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Institutional Development and Technology

Tutoring/Learning/Computer Center Retention & Success Fall 2003 and Fall 2004

Report # 165

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Introduction

To inform the Tutoring/Learning/Computer (TLC) Center's self-review process, the Office of Institutional Development and Technology prepared a report addressing the impact of tutoring services on student retention and success. The analyses were delimited to tutoring services, rather than the broader array of services, which includes services related to computer use. Since students pursue a variety of different amounts of tutoring and the impact will likely vary by amount of services received, retention and success rates of students were assessed for amount of tutoring as well as whether or not students received any tutoring services.

Methods

Two data sources were used for this study. The first data file was obtained from the TLC Lab. In this file, each tutoring contact was identified, including the type of contact (tutoring, computer use, and both tutoring and computer use), course for which tutoring was provided, and length of tutoring contact. Data for both Fall 2003 and Fall 2004 were used.

The second type of data file was the California Community College Chancellor's Office referential file for enrollments (referred to as the "USX file"). This file contains information on the enrollments of each student in a given term, including the grade ultimately received.

The two files were matched based on student identification number and course for which tutoring was received. Simple descriptive statistics were computed. Additionally, the relationship between amount of tutoring (number of visits and number of hours) with retention and success rates was assessed. Retention is defined as completing a course (not withdrawing). Success rates are defined as the percentage of students passing a class with a "C" or better or credit. Students who drop prior to the drop deadline were not included in the analyses.

Major Findings

In the Fall 2003 semester, the TLC provided tutoring to 2,579 students. As students often seek more than one tutoring contact, the total number of tutoring contacts reported was 14,029. (Note that these are for tutoring services only. TLC provides other services, such as computer use, that are not included.)

Tables 1 and 2 list the number of students who went to the TLC by frequency of visits. In Fall 2003 and Fall 2004, one-third of students received tutoring services only once. The remaining two-thirds of the students received tutoring services two or more times in the semester.

Table 1. Number of visits per student in Fall 2003

	Fall 2003			**Fall 2003**
Number of Visits	**Number of Students**		**Number of Visits**	**Number of Students**
1	857		21	5
2	406		22	14
3	261		23	6
4	179		24	7
5	143		25	12
6	121		26	5
7	80		27	6
8	65		28	3
9	75		29	3
10	50		30	5
11	47		31	1
12	33		32	6
13	34		33	1
14	26		34	3
15	15		35	3
16	19		36	4
17	13		37	3
18	9		38	2
19	17		39	1
20	12		40 or more	27
			Total	2,579

In the Fall 2004 semester, the TLC provided tutoring to 2,572 students. As students often seek more than one tutoring contact, the total number of tutoring contacts reported was 13,227.

Table 2. Number of visits per student in Fall 2004

	Fall 2004			Fall 2004
Number of Visits	**Number of Students**		**Number of Visits**	**Number of Students**
1	852		21	6
2	392		22	7
3	275		23	8
4	234		24	4
5	156		25	2
6	96		26	4
7	98		27	1
8	74		28	0
9	55		29	9
10	41		30	3
11	50		31	2
12	34		32	2
13	19		33	3
14	17		34	0
15	24		35	1
16	8		36	1
17	18		37	3
18	16		38	4
19	11		39	3
20	11		40 or more	28
			Total	2,572

Table 3 compares the number of tutor contacts and number of students served (unduplicated) for Fall 2000 and Fall 2004, along with the increase in number of contacts and students served. The number of students tutored and tutoring contact increased from 1,805 in the Fall 2000 to 2,572 students in Fall 2004. The number of tutoring contacts increased from 9,482 in Fall 2000 to 13,227 in Fall 2004. (Note that these are for tutoring services only. TLC provides other services, such as computer use, that are not included.)

Table 3. Number of Tutor Contacts and Unduplicated Number of Students Served by Tutors: Fall 2000 Compared to Fall 2004

	Fall 2000	Fall 2004	Increase (N)	Increase (%)
Tutor Contacts	9,482	13,227	3,745	39%
Unduplicated Number of Students Served by Tutors	1,805	2,572	774	42%

Tables 4 and 5 list the courses for which students receive the greatest amount of tutoring (shown are disciplines in which 10 or more contacts were made). English and Math courses top the lists. In fact, in both the Fall 2003 and Fall 2004 semesters, there were more than 1000 tutoring contacts for Math-070 alone and more than 2000 contacts for English-035 in Fall 2003 and English-081 in Fall 2004! Although the English and Math departments dominate the top of the tutoring list, tutoring services are provided for many other courses in most departments at the College.

