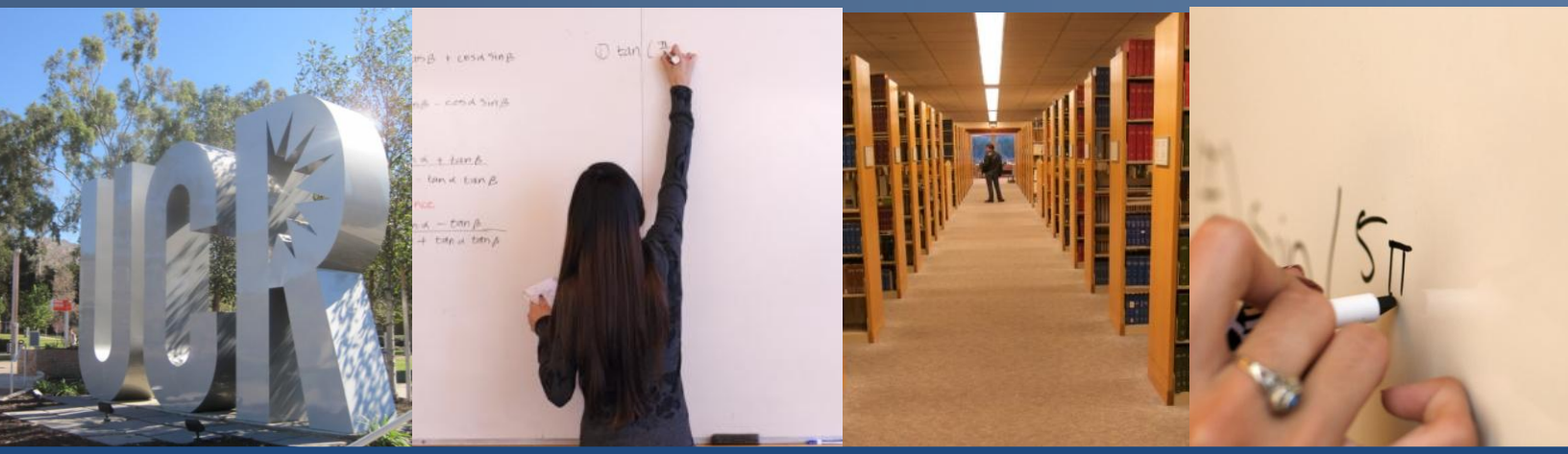
Early Warning

Impact of Participating in Early Warning on Course Performance



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Abstract

This report provides the findings of an evaluation of the early warning (EW) program. The University of California, Riverside (UCR) Academic Resource Center (ARC) launched a small pilot for two academic courses in the spring of 2008 and grew to provide EW support for fifteen courses in fall 2010. The evaluation focuses on understanding the impact of participating in the early warning program on course performance. In addition, it is also designed to provide an overview of the types of services and recommendations provided to students during the Peer Educator appointments. This study is designed to help faculty, staff and administrators better understand the impact of the program on course performance by students who participate.

Introduction

Early warning (EW) programs, also referred to as early alert programs, have been defined as a "formal, proactive, feedback system through which students and student-support agents are alerted to early manifestations of poor academic performance (e.g., low in-progress grades) or academic disengagement (high rates of absenteeism)" (Cuseo, 2007). These programs "flag" students who are identified at risk of failing and provide them with early notification and in some cases are tied to additional services and support.

The University of California, Riverside (UCR) Academic Resource Center (ARC) launched a small pilot Early Warning program in the spring of 2008, serving two academic courses. The program has incrementally grown since then to provide EW support for fifteen courses in fall 2010. The UCR Early Warning program works in partnership with faculty members teaching courses with historically high D and F grades and large numbers of freshman students. Participating faculty agree to administer an early assessment exercise within the first three weeks of the course. Students who fall below a specified benchmark (a minimum score on the early assessment exercise which is set by the participating faculty member) are sent an e-mail from the professor notifying the student that he/she is at risk of failing the course. The Academic Resource Center then schedules appointments for these students to meet with Peer Educators who help students to identify the causes of their low performance and to develop action plans to improve their grades. Peer Educators provide students with resources and referrals to campus-based programs and services such as supplemental instruction, tutoring sessions, or time-management workshops . A description of the specific roles and responsibilities of faculty members, the Academic Resource Center, and Peer Educators in UCR's Early Warning (EW) program follows.

