case and 1.69 institutions for those meeting the standard and 1.38 institutions for those not meeting it for a mixed schedule.

The all-curriculum level as a whole tended to bring in more transfer hours, those (130) graduates meeting the three-year standard brought in an average of (17.40 hours), while those (139) not meeting it brought in an average of (12.92 hours), this compares to (13) bringing in an average of (11.77 hours) that met the standard, while (43) who brought in an average of (8.36) not meeting the standard for the mixed group. The 2002-2003 graduates brought in fewer transfer hours then the 1997-1998 group. See Table 8. For the purpose of this comparison the all-DVS group was too small to consider.

Table 8: Average Transfer Hour Comparison 2002-03 to 1997-98 Graduates

First Term Status	Three-year Standard	2002-2003 Study	1997-1998 Study
All curric	Met	17.4 hrs	30.16 hrs
	Not met	12.9 hrs	24.2 hrs
Mixed	Met	11.7 hrs	12.0 hrs
	Not met	8.36 hrs	18.1 hrs

Year and Semester Analysis by Native/Transfer/Completion Group

Variables “Gradtime” and “Semesters” in Table 9 summarize averages and standard deviations for years and semesters at MTC for the combinations of the native/transfer/completion within three years variable and first term status.

When examining graduates that were native to MTC and took more than three years to complete their degrees; on average the all-DVS group took longer 6.80 years and 14.56 semesters. This compares to 6.01 years and 11.35 semesters for the all-curriculum group and 5.94 years and 12.25 semesters for students with mixed first term schedules.

Among graduates native to MTC and completed their degrees in three years or less the all-curriculum group took less time 2.32 years and 7.12 semesters. This compares to 2.69 years and 8.00 semesters for the all-DVS group and 2.55 years and 7.80 semesters for students with mixed schedules. The small sample count (3 students) for the all-DVS group should be considered for any comparisons being made.

Table 9: Years and Semesters by Native/Transfer/Completion and DVS Status at Admission

Group	First Term Status	N	Variable	Mean	STD
Native, 3 yrs +	All Curric	135	Gradtime Semesters	6.01 11.35	3.28 3.69
	All DVS	61	Gradtime Semesters	6.80 14.56	2.90 4.17
	Mixed	166	Gradtime Semesters	5.94 12.25	2.78 3.72
Native, 3 yrs or less	All Curric	51	Gradtime Semesters	2.32 7.12	0.44 1.57
	All DVS	3	Gradtime Semesters	2.69 8.00	0.34 1.00
	Mixed	41	Gradtime Semesters	2.55 7.80	0.34 2.14
Transfer, 3 yrs +	All Curric	139	Gradtime Semesters	5.71 10.53	2.65 4.32
	All DVS	6	Gradtime Semesters	6.72 11.83	3.20 3.43
	Mixed	43	Gradtime Semesters	5.33 10.93	2.38 3.43
Transfer, 3 yrs or less	All Curric	130	Gradtime Semesters	2.07 6.32	0.62 2.02
	All DVS	1	Gradtime Semesters	3.00 8.00	. .
	Mixed	13	Gradtime Semesters	2.01 6.31	0.68 1.89

Unlike the previous study, there is practically no difference between the variation seen in our degree completion time variables for native versus transfer students across the first term status categories. For example, graduates native to MTC that took more than three years to complete their degrees had completion times of 6.0, 6.8 and 5.9 years for the all-curriculum, all-DVS and mixed categories respectively, compared to 5.7, 6.7 and 5.3 years for transfer students requiring more then three years to graduate. Comparison between the previous 1997-1998 study is shown in chart 10 below.

Table 10: Native/Transfer comparison for MTC studies

Group	First Term Status	2002-2003 Study	1997-1998 study
Native, 3 yrs +	Curric	6.0 yrs	5.3 yrs
	DVS	6.8 yrs	5.8 yrs
	Mixed	5.9 yrs	5.1 yrs
Transfer, 3 yrs +	Curric	5.7 yrs	5.4 yrs
	DVS	6.7 yrs	7.2 yrs
	Mixed	5.3 yrs	4.7 yrs

For transfers completing degrees in three or fewer years (Table 10) the data was much more unbalanced in cell frequencies-only one graduate in the all-DVS category (3.00 years) and thirteen in the mixed schedule group (2.01 years), which compares to the average of 2.07 years for the all-curriculum level group.