Table 4. Courses most frequently tutored: Number of tutoring contacts per course during Fall 2003*

	Dept	Course Number	Number of tutoring contacts		Dept	Course Number	Number of tutoring contacts
1.	ENGL	035	2,024	35.	MATH	059	35
2.	ENGL	090	1,786	36.	POLISC	150	34
3.	MATH	070	1,431	37.	CIT	105	32
4.	MATH	103	1,044	38.	MATH	010	32
5.	ENGL	034	751	39.	HIST	150	30
6.	MATH	140	746	40.	CMPSCI	111	28
7.	ENGL	011	665	41.	ESL	075	26
8.	ENGL	101	526	42.	MATH	215	26
9.	MATH	211	479	43.	CHEM	201	25
10.	MATH	058	432	44.	ENGR	152	23
11.	MATH	060	376	45.	PHYSIC	221	23
12.	ENGL	080	295	46.	CIT	150	21
13.	ENGL	102	239	47.	COMS	105	20
14.	MATH	102	230	48.	NURSNG	101	20
15.	BUS	201	223	49.	CMPSCI	235	19
16.	ESL	080	199	50.	ECE	120	19
17.	ENGL	010	144	51.	HIST	111	19
18.	MATH	025	144	52.	SOCI	101	19
19.	BUS	202	141	53.	BIOSCI	107	18
20.	MATH	063	131	54.	CHEM	151	18
21.	BUS	144	125	55.	PHYSIC	110	17
22.	MATH	213	120	56.	CIT	116	15
23.	SPAN	101	120	57.	CIT	110	14
24.	MATH	212	108	58.	CIT	160	14
25.	ESL	100	106	59.	HIST	112	14
26.	CIT	140	61	60.	CIT	145	13
27.	ENGL	092	51	61.	ENGL	012	13
28.	GENSTU	094	49	62.	ECON	201	12
29.	PHYSIC	220	47	63.	ENGL	063	12
30.	SPAN	102	45	64.	MATH	214	12
31.	MATH	130	42	65.	CHEM	255	11
32.	CHEM	110	41	66.	BIOSCI	221	10
33.	ENGL	103	38	67.	PSYCH	101	10
34.	CIT	155	36				

*Courses with 10 or more tutor contacts.

Table 5. Courses most frequently tutored: Number of tutoring contacts per course during Fall 2004*

