



# Academic Development (ADEV) Success Analyses

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### Purpose

The purpose of this study was to examine how developmental students who took ADEV 1100, Strategies for College Success, (or the ESOL equivalent, ADEV 1015) fared on other academic metrics at MCTC. This was compared to the academic outcomes of both other developmental and non-developmental students who took the ADEV course and their peers who did not take the ADEV course. This data was analyzed for the purpose of providing background data to support the policy decision process around requiring ADEV for all students who place into a developmental course.

### Definitions and Technical Specifications

For the purposes of this study a **developmental student** is defined as placing into a developmental course (either ESOL or native-speaker courses) in one or more of the following subject areas: reading, writing, or listening. This study examined all students who entered MCTC for the first time as an undergraduate student in Fall 2006 (i.e., 20073) and Fall 2007 (i.e., 20083). These two samples each became a separate cohort and were not combined due to perceived programmatic and instructional differences between the two years. Within the 20073 cohort, 315 student took ADEV 1100 or 1015 in their first term. Of those taking the ADEV course, 69.8% were developmental students. Within the 20083 cohort, 370 students took ADEV 1000 or 1015 in their first term. Of those taking the ADEV course, 70.0% were developmental students. It is important to note that in both of these cohorts, Power of YOU students comprised a majority of the developmental students taking the ADEV course. The decision to only examine ADEV course taking in the entering fall term was made in an attempt to eliminate from the sample those students who were taking ADEV due to prior academic difficulties at MCTC resulting in encouragement or mandatory placement into the ADEV course. All students who had a prior undergraduate record at MCTC were excluded from analyses.

Table 1.1 describes the groups and the Ns for the study. Due to extremely low frequency, students who received incomplete grades were excluded from the analyses. In all other cases, when cell sizes fell below 10, data was suppressed.

One-way Analysis of Variance (ANOVAs) were conducted for all quantitative comparisons. Alpha levels were set at .05 and post hoc analyses were conducted using the Bonferroni method.

### Overview of Results

It is important to note that the key difficulty in interpreting the results of this study is the fact that many of the students who took ADEV in both of these cohorts were Power of YOU students, who received other academic interventions besides ADEV, including intrusive advising. This confounds the impact of ADEV alone. However, there were no ADEV cohorts available that were not confounded by the POY cohorts. A more adequate analysis of ADEV course taking and academic outcomes was precluded at this time, so we proceeded with the available data. Strong caution, however, is advised in interpreting the following results of the ADEV analysis.

Another important caveat is the duration of the academic careers of these students. Since these cohorts are so recent, we have very limited data on these students. For the first cohort we have 2<sup>nd</sup> fall data, and for the second cohort we have only first year data. Therefore, important long-term indicators of academic success such as transfer, graduation, and success on capstone assignment or other assessments are not yet available.

### Retention

As can be seen in Tables 2.1 & 3.1, the DEV PASS group has an extremely high retention rate. To put these numbers in context, MCTC's Overall fall 2006 entering cohort, for example, had a fall to spring retention rate of 70.6%. For the MCTC overall fall 2002-fall 2005 entering cohorts, the fall to fall retention rates have ranged from 36.3% to 41.0%. Therefore, this study's DEV PASS group having a fall to spring retention rate of 93.1% (20073 cohort) /94.9% (20083 cohort) and a fall to fall retention rate of 75.5% (20073 cohort) is well above MCTC's standard range. However, I again caution the interpretation of this with reference to POY students.

### **Earned Credits**

Moving beyond retention, we also examined several academic variables including the following: earned credits and cumulative GPAs. This data paints a more varied story than that of the retention alone. As can be seen in Table 1.2, DEV PASS groups earned significantly more credits than all other groups, with the exception of the Non-DEV PASS group, where there was no statistical difference between the two groups. By term 2, however, DEV PASS group earned significantly more credits than the DEV and Non-DEV FAIL and W groups, but not the DEV Non Takers or Non-DEV PASS or Non-DEV Non Takers.