When looking at semesters to completion (Table 9), the 'native' classification had slightly less of a homogenizing effect. Among the MTC native population taking more than three years to graduate, the all DVS subgroup as expected took the most actual terms, at an average of 14.56 semesters, compared to 11.35 for the all-curriculum level and 12.25 for the mixed schedule. The native completing degrees in three or fewer years were more homogeneous: and average of 7.12 semesters for the all-curriculum level students, 7.80 semesters for the mixed schedule group, and 8.00 semesters for the all-DVS group.

For transfer students taking more than three years to graduate (Table 9), the all-curriculum level graduates took an average of 10.53 semesters to completion, compared to 10.93 for the mixed schedule group and 11.83 for the all-DVS students. Among the transfers graduating in three or fewer years, the all curriculum-level group needed an average of 6.32 semesters, compared to 6.31 semesters for the thirteen mixed-schedule students, and 8.0 semesters used by one all-DVS student.

Race/Gender Analysis of Years and Semesters to Completion

Table 11 summarizes averages and standard deviations in years and semesters at MTC, number of transfer institutions and hours transferred in for combinations of the native/transfer/years to completion variable and the race/gender categories.

Among the MTC native population taking more than three years to graduate, nonwhite males took the fewest average years to complete their degrees. Nonwhite males took 5.81 years to complete their degrees, followed by white males at 5.87 years, white females at 6.08 years and nonwhite females at 6.52 years. When we look at semesters white males required the fewest average semesters. White males took 11.65 semesters to finish their degrees, followed by white females with 12.32 semesters, nonwhite males with 12.33 semesters, and nonwhite females at 12.88 semesters.

It is important to note that cell frequencies were slightly more imbalanced in the native/three years or fewer subgroup: there were just seven nonwhite males in this classification. Average years were more homogeneous: white females had the lowest number of years at MTC, with 2.39 years, followed by nonwhite females with 2.41, nonwhite males with 2.44 years, and white males with 2.55 years. White females has the lowest average number of semesters to completion with 7.16 semesters, followed by nonwhite males with 7.29 semesters, nonwhite females with 7.59 semesters, and white males with 8.0 semesters.

Among the transfer/more than three years to completion group, white males used the least amount of time to complete their degrees. White males used an average of 5.03 years at MTC, compared to 5.41 years for white females, 5.81 years for nonwhite males and 6.39 years for nonwhite females. White females took an average of 9.9 semesters during that time, compared to 10.19 semesters for white males, 11.05 semesters for nonwhite males and 11.76 semesters for nonwhite females.

Again white males used the least amount of time to complete their degrees in the transfer/three years or fewer group. White males took an average of 1.83 years, compared to 1.93 years for nonwhite males, 2.12 years for nonwhite females, and 2.19 years for white females. White males took 5.47 semesters to complete their degrees, compared to 6.07 semesters for nonwhite males, 6.58 semesters for white females, and 6.73 semesters for nonwhite females.

Table 11: Means and Semesters at MTC, Transfer Variables by Native/Transfer/Completion and Race/Gender

Group	Race/Gender	N	Variable	N	Mean	STD
Native, 3 yrs +	White Males	88	Gradtime	88	5.87	3.06
			Semesters	88	11.65	4.25
			Otherschools	0	.	.
			Transferhrs	0	.	.
	Nonwhite Males	46	Gradtime	46	5.81	2.81
			Semesters	46	12.33	3.88
			Otherschools	0	.	.
			Transferhrs	0	.	.
	White Females	135	Gradtime	135	6.08	2.86
			Semesters	135	12.32	3.71
			Otherschools	0	.	.
			Transferhrs	0	.	.
Nonwhite Females	93	Gradtime	93	6.52	3.25	
		Semesters	93	12.88	3.94	
		Otherschools	0	.	.	
		Transferhrs	0	.	.	