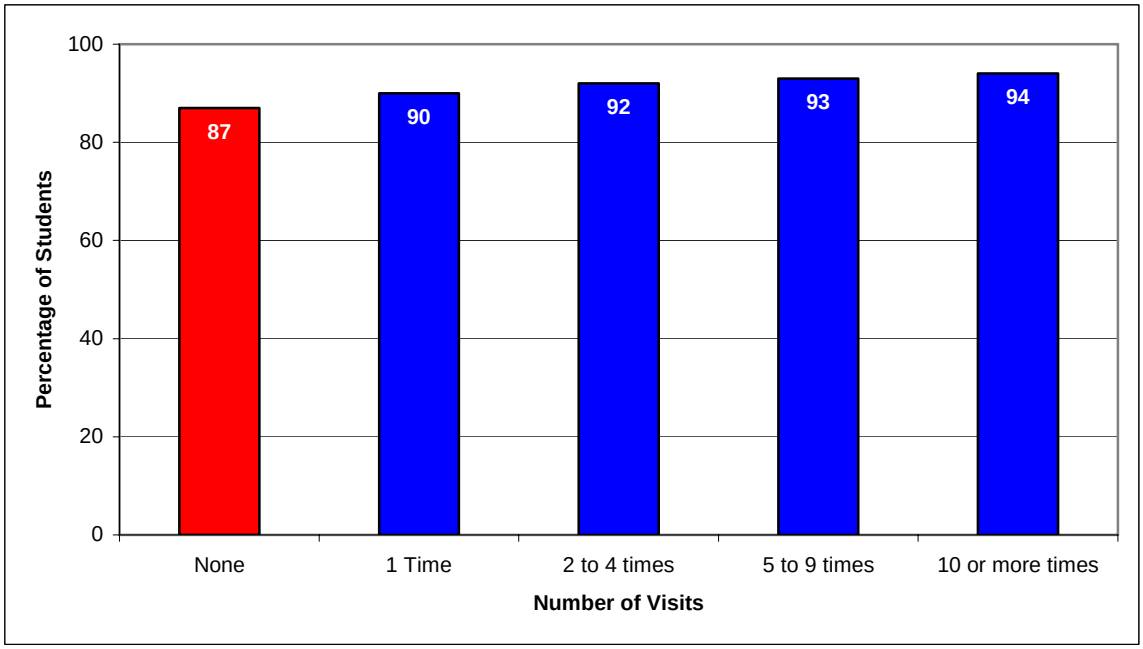
	Dept	Course Number	Number of tutoring contacts		Dept	Course Number	Number of tutoring contacts
1.	ENGL	081	2,492	32.	ENGL	103	42
2.	ENGL	091	1,276	33.	MATH	240	41
3.	MATH	070	1,225	34.	HIST	111	38
4.	MATH	103	1,117	35.	PHYSIC	110	38
5.	MATH	060	880	36.	SOCI	101	34
6.	ENGL	101	729	37.	COMS	105	31
7.	MATH	140	683	38.	MATH	010	29
8.	ENGL	071	604	39.	MATH	059	27
9.	MATH	058	344	40.	MATH	111	27
10.	MATH	211	340	41.	BIOSCI	107	25
11.	ENGL	102	322	42.	MATH	026	25
12.	BUS	201	262	43.	ENGL	108	24
13.	MATH	025	237	44.	ENGR	152	21
14.	MATH	102	187	45.	CHEM	202	19
15.	SPAN	101	178	46.	CIT	140	19
16.	MATH	215	128	47.	BIOSCI	221	18
17.	MATH	212	124	48.	ENGL	094	17
18.	MATH	213	114	49.	ESL	071	16
19.	BUS	202	110	50.	PSYCH	101	15
20.	PHYSIC	221	101	51.	ENGL	264	14
21.	ESL	080	99	52.	CHEM	255	13
22.	CHEM	201	90	53.	ECE	130	13
23.	BUS	144	82	54.	POLISC	150	13
24.	PHYSIC	220	72	55.	MATH	214	12
25.	CHEM	110	70	56.	PHYSCI	101	12
26.	CHEM	151	69	57.	CIT	105	11
27.	ESL	100	67	58.	CIT	145	11
28.	NURSNG	101	63	59.	GENSTU	094	11
29.	MATH	063	62	60.	HIST	112	11
30.	BUS	101	44	61.	SPAN	102	11
31.	MATH	130	44	62.	ESL	083	10

*Courses with 10 or more tutor contacts.

Figures 1 through 8 contain information on the retention and success of students receiving tutoring services. Figures depict both the retention (completing a course) and success (passing a course with a "C" or better or credit) rates for both the Fall 2003 and Fall 2004 semesters, broken down by the number of visits and the number of hours tutored. In all instances there was a statistically significant relationship between the number of hours or visits and students' retention and success in courses ($p<.05$). As is evidenced by the Figures, the differences are primarily between those who receive tutoring and those who do not, rather than the amount of tutoring received.