### **Cumulative GPA**

The GPA data suggests that over time the students in the DEV PASS group are not having as much academic success as other groups. At term 2, DEV PASS group have significantly lower cumulative GPA (2.20) than Non-DEV non-takers (2.84) and were not significantly different from DEV Non Takers (2.15). At the third term, however, DEV PASS have a significantly lower cumulative GPA (2.14) than all other groups that remain: DEV Non Takers (2.58), Non-DEV Non Takers (2.94) and Non-DEV PASS (2.93). However, they still have a cumulative GPA above 2.0. This decline in GPA warrants continued study of these cohorts as they move further into their academic careers.

### **Probation and Suspension**

Any suspension or probation codes on a student's record, in any semester, were included in this analysis. Since the 20073 cohort was used in most of the analyses and has had the most time at MCTC, their DEV PASS group with a 50.3% probation rate and a 28.9% suspension rate suggests that these students are doing similar or worse than their non ADEV peers and other non developmental groups. Further analyses of patterns of probation and suspension over time may be interesting.

### **Final Thoughts**

It seems that the retention rates for the DEV PASS groups in both cohorts exceed our historical trends. The academic variables were largely not applicable to the 20083 cohort, so that analysis was limited to only one cohort. The GPA and earned credit variables suggest that the DEV PASS groups are either not significantly different or significantly lower than the other remaining groups over time. This might indicate that a group of students who are at a higher academic risk are being retained in the DEV PASS groups. This is similar to the initial findings of the POY evaluation, which utilizes a very similar and overlapping sample of students.

It is important to note that in addition to the ADEV PASS groups' results, which was the focus of this study, those students in the ADEV F and ADEV W groups had extremely low levels of retention and academic success. For the 20083 developmental group, especially, the W group was relatively large. Although further research would be useful, these data suggest that academic failure or withdrawal in the ADEV course might serve as an early indicator of extremely high risk students.

**Table 1.1: Sample Size and Group Description**

Cohort	Group	Description	N
20073	DEV Non Takers	Developmental students who did not take ADEV	784
	<b>DEV PASS</b>	<b>Developmental students who received A, B, C or P in ADEV</b>	<b>159</b>
	DEV FAIL	Developmental students who received D, F or NC in ADEV	37
	DEV W	Developmental students who received a W in ADEV	24
	Non-DEV Non Takers	Non-Developmental students who did not take ADEV	1381
	Non-DEV PASS	Non-Developmental students who received A, B, C, or P in ADEV	63
	Non-DEV FAIL	Non-Developmental students who received D, F or NC in ADEV	12
	Non-DEV W	Non-Developmental students who received a W in ADEV	20
20083	DEV Non Takers	Developmental students who did not take ADEV	744
	<b>DEV PASS</b>	<b>Developmental students who received A, B, C or P in ADEV</b>	<b>156</b>
	DEV FAIL	Developmental students who received D, F or NC in ADEV	49
	DEV W	Developmental students who received a W in ADEV	52
	Non-DEV Non Takers	Non-Developmental students who did not take ADEV	1415
	Non-DEV PASS	Non-Developmental students who received A, B, C, or P in ADEV	67
	Non-DEV FAIL	Non-Developmental students who received D, F or NC in ADEV	19
	Non-DEV W	Non-Developmental students who received a W in ADEV	24

**Table 1.2: Term 1 Earned Credits**

Cohort	Group	N	Mean	Standard Deviation
20073	<b>DEV PASS</b>	<b>159</b>	<b>10.65</b>	<b>3.66</b>
	DEV Non Takers	784	6.55*	4.90
	DEV FAIL	37	2.37*	4.25
	DEV W	23	1.30*	2.16
	Non-DEV Non Takers	1381	7.53*	4.74
	Non-DEV PASS	63	9.90	3.87
	Non-DEV FAIL	12	4.75*	4.28
	Non-DEV W	20	1.85*	3.45
20083	<b>DEV PASS</b>	<b>156</b>	<b>10.50</b>	<b>3.17</b>
	DEV Non Takers	744	6.07*	4.89
	DEV FAIL	49	4.16*	4.19
	DEV W	52	1.15*	2.30
	Non-DEV Non Takers	1415	7.67*	4.94
	Non-DEV PASS	67	10.06	3.17
	Non-DEV FAIL	19	6.10*	5.08
Non-DEV W	24	1.46*	2.60	

