

**Comparing Success Rates in Developmental Courses (3credits vs. 4 credits)
Fall, 1995 – Spring, 1999 and
Fall, 1999 – Spring, 2003**

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Introduction

Developmental courses are designed to provide the basic skills and knowledge necessary for success in college-level courses. Developmental courses at Southside Virginia Community College (SVCC) include English 01-Preparing for College Writing I, English 03-Preparing for College Writing II, English 04-Reading Improvement I, English 05-Reading Improvement II, Math 02-Arithmetic, Math 03-Algebra I, Math 04-Algebra II and Math 07-Trigonometry.

During the 1998-99 academic year, both developmental faculty and the college administration became concerned over the success rates of developmental students. It was decided that if instructional time was increased, students should be more successful in developmental courses. Beginning Fall, 1999 semester all developmental courses were offered for four credit hours instead of three as previously offered.

Method

Data were compiled for eight years (four years before developmental courses were offered for four credits and four years after developmental courses were offered for four credits). The data included eight semesters from Fall, 1995 to Spring, 1999 when developmental courses were offered for three credits and eight semesters from Fall, 1999 to Spring, 2003, when developmental courses were offered for four credits. Summer semesters were excluded and only on-campus courses were compared.

The total number of students enrolled for ENG 01 for three credits was 37 and ENG 01 for four credits was 63; the total number of students enrolled for Eng 03 for three credits was 1,017 and ENG 03 for four credits was 1,100; the total number of students enrolled for ENG 04 for three credits was 85 and Eng 04 for four credits was 82; the total number of students enrolled for ENG 05 for three credits was 435 and ENG 05 for four credits was 539; the total number of students enrolled for MTH 02 for three credits was 740 and MTH 02 for four credits was 1,117; the total number of students enrolled for MTH 03 for three credits was 772 and MTH 03 for four credits was 1,191; the total number of students enrolled for MTH 04 for three credits was 430 and MTH 04 for four credits was 401; the total number of students enrolled for MTH 07 for three credits was 95 and MTH 07 for four credits was 91.

The Chi Square statistic was used to analyze the data by grade categories.

Table I: A comparison of ENG 01 offered for three credits to ENG 01 offered for four credits

Grade Categories	ENG 01 – three credits		ENG 01 – four credits	
	N	%	N	%
Satisfactory	16	43.3	29	46.0
Unsatisfactory	3	8.1	6	9.5
Re-enroll	13	35.1	17	27.0
Withdrawal	5	13.5	11	17.5
TOTAL	37	100	63	100

Chi Square = 0.8354; 3df; p=0.8410

Table I data indicates no significant difference in grade categories for ENG 01 offered for three credits and ENG 01 offered for four credits at an alpha level of .05. The percentage of students enrolled in ENG 01 offered for four credits receiving grades of re-enroll decreased from 35.1% to 27.0%, but the percentage of students receiving grades of withdrawal increased from 13.5% to 17.5%. All other grade categories remained approximately the same. However, inferences cannot be made concerning the results due to the small number of observations in some grade categories.

Table II: A comparison of ENG 03 offered for three credits to ENG 03 offered for four credits

Grade Categories	ENG 03 – three credits		ENG 03 – four credits	
	N	%	N	%
Satisfactory	459	45.1	575	52.3
Unsatisfactory	145	14.3	188	17.1
Re-enroll	276	27.1	189	17.2
Withdrawal	137	13.5	148	13.4
TOTAL	1,017	100	1,100	100

Chi Square = 32.0632; 3df; p= <.0001

Table II shows a Chi Square of 32.0632 with 3df significant at the .0001 alpha level, indicating significant differences in grade categories of ENG 03 offered for three credits and ENG 03 offered for four credits. The percentage of students successfully completing ENG 03 when offered for four credits increased from 45.1% to 52.3%. The percentage of students receiving grades of unsatisfactory also increased from 14.3% to 17.1%. The percentage of students receiving grades of re-enroll decreased from 27.1% to 17.2% and the percentage of students withdrawing remained the same. The inference is that ENG 03 offered for four credits is associated with decreased re-enrollments and increased successful completions.

Table III: A comparison of ENG 04 offered for three credits to ENG 04 offered for four credits

Grade Categories	ENG 04 – three credits		ENG 04 – four credits	
	N	%	N	%
Satisfactory	37	43.5	38	46.4
Unsatisfactory	15	17.7	9	11.0
Re-enroll	23	27.0	17	20.7
Withdrawal	10	11.8	18	21.9
TOTAL	85	100	82	100

Chi Square = 4.6467; 3df; p= .1996

Table III data indicate no significant differences in grade categories for ENG 04 offered for three credits and ENG 04 offered for four credits at an alpha level of .05. The percentage of students successfully completing ENG 04 when offered for four credits increased from 43.5 to 46.4%. The percentage of students receiving grades of unsatisfactory decreased from 17.7% to 11.0%. The percentage of students receiving grades of re-enroll decreased from 27.0% to 20.7%. The percentage of students receiving grades of withdrawal increased from 11.8% to 21.9%. However, inferences can not be made concerning the results due to the small number of observations in some grade categories.