(Table 11 Continued)

Group	Race/Gender	N	Variable	N	Mean	STD
Native, 3 yrs or less	White Males	17	Gradtime	17	2.55	0.32
			Semesters	17	8.00	2.35
			Otherschools	0	.	.
			Transferhrs	0	.	.
	Nonwhite Males	7	Gradtime	7	2.44	0.40
			Semesters	7	7.29	1.60
			Otherschools	0	.	.
			Transferhrs	0	.	.
White Females	44	Gradtime	44	2.39	0.45	
		Semesters	44	7.16	1.67	
		Otherschools	0	.	.	
		Transferhrs	0	.	.	
Nonwhite Females	27	Gradtime	27	2.41	0.40	
		Semesters	27	7.59	1.82	
		Otherschools	0	.	.	
		Transferhrs	0	.	.	
Transfer, 3 yrs +	White Males	42	Gradtime	42	5.03	1.59
			Semesters	42	10.19	3.60
			Otherschools	40	1.60	0.63
			Transferhrs	42	13.48	8.70
	Nonwhite Males	22	Gradtime	22	5.81	1.94
			Semesters	22	11.05	4.97
			Otherschools	21	1.67	0.86
			Transferhrs	22	12.85	8.98
	White Females	70	Gradtime	70	5.41	2.40
			Semesters	70	9.99	3.22
			Otherschools	68	1.47	0.70
			Transferhrs	70	12.30	8.67
Nonwhite Females	54	Gradtime	54	6.39	3.48	
		Semesters	54	11.76	4.90	
		Otherschools	50	1.30	0.54	
		Transferhrs	54	8.85	6.55	

(Table 11 Continued)

Group	Race/Gender	N	Variable	N	Mean	STD
Transfer, 3 yrs or less	White Males	30	Gradtime	30	1.83	0.64
			Semesters	30	5.47	2.05
			Otherschools	29	1.41	0.63
			Transferhrs	30	18.53	9.97
	Nonwhite Males	15	Gradtime	15	1.93	0.63
			Semesters	15	6.07	2.22
			Otherschools	14	2.07	2.02
			Transferhrs	15	21.73	12.75
	White Females	66	Gradtime	66	2.19	0.62
			Semesters	66	6.58	1.84
			Otherschools	64	1.64	0.82
			Transferhrs	66	15.46	10.37
Nonwhite Females	33	Gradtime	33	2.12	0.60	
		Semesters	33	6.73	2.00	
		Otherschools	33	1.61	0.97	
		Transferhrs	33	16.18	12.15	

Race/Gender Analysis of Transfer Variables

The data provided in Table 12 shows that transfer institution data compared very well with the 1997-98 study. It is interesting, however that transfer hours did not. Average transfer institutions for race/gender combination across both transfer variables were 1.6 institutions for both studies. The average transfer hours for the 2002-2003 study was 14.9 hours, compared to 26.6 hours for the 1997-1998 study. Although this represents a sizeable difference, some of it is explained with the lower subgroup counts for the sample studied in 1997-1998 compared to the entire population for the 2002-2003 study.

Table 12: Race/Gender/Transfer Comparison of MTC Studies

Group	Race/Gender	N	2003-2004 Study		N	1997-1998 Study	
Transfer, 3 yrs +	White Males	42	13.5 hrs	1.6 inst	23	16.9 hrs	1.3 inst
	Nonwhite Males	22	12.8 hrs	1.7 inst	7	34.7 hrs	1.9 inst
	White Females	70	12.3 hrs	1.5 inst	33	24.0 hrs	1.3 inst
	Nonwhite Females	54	8.8 hrs	1.3 inst	13	23.5 hrs	1.9 inst
Transfer, 3 yrs or less	White Males	30	18.5 hrs	1.4 inst	22	29.8 hrs	1.3 inst
	Nonwhite Males	15	21.7 hrs	2.0 inst	5	27.8 hrs	1.8 inst
	White Females	66	15.5 hrs	1.6 inst	31	27.6 hrs	1.7 inst
	Nonwhite Females	33	16.0 hrs	1.6 inst	13	28.8 hrs	1.4 inst
Average			14.9 hrs	1.6 inst		26.6 hrs	1.6 inst