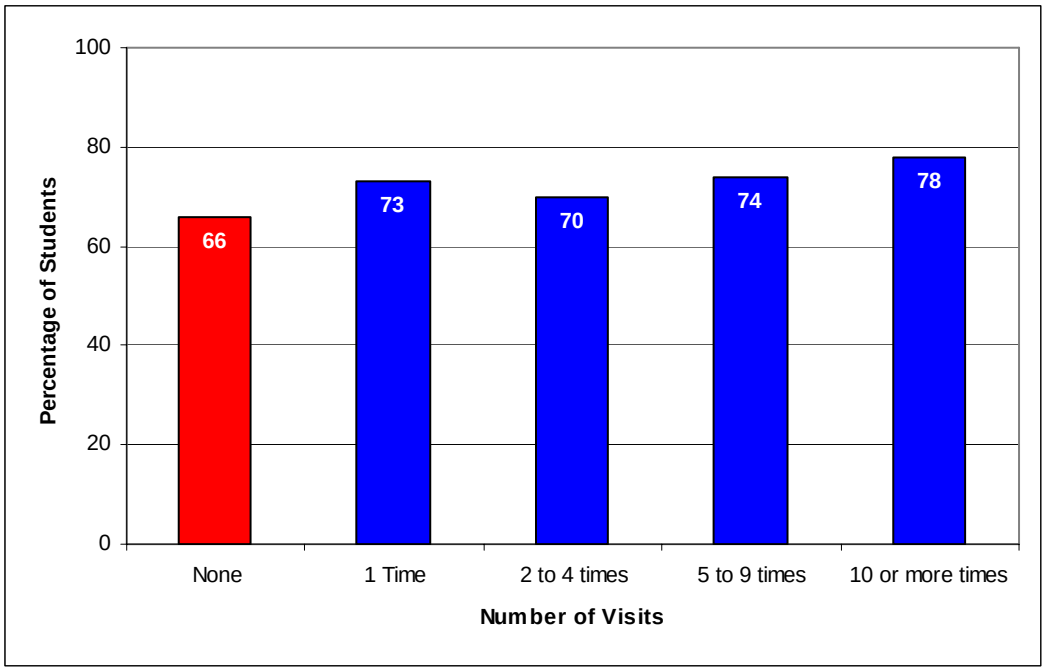
Figure 1 illustrates the retention rates for Fall 2003, broken down by the number of tutoring visits per student. Students who received tutoring had greater retention rates. As demonstrated in Figure 1, the greatest difference was between students who participated in 10 or more tutoring sessions and students not receiving any tutoring, a ***seven percent*** difference. (Note that in this analysis and others presented in this report, only courses in which at least one student received tutoring were included in the analyses to mitigate differential retention and success rates.)

Figure 1. Fall 2003 retention rates by number of TLC visits



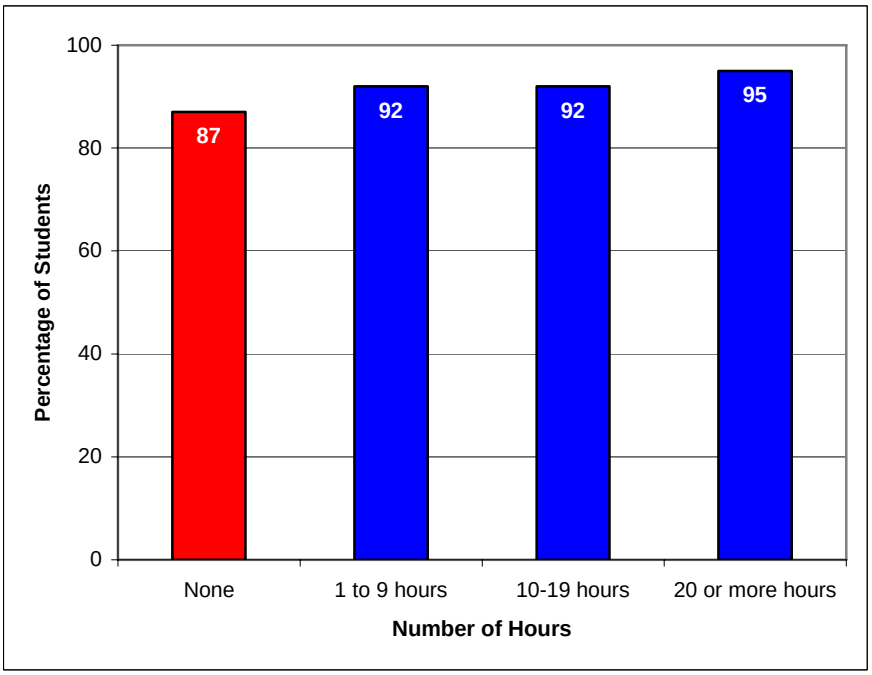
Similarly, the success rates for Fall 2003 were greater for students participating in tutoring compared to students not participating in tutoring (see Figure 2). The differences were greatest for students participating in 10 or more tutoring sessions and students not receiving tutoring, a **12 *percent*** difference in success rates.