The Early Warning Program is part of UCR's commitment to helping students succeed.

Faculty Members

The Academic Resource Center invites faculty members to participate in EW, but faculty may also express interest in program participation as well. Participation is voluntary in every case. The faculty member is asked to administer an early assessment within the first three weeks of the course and to set a benchmark, a minimum score that students must get in order to demonstrate that they understand the material. The early assessment can take the form of a homework assignment, quiz, or exam, and the grade is recorded in iGrade (a web-based grade submission system enabling UCR faculty to submit grades electronically). Students who score below the minimum score are identified at risk of failing the course and the professor sends these students an e-mail notification through iLearn (a web-based system which provides online access to class notes, discussion boards, announcements and many other class materials) notifying them of their "at risk" status. Faculty members are asked to encourage students to attend an appointment with a Peer Educator in the Academic Resource Center.

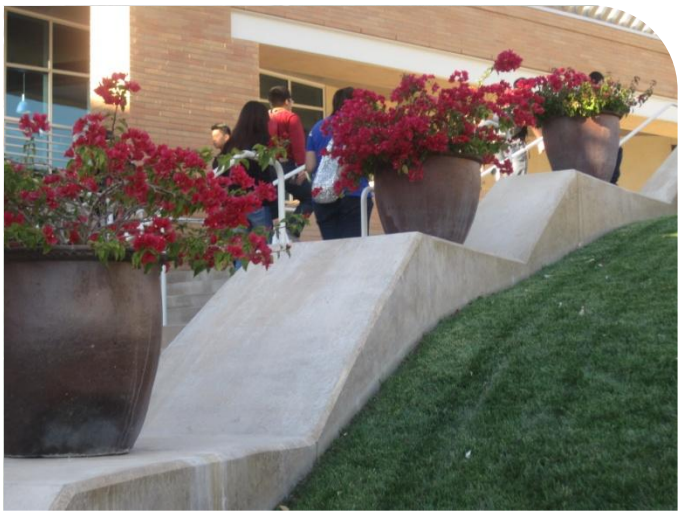
Academic Resource Center Staff

Once the early assessment has been graded and the score is recorded in iGrade, the Academic Resource Center staff schedule Peer Educator appointments for the students who score below the minimum benchmark. Staff consult students' academic schedules to find out when they are potentially available for appointments. A special effort is made to select a time when a student is likely to attend a scheduled meeting. The ARC sends students an e-mail with the appointment time and calls to confirm the appointment and to remind students of their appointment.

Peer Educators

Peer Educators are selected by the ARC (sometimes in consultation with faculty) and must have at least a 3.0 grade point average and have earned at least a B+ in the course that he/she is assigned to serve in the EW. Peer Educators are expected to attend the course to which he/she is assigned in order to be familiar with the course-specific content and assignments. When a Peer Educator is unable to attend a lecture, he/she is asked to attend a discussion section.

Peer Educators help students identify the factors that caused them to perform below the benchmark and develop action plans to help students improve. The Peer Educator provides students with a listing of the professor's and teaching assistant's office hours as well as course-specific resources such as tutoring and Supplemental Instruction (if they are offered for that course), and may also provide some direct academic tutoring as well. The Peer Educator also provides referral to campus-based programs and services. A student may schedule follow-up appointments with the Peer Educator.



Methodology

Evaluation of the Early Warning program is designed to help faculty, staff and administrators better understand the impact of the program on course performance by students who participate. The ultimate goal is to provide information which helps to improve the program. This evaluation is organized along two research questions.