Like the previous study, when looking at the race/gender findings, it appears that the numbers reflect the extreme diversity of the MTC student body. Nonwhite males are underrepresented among students persisting to completion of an Associate degree, but it appears from Table 11 that when they do persist to completion, they do so in about the same amount of time as their other race/gender peers. Nonwhite males also seem to be somewhat underrepresented among students transferring hours from other institutions. One of the more interesting things from Table 11 is that different race/gender combinations appears to have little effect on time to graduate and the total number of semesters it takes.

Analysis of Graduation Time, High School GPA and Frequency of Program Major Changes

Below, Table 13 investigates the relationship between variables “Gradtime”, “Hsgpa” (High school gpa), “Cgemajorct” (Frequency a student changed their major) and first term status. Students who first term at MTC consisted of an all-curriculum level schedule graduated in less time and have a higher high school GPA than both the all-DVS and mixed groups. The all-curriculum level student’s average graduation time and high school GPA were 4.38 years with a 3.14 GPA respectively. This compares to 5.12 years with a 3.11 GPA for students with a mixed schedule and 6.56 years with a 2.58 GPA for the all-DVS group.

The average times a student changed their major were slightly higher for the mixed group 2.39, compared to 2.23 for the all-curriculum students and 2.18 for the all-DVS group. Please note due to the unavailability of high school GPA, counts were small for this variable with the all-DVS group having only one student.

Table 13: Means Graduation Time, High School GPA and Frequency a Student Changed Their Major by First Term Status

First Term Status	N	Variable	N	Mean	STD
All Curric	455	Gradtime	455	4.38	2.96
		Hsgpa	39	3.14	0.57
		Cgemajorct	264	2.23	1.89
All DVS	71	Gradtime	71	6.56	2.97
		Hsgpa	1	2.58	.
		Cgemajorct	49	2.18	1.60
Mixed	263	Gradtime	263	5.12	2.79
		Hsgpa	21	3.11	0.38
		Cgemajorct	159	2.39	1.74

Influence of Support Courses and Academic Probation on Time to Graduation

The relationship between graduation time, support courses and academic probation is seen in Chart 11. Variables “Acadprobaft” (students on academic probation after their first term), “Acadprobeft” (students on academic probation at the end of their first term), and “Supprsrse” (Students having taken support courses) are shown along with their average graduation times. Support courses for this study included COL 103 (College Skills), COL 105 (Freshman Seminar) and IDS 102 (Personal/Career Assessment).

Very revealingly, students with support courses graduate more than two years earlier than students that were on academic probation at some point during their MTC careers. Average graduation time for the variables is as follows, 7.2 years for “Acadprobaft”, which compares with 7.1 years for “Acadprobeft” and 4.7 years for “Suppcrse”.

Since students who had support courses during their MTC careers graduated more than two years earlier than students that were on academic probation, we looked at a demographic profile for this typical student. Tables 14, 15 and 16 show the frequencies and percentages for the support course and academic probation variables by division, race/gender and first term status. From the tables we see the support course students were primarily from the Arts & Sciences and Bus/Info systems divisions, they were mostly white and nonwhite females and their first term status at MTC was largely a mixed schedule of curricular and developmental courses.