Note: \*indicates that that group's score was significantly different from the DEV PASS group,  $p < .0$   
 - indicates that due to low cell size, data has been suppressed

**Table 2.1: Term 2 Retention (Fall to Spring)**

Cohort	Group	Total N	Number Retained	Percent Retained
20073	<b>DEV PASS</b>	<b>159</b>	<b>148</b>	<b>93.1%</b>
	DEV Non Takers	784	532	67.9%
	DEV FAIL	37	13	35.1%
	DEV W	14	10	58.3%
	Non-DEV Non Takers	1381	991	71.8%
	Non-DEV PASS	63	53	84.1%
	Non-DEV FAIL	12	-	-
	Non-DEV W	20	11	55.0%
20083	<b>DEV PASS</b>	<b>156</b>	<b>148</b>	<b>94.9%</b>
	DEV Non Takers	744	485	65.2%
	DEV FAIL	49	31	63.3%
	DEV W	52	12	23.1%
	Non-DEV Non Takers	1415	1029	72.7%
	Non-DEV PASS	67	64	95.5%
	Non-DEV FAIL	19	15	78.9%
	Non-DEV W	24	-	-

Note: - indicates that due to low cell size, data has been suppressed

**Table 2.2: Term 2 Attempted Credits**

Cohort	Group	N	Mean	Standard Deviation
20073	<b>DEV PASS</b>	<b>148</b>	<b>11.76</b>	<b>2.96</b>
	DEV Non Takers	532	10.15*	3.65
	DEV FAIL	13	9.54	3.23
	DEV W	10	10.20	2.89
	Non-DEV Non Takers	991	10.40*	3.86
	Non-DEV PASS	53	12.28	3.24
	Non-DEV FAIL	12	-	-
	Non-DEV W	11	13.18	2.09
20083	<b>DEV PASS</b>	<b>148</b>	<b>11.30</b>	<b>2.88</b>
	DEV Non Takers	485	10.43	3.71
	DEV FAIL	31	10.71	2.77
	DEV W	12	9.83	2.62
	Non-DEV Non Takers	1029	10.80	3.90
	Non-DEV PASS	64	12.48	2.62
	Non-DEV FAIL	15	11.40	2.38
	Non-DEV W	-	-	-

Note: \*indicates that that group's score was significantly different from the DEV PASS group,  $p < .05$

- indicates that due to low cell size, data has been suppressed

**Table 2.3: Term 2 Earned Credits**

Cohort	Group	N	Mean	Standard Deviation
20073	<b>DEV PASS</b>	<b>148</b>	<b>7.60</b>	<b>4.94</b>
	DEV Non Takers	532	7.06	4.94
	DEV FAIL	13	3.07*	3.25
	DEV W	10	1.60*	2.76
	Non-DEV Non Takers	991	7.88	4.83
	Non-DEV PASS	53	9.19	5.20
	Non-DEV FAIL	-	-	-
	Non-DEV W	11	1.45*	2.34
20083	<b>DEV PASS</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>
	DEV Non Takers	N/A	N/A	N/A
	DEV FAIL	N/A	N/A	N/A
	DEV W	N/A	N/A	N/A
	Non-DEV Non Takers	N/A	N/A	N/A
	Non-DEV PASS	N/A	N/A	N/A
	Non-DEV FAIL	N/A	N/A	N/A
	Non-DEV W	N/A	N/A	N/A

Note: \*indicates that that group's score was significantly different from the DEV PASS group,  $p < .05$   
 - indicates that due to low cell size, data has been suppressed

**Table 2.4: Term 2 Cumulative GPA**

Cohort	Group	N	Mean	Standard Deviation
20073	<b>DEV PASS</b>	<b>117</b>	<b>2.02</b>	<b>1.17</b>
	DEV Non Takers	413	2.15	1.38
	DEV FAIL	10	0.68*	1.27
	DEV W	-	-	-
	Non-DEV Non Takers	912	2.84*	1.17
	Non-DEV PASS	49	2.49	1.21
	Non-DEV FAIL	-	-	-
	Non-DEV W	11	0.52*	1.09
20083	<b>DEV PASS</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>
	DEV Non Takers	N/A	N/A	N/A
	DEV FAIL	N/A	N/A	N/A
	DEV W	N/A	N/A	N/A
	Non-DEV Non Takers	N/A	N/A	N/A
	Non-DEV PASS	N/A	N/A	N/A
	Non-DEV FAIL	N/A	N/A	N/A
	Non-DEV W	N/A	N/A	N/A