1. What is the impact of participating in the Early Warning program on course performance?
2. What types of services and recommendations are provided to students during the Peer Educator appointments?

Question 1: What is the impact of participating in the Early Warning program on course performance?

The Early Warning Evaluation Design (Appendix A) provides a visual representation of the steps involved in evaluating the program's impact on course performance. In fall 2010, ten faculty members were selected to participate in EW. Approximately 4,706 students were enrolled in the 10 courses and a total of 1,235 students or 26% were identified at risk from the early assessment exercise (Table 2).

Due to the large number of students at risk, it can take program staff weeks to schedule and provide appointments to the entire at-risk population. To avoid bias in the treatment impact, students were randomly assigned a number in a rank ordered list which was used by the program staff to schedule Peer Educator appointments. Early Warning staff use this list to contact students for Peer Educator appointments starting with the student who was randomly assigned the number one rank, working through the list in an attempt to provide all students with an appointment. Only 21 students did not receive an appointment due to the lack of student contact information available.

For purposes of program evaluation, we invoke a quasi-experimental analysis which compares the course grades of students who were identified at risk and attended a Peer Educator Early Warning appointment (treatment) with the course grades of non-participating students who were also identified as at risk (control). The analysis begins with an overview of the Early Warning participation rates for fall 2010 (Table 2), followed by a comparison of course grade means for the treatment and control groups (Table 3), and culminates with a multiple regression model which controls for a host of demographic and academic characteristics such as gender, race/ethnicity, SAT scores, high school grade point average, and first generation status (these variables are identified in table 1) to determine the impact of EW participation on course grade holding all observable characteristics constant across the treatment and control populations (Table 4).

Sample and Data Sources

Data were collected for the treatment and control groups for the fall, 2010 Early Warning courses as follows: We use iGrade to download the student identification numbers of students who were identified as at risk from the early assessment. We record participation in the program using an AccuTrack system (an online system that monitors usage of a variety of ARC programs that identifies students who attended a meeting with a Peer Educator). Additionally, the use of student course enrollment and information system data is collected to obtain final course grades and student demographic characteristics.

Approximately 4,706 students were enrolled in the courses that provided Early Warning support, of which a total of 1,235 students (26.2% percent) were identified at risk. A total of 21 students were excluded from the study because the Academic Resource Center was unable to contact them and provide them with an appointment. Of the population that was identified as at risk, 509 students attended Peer Educator appointments. The population in the study consists of the following:

- Treatment Group: 509 students who attended an Early Warning Peer Educator appointment, and
- Control Group: 705 students who were provided with an appointment, but did not participate.

Question 2: What common services provided to students during the Peer Educator appointments?

As part of the Early Warning Peer Educators (PE) meeting with the student, the PE completes an *Early Warning Program Meeting Report* that details the appointment, and then provides students with an *Early Warning Action Plan* with recommendations and referral to various services offered on campus for further assistance. In the fall of 2010, a qualitative analysis was conducted on 150 *Early Warning Intake Forms* collected in fall 2009 in order to better understand the most common services provided to students. PE comments were coded into four common themes which include:

- Factors that contributed to students not doing well on the first assessment,
- Assistance provided by Peer Educators during the appointments,
- Referral that the Peer Educators provided to students, and
- Recommendations that the Peer Educators provided to students.

The findings from this qualitative analysis were used to develop a more user-friendly check-off form that would allow the Peer Educators to track the services that were provided to students in their appointments and which could provide quantitative data for analysis. The Peer Educators were involved in reviewing and providing suggestions to the form before it was printed. This information was collected in fall 2010 and tallied in order to have a better understanding of the Peer Educator appointments and provide information that can be of use to the program.

Results

The following section provides a summary of findings in this program evaluation.

Question 1: What is the impact of participating in the Early Warning program on course performance?