Graduation Time, Support Courses and Academic Probation

Mean Graduation Time for the Academic Probation after first term and at end of first term, and Support Course variables

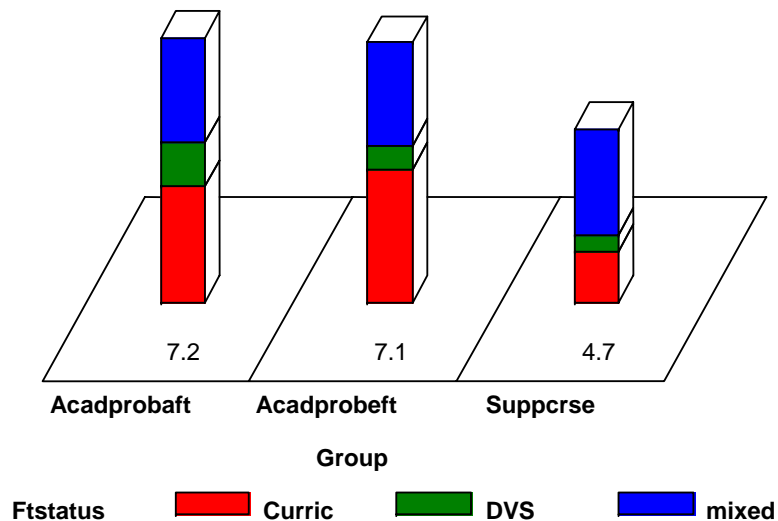


Chart 11

Table 14 shows (34.97 percent) of the students with support courses were from Arts & Sciences and (41.53 percent) were from the Bus/Info systems division. This compares to 12.57 and 10.93 percent from Industrial/Engineering Tech and Nursing/Health Science divisions respectively. From Table 15 (38.25 percent) of students with support courses were white females and (32.79 percent) were nonwhite females. This compares to 16.94 and 12.02 percent white males and nonwhite males respectively. Table 16 shows (62.30 percent) of students with support courses carried a mixed schedule during their first semester at MTC, compared to 31.69 percent in the all-curriculum group, and 6.01 percent that were all-DVS.

Demographic Profile for Students enrolled in Support Courses and on Academic Probation

Table 14:

Table of Group by Division					
Group	Division				Total
Frequency Percent Row Pct Col Pct	Arts & Sciences	Bus/Info Systems	Industrial/Engine ering Tech	Nursing/ Health Science	
acadprobaft	23	25	15	8	71
	7.96	8.65	5.19	2.77	24.57
	32.39	35.21	21.13	11.27	
	24.73	21.37	34.88	22.22	
acadprobeft	6	16	5	8	35
	2.08	5.54	1.73	2.77	12.11
	17.14	45.71	14.29	22.86	
	6.45	13.68	11.63	22.22	
supperse	64	76	23	20	183
	22.15	26.30	7.96	6.92	63.32
	34.97	41.53	12.57	10.93	
	68.82	64.96	53.49	55.56	
Total	93	117	43	36	289
	32.18	40.48	14.88	12.46	100.00

Chi-Square = 9.66, P-value = 0.13, df = 6

Table 15:

Table of Group by Race/Gender					
Group	Race/Gender				Total
Frequency Percent Row Pct Col Pct	White Males	Nonwhite Males	White Females	Nonwhite Females	
Acadprobaft	19	15	18	19	71
	6.57	5.19	6.23	6.57	24.57
	26.76	21.13	25.35	26.76	
	33.33	34.09	18.75	20.65	
Acadprobeft	7	7	8	13	35
	2.42	2.42	2.77	4.50	12.11
	20.00	20.00	22.86	37.14	
	12.28	15.91	8.33	14.13	
Supperse	31	22	70	60	183
	10.73	7.61	24.22	20.76	63.32
	16.94	12.02	38.25	32.79	
	54.39	50.00	72.92	65.22	
Total	57	44	96	92	289
	19.72	15.22	33.22	31.83	100.00

Chi-Square = 10.67, P-value = 0.09, df = 6

Table 16:

Table of Group by First Term Status				
Group	First Term Status			Total
Frequency Percent Row Pct Col Pct	All curric	All DVS	Mixed	
acadprobaft	31	11	29	71
	10.73	3.81	10.03	24.57
	43.66	15.49	40.85	
	28.97	44.00	18.47	
acadprobeft	18	3	14	35
	6.23	1.04	4.84	12.11
	51.43	8.57	40.00	
	16.82	12.00	8.92	
supperse	58	11	114	183
	20.07	3.81	39.45	63.32
	31.69	6.01	62.30	
	54.21	44.00	72.61	
Total	107	25	157	289
	37.02	8.65	54.33	100.00

Chi-Square = 15.36, P-value < 0.01, df = 4

Statistics from Tables 14, 15 and 16 shows the support course and academic probation variables to be significant by first term status, but not significant by divisions and race/gender combinations.