Table IV: A comparison of Eng 05 offered for three credits to ENG 05 offered for four credits

Grade Categories	ENG 05 – three credits		ENG 05 – four credits	
	N	%	N	%
Satisfactory	221	50.8	302	56.0
Unsatisfactory	67	15.4	52	9.7
Re-enroll	99	22.8	120	22.3
Withdrawal	48	11.0	65	12.0
TOTAL	435	100	539	100

Chi Square = 7.9933; 3df; p = .0461

Table IV data shows a Chi Square of 7.9933 with 3df significant at the .0461 alpha level, indicating significant differences in grade categories of ENG 05 offered for three credits and ENG 05 offered for four credits. The percentage of students successfully completing ENG 05 when offered for four credits increased from 50.8% to 56.0%. The percentage of students receiving grades of unsatisfactory decreased from 15.4% to 9.7%. The remaining grade categories remained approximately the same. The inference is that ENG 05 offered for four credits is associated with decreased unsuccessful completions and increased successful completions.

Table V: A comparison of MTH 02 offered for three credits to MTH 02 offered for four credits

Grade Categories	MTH 02 – three credits		MTH 02 – four credits	
	N	%	N	%
Satisfactory	450	60.8	665	59.5
Unsatisfactory	30	4.0	54	4.8
Re-enroll	178	24.1	278	25.0
Withdrawal	82	11.1	120	10.7
TOTAL	740	100	1,117	100

Chi Square = .8928; 3df; p= .8272

Table V data indicate no significant differences in grade categories for MTH 02 offered for three credits and MTH 02 offered for four credits at an alpha level of .05. All grade categories remained approximately the same.

Table VI: A comparison of MTH 03 offered for three credits to MTH 03 offered for four credits

Grade Categories	MTH 03 – three credits		MTH 03 – four credits	
	N	%	N	%
Satisfactory	429	55.6	621	52.1
Unsatisfactory	56	7.3	65	5.5
Re-enroll	197	25.5	321	26.9
Withdrawal	90	11.6	184	15.5
TOTAL	772	100	1,191	100

Chi Square = 8.6695; 3df; p= .0340

Table VI shows a Chi Square of 8.6695 with 3df significant at the .0340 alpha level, indicating significant differences in grade categories of MTH 03 offered for three credits and MTH 03 offered for four credits. The percentage of students successfully completing MTH 03 when offered for four credits decreased from 55.6% to 52.1%. The percentage of students receiving grades of unsatisfactory decreased from 7.3% to 5.5% and the percentage of students receiving grades of withdrawal increased from 11.6% to 15.5%. The grade category re-enroll remained approximately the same. The inference is that MTH 03 offered for four credits is associated with decreased successful completions, increased student withdrawal and decreased unsuccessful completions.

Table VII: A comparison of MTH 04 offered for three credits to MTH 04 offered for four credits

Grade Categories	MTH 04 – three credits		MTH 04 – four credits	
	N	%	N	%
Satisfactory	236	54.9	207	51.6
Unsatisfactory	41	9.5	26	6.5
Re-enroll	111	25.8	109	27.2
Withdrawal	42	9.8	59	14.7
TOTAL	430	100	401	100

Chi Square = 7.1328; 3df; p= .0678

Table VII data indicate no significant differences in grade categories for MTH 04 offered for three credits and MTH 04 offered for four credits at an alpha level of .05. The percentage of students enrolled in MTH 04 offered for four credits receiving grades of withdrawal increased from 9.8% to 14.7%. All other grade categories remained approximately the same.

Table VIII: A comparison of MTH 07 offered for three credits to MTH 07 offered for four credits

Grade Categories	MTH 07 – three credits		MTH 07 – four credits	
	N	%	N	%
Satisfactory	55	57.9	70	76.9
Unsatisfactory	2	2.1	8	8.8
Re-enroll	29	30.5	9	9.9
Withdrawal	9	9.5	4	4.4
TOTAL	95	100	91	100

Chi Square = 17.7716; 3df; p=.0005

Table VIII shows a Chi Square of 17.7716 with 3df significant at the .0005 alpha level, indicating significant differences in grade categories for MTH 07 offered for three credits and MTH 07 offered for four credits. The percentage of students successfully completing MTH 07 when offered for four credits increased from 57.9% to 76.9%. The percentage of students receiving grades of unsatisfactory increased from 2.1% to 8.8%. The percentage of students receiving grades of re-enroll decreased from 30.5% to 9.9% and the percentage of students receiving grades of withdrawal decreased from 9.5% to 4.4%. However, inferences can not be made concerning the results due to the small number of observations in some grade categories.

Results

The analysis of the data reveals that significant differences were found in the grade categories for ENG 03, ENG 05, MTH 03 and MTH 07 when offered for three credits as compared to being offered for four credits. When Eng 03 was offered for four credits, there were more successful completions and fewer re-enrollments. When ENG 05 was offered for four credits, there were more successful completions and fewer unsuccessful completions. When MTH 03 was offered for four credits, there were fewer successful completions, increased withdrawals and decreased unsuccessful completions. There were significant differences indicated in the grade categories for MTH 07, but due to the small number of observations in some grade categories inferences were not drawn.

All other comparisons between developmental courses offered for three credits when compared to developmental courses offered for four credits resulted in no significant differences in grade categories. We can conclude that developmental courses offered for four credits increase student success rates in ENG 03 and ENG 05, but decrease student success rates in MTH 03.

Recommendation

The college administration and developmental faculty should consider the results of this study and determine whether adjustment should be made in the number of credits developmental courses are offered.

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