During fall 2010 a total of 1,235 students in courses which provided EW support were identified as at risk, which represents 26.2 percent of the population in these courses (Table 2). A total of 1,214 students (98.3 percent)[1] were provided with an EW appointment. Of this population 509 (41.9 percent) attended an appointment with a Peer Educator; however participation within courses varied immensely. For example, more than 70 percent of the students who were identified at risk in Math 5 section 1 and 20, and Math 8A section 50 attended Peer Education appointments. In contrast, less than 29 percent of students identified at risk in Sociology 1 and Math 8A section 20 participated.

Table 3 provides the average course grades of the students identified at risk in the treatment and comparison groups. Of the students identified as at risk, EW participants' average course grades were greater than their non-participant counterparts (1.87 vs. 1.77 respectively). The largest average course grade differences between participants and non-participants were seen in Math 4 section 10 (1.80 vs. 1.45), Math 5 sections one (1.78 vs. 1.12) and 20 (2.13 vs. 1.43), and Math 8A section 50 (1.81 vs. 1.14). Interestingly, the participation rate in three out four of the courses that reported the highest average course grade impacts was over 70 percent.

Utilizing a multiple regression analysis which controls for a host of background characteristics and differences among Early Warning courses, Table 4 reports the course grade impact of attending an Early Warning Peer Educator appointment. Students who attended a Peer Educator appointment can expect to receive a 0.12 point increase in their average course grade. This difference is statistically significant.

Table 5 reports the impact of participating in EW for each course separately. Due to the small sample size in the Chemistry and Math courses, the sections of Chemistry 1A, Math 4, Math 5, and Math 8A were aggregated for this analysis. Students who attended a Peer Educator Appointment in Math 5 and 8A had a positive and statistically significant effect on their course grade. Early Warning participants in Math 5 saw an increase in their course grade by roughly a half a grade point, whereas participation in EW for Math 8A boosts students' average course grade by nearly a whole letter grade.

[1] This represents a positive increase from the previous years when on average roughly sixty-five percent of the population was provided with an EW appointment.

Question 2: What common services provided to students during the Peer Educator appointments?

Peer Educators completed both an intake form and action plan. The intake form captures the reasons the "at risk" student is having academic difficulty in their course. The PE uses this information to provide a multitude of assistance to the student at risk based on their need. Furthermore, PE also fills out an action plan for each student who attends an EW appointment. This action plan lists campus resources and services that can help the at risk student obtain additional help with academic performance in their course.

Table 6 provides an overview of Early Program Meeting Reports that Peer Educators complete after each appointment and reports the reason the student gave as to why they scored below the benchmark, and reports the assistance provided during the appointment. Peer Educators were instructed to mark off all the applicable factors for each student in each category. The four main factors students provided reason for their poor performance in the course were academic issues, study habits, personal issues, and/or the student felt they did not need help. Slightly over two-thirds (67%) attributed academic related issues that caused them to score below the benchmark. The major reasons reported by at risk students regarding their academic problem was directly related with the course content, followed by not being prepared to meet course demands. Roughly 73 percent of students indicated that they had study habit related problems. The major area reported was poor time management, followed by procrastination, and then not obtaining or failing to read the assigned text/s. About 12 percent of students indicated that they have family issues, and another 10 percent felt that they did not need help.

Table 7 provides an overview of the *Early Warning Action Plan* which provides at risk students with an action plan inclusive of referrals to campus resources and recommendations for changes to help them improve their performance in the course. Again, Peer Educators were instructed to mark off all the applicable factors for each student in each category and as a result the total percentages in the table do not add up to 100 percent. The most common referrals provided to students was visiting their professor's and/or teaching assistant's office hours (42.8% and 68.2% respectively), as well as attending tutoring and/or Supplemental Instruction (52.5% and 39.5%). Supplemental Instruction (SI) is not available in all courses, but PE did endorse 40% of at risk student to seek SI if it was available in their course. Additionally, PE also recommended that at-risk students speak with their advisor and possibly attend a study skills workshop, and provided building locations for a host of services across campus such as the Writing Program, Career Center, and Special Services. However, these recommendations were much less common in comparison to recommending that students meet with their instructor and attend tutoring. The most common recommendations on average provided to more than 40 percent of at risk students were to do homework or practice problems, study more effectively, and review lecture notes. Peer Educators also suggested that 34% of students need to spend time improving their time management skills, while 31% of students who attended an appointment were recommended to study with classmates, and 27% obtain or read the textbook/s.