Graduation Time and Financial Awards

As can be seen in chart 12 there does not appear to be any pattern between graduation time and the financial award amounts students received. Graduation time is fairly evenly distributed among all amount categories.

Average Graduation Time Vs Award Amounts for Students

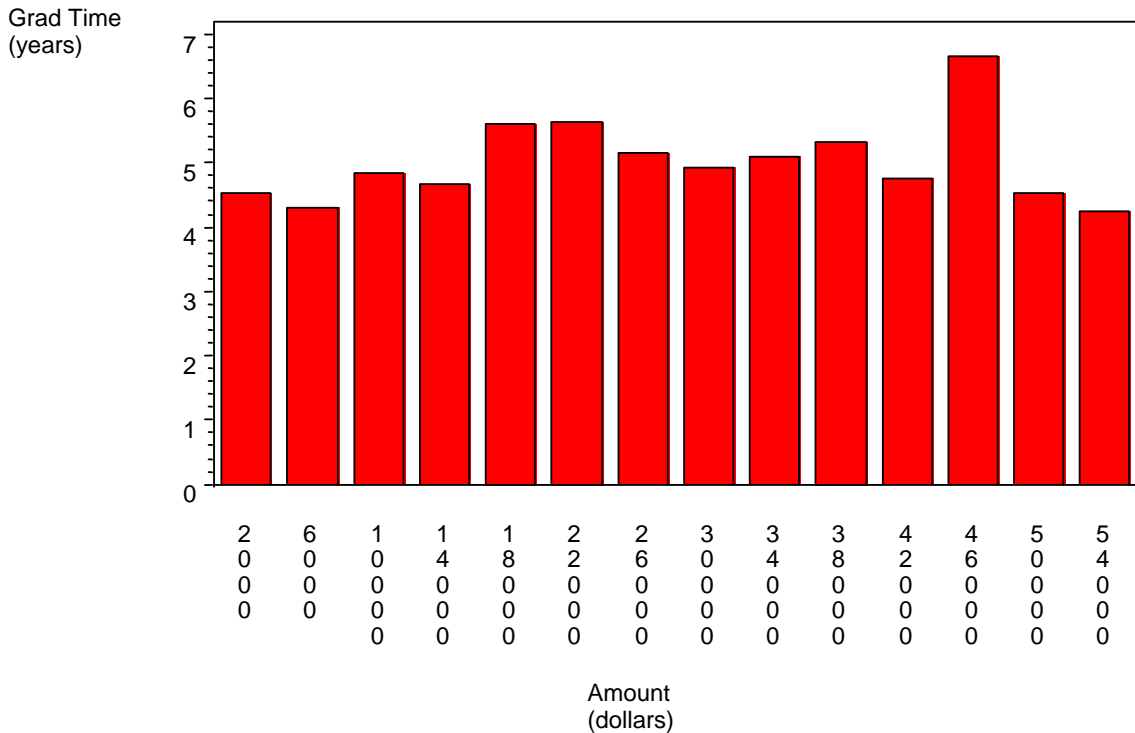


Chart 12

Chart 13, as expected, shows a much larger number of students receiving the smaller financial award amount. Over 150 graduates received total amounts in the \$2000 category, compared to less than 5 in the \$54,000 category. Keep in mind these amounts include student loans, work study as well as various grants.