Figure 2. Fall 2003 success rates by number of TLC visits



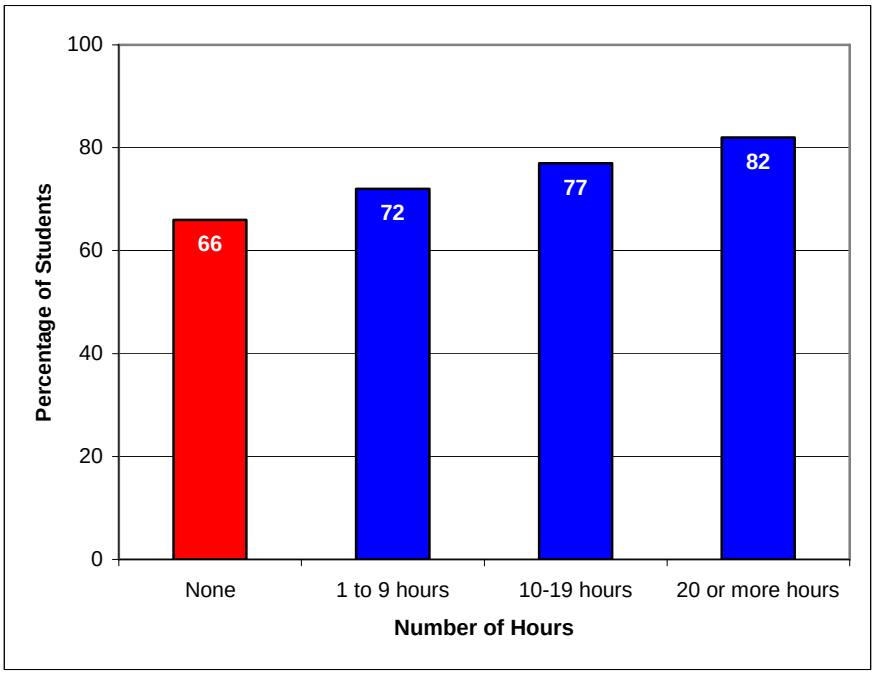
Students participating in more hours of tutoring outperform students not participating in tutoring, which is similar to the findings for students participating in tutoring compared to students not participating in tutoring (as measured by number of visits). Figures 3 and 4 depict similar relationships to those in Figures 1 and 2. The differences were greatest for students participating in 10-19 hours and 20 or more hours of tutoring and students receiving no tutoring, a ***five*** and ***eight percent*** difference, respectively, in retention rates.

Figure 3. Fall 2003 retention rates by number of hours of tutoring



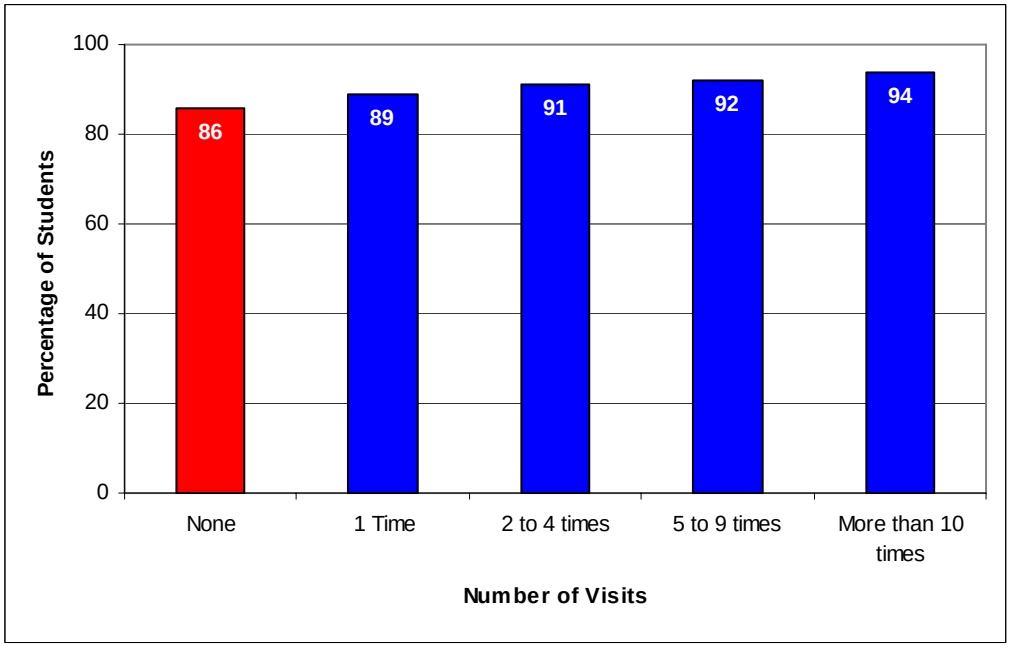
For success rates, the differences were greatest for students participating in 10-19 hours and 20 or more hours of tutoring and students not receiving tutoring, an **11** and **16** ***percent*** difference, respectively.