Note: \*indicates that that group's score was significantly different from the DEV PASS group,  $p < .05$   
 - indicates that due to low cell size, data has been suppressed

**Table 3.1: Term 3 Retention (Fall to Fall)**

Cohort	Group	Total N	Number Retained	Percent Retained
20073	<b>DEV PASS</b>	<b>159</b>	<b>120</b>	<b>75.5%</b>
	DEV Non Takers	784	353	45.0%
	DEV FAIL	37	-	-
	DEV W	24	-	-
	Non-DEV Non Takers	1381	544	39.4%
	Non-DEV PASS	63	42	66.7%
	Non-DEV FAIL	12	-	-
	Non-DEV W	20	-	-
20083	<b>DEV PASS</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>
	DEV Non Takers	N/A	N/A	N/A
	DEV FAIL	N/A	N/A	N/A
	DEV W	N/A	N/A	N/A
	Non-DEV Non Takers	N/A	N/A	N/A
	Non-DEV PASS	N/A	N/A	N/A
	Non-DEV FAIL	N/A	N/A	N/A
	Non-DEV W	N/A	N/A	N/A

Note: - indicates that due to low cell size, data has been suppressed

**Table 3.2: Term 3 Cumulative GPA**

Cohort	Group	N	Mean	Standard Deviation
20073	<b>DEV PASS</b>	<b>105</b>	<b>2.14</b>	<b>1.14</b>
	DEV Non Takers	288	2.58*	1.14
	DEV FAIL	-	-	-
	DEV W	-	-	-
	Non-DEV Non Takers	498	2.94*	1.00
	Non-DEV PASS	39	2.93*	0.85
	Non-DEV FAIL	-	-	-
	Non-DEV W	-	-	-
20083	<b>DEV PASS</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>
	DEV Non Takers	N/A	N/A	N/A
	DEV FAIL	N/A	N/A	N/A
	DEV W	N/A	N/A	N/A
	Non-DEV Non Takers	N/A	N/A	N/A
	Non-DEV PASS	N/A	N/A	N/A
	Non-DEV FAIL	N/A	N/A	N/A
	Non-DEV W	N/A	N/A	N/A

Note: \*indicates that that group's score was significantly different from the DEV PASS group,  $p < .05$   
 - indicates that due to low cell size, data has been suppressed

**Table 4.1: Probation & Suspension Status**  
 (indicates number of students who had ever had Probation & Suspension codes in their file)

Term	Group	Total N	Number Probation	Percent Probation	Number Suspension	Percent Suspension
20073	<b>DEV PASS</b>	<b>159</b>	<b>80</b>	<b>50.3%</b>	<b>46</b>	<b>28.9%</b>
	DEV Non Takers	784	391	49.9%	140	17.9%
	DEV FAIL	37	33	89.2%	15	40.5%
	DEV W	24	23	95.8%	10	41.7%
	Non-DEV Non Takers	1381	512	37.1%	173	12.5%
	Non-DEV PASS	63	28	44.4%	14	22.2%
	Non-DEV FAIL	12	12	100%	-	-
	Non-DEV W	20	18	90.0%	10	50.0%
20083	<b>DEV PASS</b>	<b>156</b>	<b>28</b>	<b>17.9%</b>	<b>N/A</b>	<b>N/A</b>
	DEV Non Takers	744	310	41.7%	N/A	N/A
	DEV FAIL	49	33	89.2%	N/A	N/A
	DEV W	52	45	86.5%	N/A	N/A
	Non-DEV Non Takers	1415	458	32.4%	N/A	N/A
	Non-DEV PASS	67	19	28.4%	N/A	N/A
	Non-DEV FAIL	19	14	73.7%	N/A	N/A
	Non-DEV W	24	19	79.2%	N/A	N/A

Note: - indicates that due to low cell size, data has been suppressed