Discussion

Question 1: What is the impact of participating in the Early Warning program on course performance?

Since the inception of the Early Warning Program the Academic Resource Center has made a concerted effort to improve the program which is seen in their attempts to provide Peer Educator appointments to nearly every student who is identified as at risk, and to implement innovations to increase the participation rate of students who attend Peer Educator appointments (currently at over forty percent).

Results show that of the population identified as at risk, EW participants on average had a higher course grade when compared to non-participants (1.87 vs. 1.77 respectively). The largest average course grade differences between participants and non-participants were seen in Math 4 section 10, Math 5 sections one, Math 5 section 20, and Math 8A section 50. Interestingly, in three of these four courses the average participation rate was over 70 percent. The impact can result from a variety of factors, such as the content of the curriculum, structure of the course, or perhaps faculty support for the Early Warning program. When controlling for demographic and academic background characteristics participating in the Early Warning program had a positive and statistically significant impact on course grades. For example, students who were identified as at risk in Math 8A and attended a PE appointment experienced nearly an entire grade point increase in their overall course grade compared to a control group of students. While grade impacts varied among courses, the case of Math 8A sheds light on the potential for the Early Warning program to impact academic course performance.

Question 2: What common services provided to students during the Peer Educator appointments?

Results from the Early Warning Meeting Report (intake form) show that poor study habits, followed by academic issues were the leading reasons for not doing well on the first assessment. As a result, PE provided close to 80 percent of students with coaching on study skills (i.e., time management, test preparation, and note taking) and handouts on these topics. Approximately 40 percent of students received assistance with course content and/or homework.

Peer Educators also completed an action plan which offered a list of campus resources that students were referred to for continued assistance with both academic and personal issues. The most common recommendation for at risk students was to visit their professor's and/or TAs office hours. This was followed by referral to tutoring and Supplemental Instruction (if available for the course). Students were also advised that they take more personal action regarding their academic performance by doing their homework or practice problems, reviewing lecture notes, and studying more effectively. The most common recommendations provided to students were simple steps, that if executed could drastically improve course performance.

Conclusion

On average, the EW program is showing positive and statistically significant impacts on course performance. Administering an early assessment to provide students with an early indication of how they are performing, coupled with formal notifications for students identified as at risk and appointments with Peer Educators who provide assistance to students has the potential to help students improve their academic performance in a course in a timely manner. In some courses, the impact of participating in Early Warning is nearly an entire grade difference. Furthermore, at risk students self-awareness of why they were experiencing academic difficulty as reported in the intake form and PE providing an action plan of recommendations for students to apply also seemed to be a successful intervention. The program plans to continue to refine the Early Warning program this coming year using both the quantitative and qualitative results from this evaluation.