Figure 4. Fall 2003 success rates by number of hours of tutoring



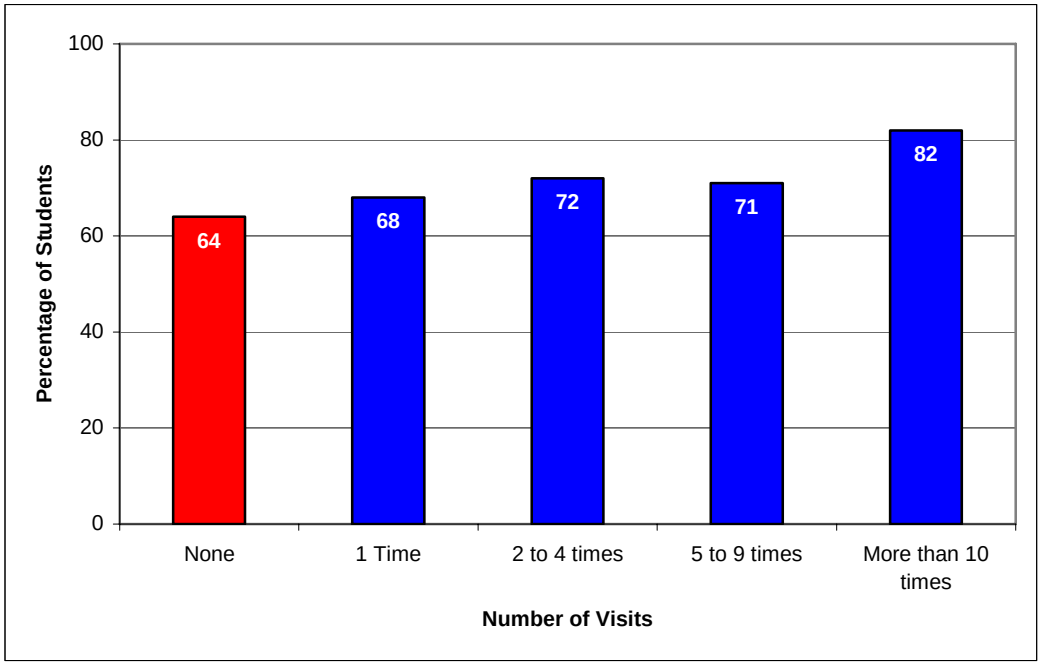
Retention and success rates for Fall 2003 by number of visits and number of tutoring hours were similar to those found for Fall 2004. Students who received tutoring had greater retention rates. As demonstrated in Figure 5, the greatest difference was between students who participated in 10 or more tutoring sessions and students not receiving any tutoring, an ***eight percent*** difference.

Figure 5. Fall 2004 retention rates by number of TLC visits



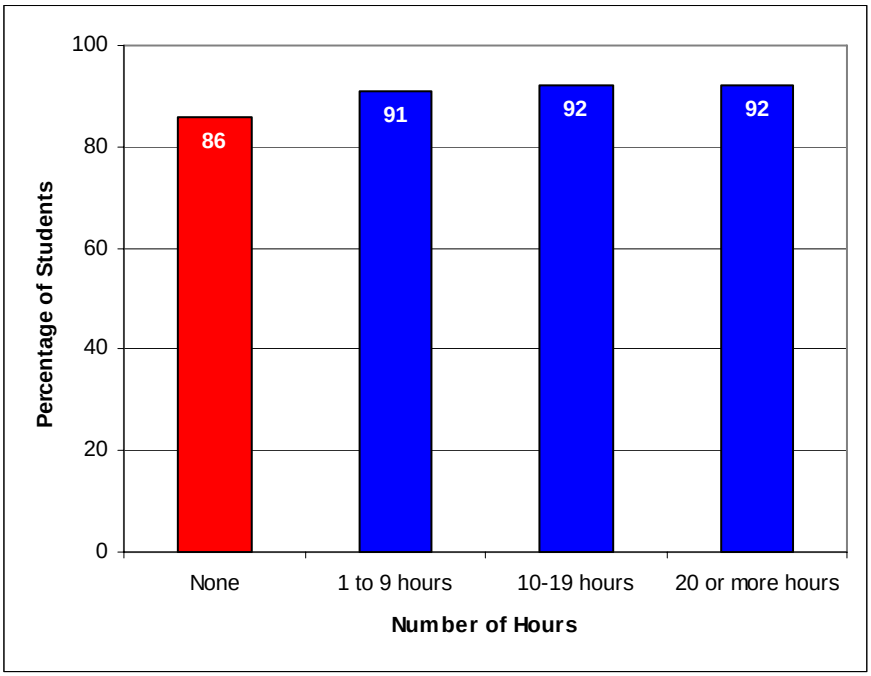
Similarly, the success rates for Fall 2004 were greater for students participating in tutoring compared to students not participating in tutoring (see Figure 6). The differences were greatest for students participating in 10 or more tutoring sessions and students not receiving tutoring, an **18 *percent*** difference in success rates.