Number of Students Vs Award Amounts

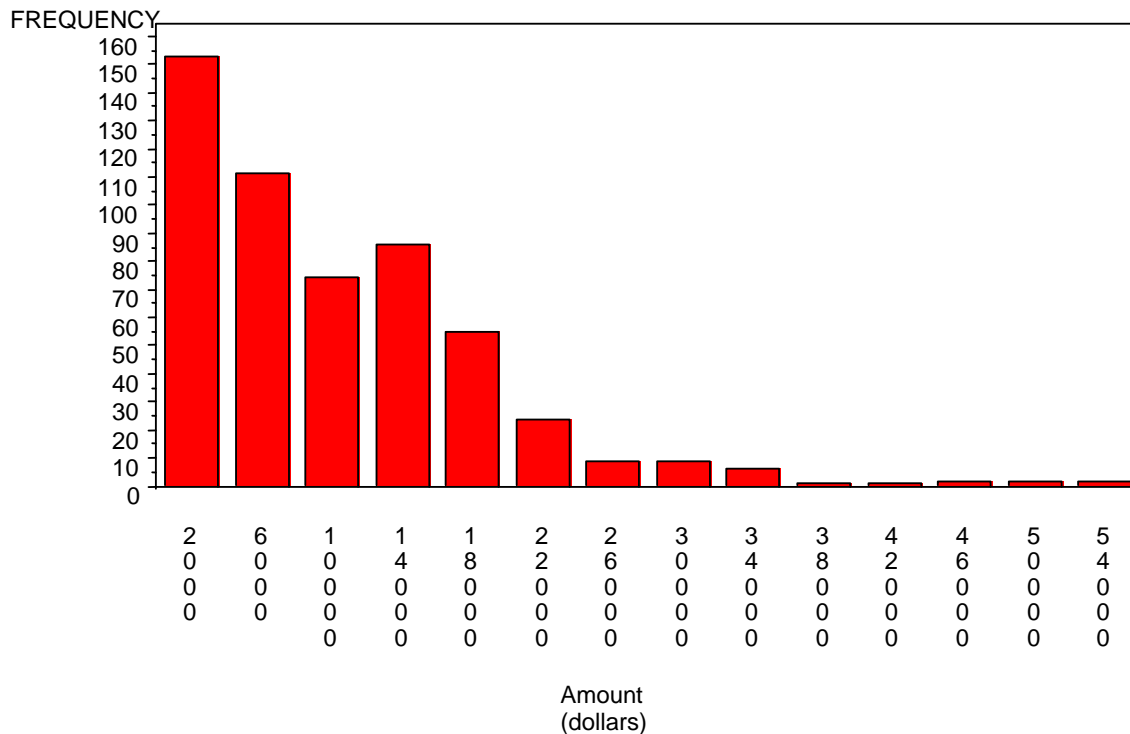


Chart 13

Overall when students were separated into groups receiving financial aid and not receiving aid the group of 535 students receiving aid had an average graduating time of 4.7 calendar years, compared to 5.0 years for the 254 students not receiving aid.

Conclusions:

This research by and large confirms the findings of the previous study and again points to the many diverse paths students take to completion of an Associate Degree. However, as was the case with the previous study it does not explain variables having significant impact on graduation time like students' use of stopouts and full-time versus part-time status. Further research in which attempts should be made to identify these cohort groups, and collect specific data required to explain this phenomenon is recommended.

Appendix

Appendix: Additional Tables

Table A: Compliance with Three-Year Standard by DVS Status at Admission, Arts & Sciences

Group	First Term Status			Total
	All curric	All DVS	Mixed	
<= 3 Yrs (Met std)	65	1	16	82
	29.02	0.45	7.14	36.61
	79.27	1.22	19.51	
	42.76	12.50	25.00	
> 3 Yrs (Did not meet)	87	7	48	142
	38.84	3.13	21.43	63.39
	61.27	4.93	33.80	
	57.24	87.50	75.00	
Total	152	8	64	224
	67.86	3.57	28.57	100.00

Table B: Compliance with Three-Year Standard by DVS Status at Admission, Business/Information Systems