Table 1: Variable Definitions

Course Grade	End of fall term grade received: A+/A = 4.00, A- = 3.70, B+ = 3.30, B = 3.00 . . . . S = 2.00, and F = 0.00
Early Warning (EW)	1 if received EW message appointment and showed up; 0 if received EW message appointment and did not show up
Gender	1 if female; 0 if male
African American	1 if African American; 0 else
Native American	1 if Native American; 0 else
Latino	1 if Latino; 0 else
Asian/P.I.	1 if Asian/P.I.; 0 else
White	1 if White; 0 else
Other	1 if Other; 0 else
Freshman	1 if Freshmen; 0 else
Sophomore	1 if Sophomore; 0 else
Junior	1 if Junior; 0 else
Senior/5th yr+	1 if Senior/5th yr+; 0 else
CHASS	1 if CHASS; 0 otherwise
CNAS	1 if CNAS; 0 otherwise
BCOE	1 if BCOE; 0 otherwise
High School GPA	GPA score
SAT Verbal	SAT Verbal score
SAT Math	SAT Math score
SAT Writing	SAT Writing score
First-Generation Status	1 if either Parent Education LE no 4-yr degree received; 0 GE 4-yr degree or higher
Low-Income Status	1 if Parental Income LE $30K; 0 otherwise
On Campus	1 if living on-campus; 0 otherwise
Need Met	1 if financial aid need was met; 0 otherwise
Anthropology 1	1 if fall course enrolled in Anthropology 1; 0 otherwise
Chemistry 1A	1 if fall course enrolled in Chemistry 1A; 0 otherwise
Chemistry 1C	1 if fall course enrolled in Chemistry 1C; 0 otherwise
Economics 2	1 if fall course enrolled in Economics 2; 0 otherwise
Math 4	1 if fall course enrolled in Math 4; 0 otherwise
Math 5	1 if fall course enrolled in Math 5; 0 otherwise
Math 8A	1 if fall course enrolled in Math 8A; 0 otherwise
Political Science 10	1 if fall course enrolled in Political Science 10; 0 otherwise
Psychology 2	1 if fall course enrolled in Psychology 1; 0 otherwise
Sociology 1	1 if fall course enrolled in Sociology 1; 0 otherwise

Table 2: Participation Rates by Course

	EW At-Risk Population	Course Enrollment	EW At-Risk Rate	EW Appointment Given	EW Appointment Given Showed Up	EW Participation Rate
Anthropology 1	111	498	22.3%	108	44	40.7%
Chemistry 1A (001/020)	261	601	43.4%	260	94	36.2%
Chemistry 1C	127	491	25.9%	127	48	37.8%
Economics 2	91	554	16.4%	81	35	43.2%
Math 4 (010)	32	82	39.0%	32	12	37.5%
Math 4 (020)	25	75	33.3%	25	12	48.0%
Math 4 (040)	54	122	44.3%	51	35	68.6%
Math 5 (001)	19	126	15.1%	17	12	70.6%
Math 5 (010)	23	136	16.9%	23	13	56.5%
Math 5 (020)	24	127	18.9%	24	19	79.2%
Math 8A (010)	32	130	24.6%	32	13	40.6%
Math 8A (020)	28	75	37.3%	28	8	28.6%
Math 8A (050)	13	157	8.3%	13	10	76.9%
Political Science 10	112	415	27.0%	112	49	43.8%
Psychology 2	126	564	22.3%	124	63	50.8%
Sociology 1	157	553	28.4%	157	42	26.8%
Total	1235	4706	26.2%	1214	509	41.9%

Table 3: Average Course Grade

	EW At-Risk Showed Up	EW At-Risk No Show
	Mean (Std. Error)	Mean (Std. Error)
Course Grade	1.87 (0.04)	1.77 (0.04)
Anthropology 1	1.65 (0.12)	1.51 (0.11)
Chemistry 1A (001)	1.63 (0.09)	1.59 (0.11)
Chemistry 1A (020)	1.43 (0.14)	1.51 (0.08)
Chemistry 1C	1.93 (0.11)	1.87 (0.10)
Economics 2	2.13 (0.11)	2.04 (0.12)
Math 4 (010)	1.80 (0.23)	1.45 (0.22)
Math 4 (020)	1.58 (0.29)	1.43 (0.35)
Math 4 (040)	1.44 (0.21)	1.23 (0.33)
Math 5 (001)	1.78 (0.27)	1.12 (0.41)
Math 5 (010)	1.80 (0.27)	2.00 (0.31)
Math 5 (020)	2.13 (0.28)	1.43 (0.43)
Math 8A (010)	1.69 (0.28)	1.51 (0.28)
Math 8A (020)	1.87 (0.47)	1.70 (0.54)
Math 8A (050)	1.81 (0.31)	1.14 (0.20)
Political Science 10	2.11 (0.11)	1.93 (0.13)
Psychology 2	2.22 (0.08)	2.35 (0.09)
Sociology 1	2.05 (0.10)	2.01 (0.07)