Figure 6. Fall 2004 success rates by number of TLC visits



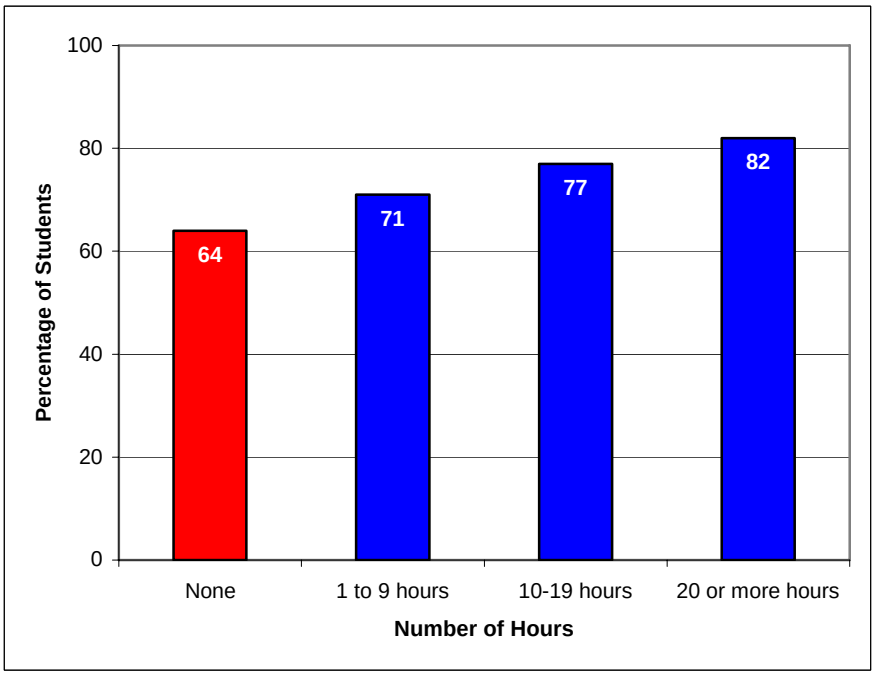
Students participating in more hours of tutoring outperform students not participating in tutoring, which is similar to the findings for students participating in tutoring compared to students not engaging tutoring (as measured by number of visits). Figures 7 and 8 depict similar relationships to those in Figures 5 and 6. Students participating in more hours of tutoring outperform students not participating in tutoring. For retention rates, the differences were greatest for students participating in 10-19 hours and 20 or more hours of tutoring and students receiving no tutoring, a ***six percent*** difference (each).

Figure 7. Fall 2004 retention rates by number of hours of tutoring



For success rates, the differences were greatest for students participating in 10-19 hours and 20 or more hours of tutoring and students not receiving tutoring, a **13** and **18** ***percent*** difference, respectively.

Figure 8. Fall 2004 success rates by number of hours of tutoring



Conclusions

This study assessed the relationship between the amount of tutoring received and the student retention and success for the Fall 2003 and Fall 2004 semesters. In all analyses, students who participated in tutoring outperformed students who did not, regardless of the amount of tutoring they received and the measure of success (retention and success rates). These differences could be attributable to several factors, including motivational differences in students. However, the results are necessary to support conclusions that tutoring services do improve success. Furthermore, results indicate that students pursuing tutoring are more likely to succeed than other students, negating any claims that students pursuing tutoring are less capable.