Group	First Term Status			Total
	All curric	All DVS	Mixed	
<= 3 Yrs (Met std)	50	2	25	77
	17.42	0.70	8.71	26.83
	64.94	2.60	32.47	
	34.97	6.25	22.32	
> 3 Yrs (Did not meet)	93	30	87	210
	32.40	10.45	30.31	73.17
	44.29	14.29	41.43	
	65.03	93.75	77.68	
Total	143	32	112	287
	49.83	11.15	39.02	100.00

Table C: Compliance with Three-Year Standard by DVS Status at Admission,
Industrial/Engineering Technologies

Group2	First Term Status			Total
Frequency Percent Row Pct Col Pct	All curric	All DVS	Mixed	
<= 3 Yrs (Met std)	19 15.83 70.37 36.54	1 0.83 3.70 5.26	7 5.83 25.93 14.29	27 22.50
> 3 Yrs (Did not meet)	33 27.50 35.48 63.46	18 15.00 19.35 94.74	42 35.00 45.16 85.71	93 77.50
Total	52 43.33	19 15.83	49 40.83	120 100.00

Table D: Compliance with Three-Year Standard by DVS Status at Admission,
Nursing/Health Sciences

Group	First Term Status			Total
Frequency Percent Row Pct Col Pct	All curric	All DVS	Mixed	
<= 3 Yrs (Met std)	47 29.75 88.68 43.52	0 0.00 0.00 0.00	6 3.80 11.32 15.79	53 33.54
> 3 Yrs (Did not meet)	61 38.61 58.10 56.48	12 7.59 11.43 100.00	32 20.25 30.48 84.21	105 66.46
Total	108 68.35	12 7.59	38 24.05	158 100.00

Chart 12: Mean Graduation Time for the Support Courses, Academic Probation at end of First Term and after First Term Variables

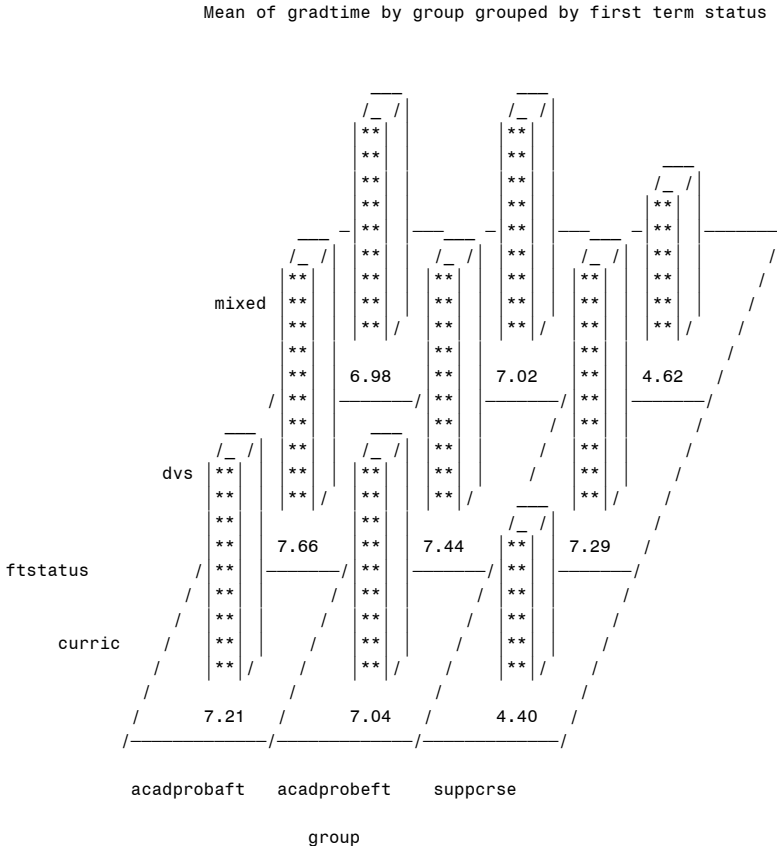


Chart 14