Table 4: Course Grade Impact

	^ β (Std. Error)	^ β (Std. Error)	^ β (Std. Error)
EW	0.13* (0.05)	0.16* (0.05)	0.12* (0.05)
Gender		-0.07 (0.06)	-0.04 (0.06)
African American		0.29 (0.36)	0.27 (0.34)
Latino		0.15 (0.35)	0.17 (0.34)
Asian/P.I.		0.15 (0.35)	0.11 (0.34)
White		0.29 (0.36)	0.30 (0.35)
Freshman		0.36 (0.28)	0.51 (0.27)
Sophomore		0.27 (0.28)	0.29 (0.27)
Junior		0.18 (0.31)	0.20 (0.29)
CHASS		0.20* (0.09)	-0.07 (0.10)
CNAS		0.13 (0.09)	0.06 (0.09)
High School GPA		0.53* (0.09)	0.54* (0.09)
SAT Verbal		0.01 (0.00)	0.00 (0.00)
SAT Math		0.00 (0.00)	0.00 (0.00)
SAT Writing		0.00 (0.00)	0.00 (0.00)
First-Generation Status		-0.02 (0.07)	0.00 (0.06)
Low-Income Status		-0.06 (0.07)	-0.10 (0.06)
On Campus		-0.04 (0.06)	-0.01 (0.06)
Need Met		-0.05 (0.06)	-0.04 (0.06)
Anthropology 1			-0.56* (0.11)
Chemistry 1A (001)			-0.64* (0.12)

Table 4: Course Grade Impact

	^ β (Std. Error)	^ β (Std. Error)	^ β (Std. Error)
Chemistry 1A (020)			-0.84* (0.12)
Chemistry 1C			-0.23* (0.11)
Economics 2			-0.00 (0.11)
Math 4 (010)			-0.53* (0.17)
Math 4 (020)			-0.46* (0.19)
Math 4 (040)			-0.67* (0.16)
Math 5 (001)			-0.75* (0.23)
Math 5 (010)			-0.21 (0.21)
Math 5 (020)			-0.27 (0.20)
Math 8A (010)			-0.57* (0.17)
Math 8A (020)			-0.54* (0.23)
Math 8A (050)			-0.78* (0.18)
Political Science 10			-0.03 (0.11)
Psychology 2			0.24* (0.11)
Constant	-1.78* (0.04)	-1.03 (0.61)	-0.98 (0.59)

* Indicates statistically significant at the 0.05 level (two-tailed).

Table 5: Individual Course Grade Impact

	Participation Rates	Course Grade
	Mean (Std. Error)	β (Std. Error)
Anthropology 1	0.42 (0.04)	0.15 (0.17)
Chemistry 1A	0.37 (0.03)	0.07 (0.11)
Chemistry 1C	0.36 (0.04)	0.05 (0.16)
Economics 2	0.42 (0.05)	0.23 (0.20)
Math 4	0.53 (0.05)	0.13 (0.24)
Math 5	0.67 (0.05)	0.57* (0.33)
Math 8A	0.47 (0.05)	0.85** (0.27)
Political Science 10	0.43 (0.04)	0.19 (0.19)
Psychology 2	0.56 (0.04)	-0.01 (0.13)
Sociology 1	0.34 (0.04)	0.05 (0.11)

* Indicates statistically significant at the 0.10 level (two-tailed).
** Indicates statistically significant at the 0.05 level (two-tailed).

Table 6: Early Warning Program Meeting Report (Intake Form)

I. Diagnosis (Reason for Poor Performance)		
Academic Issues	**361**	**67.2%**
☐ Problem with Course Content	203	38.7%
☐ Trouble Understanding Professor	88	16.4%
☐ Dislikes the Subject	90	16.8%
☐ Not Prepared for Course Demands	132	24.6%
☐ Clicker or Internet Problems	5	0.9%
☐ Other (Specify)	47	8.8%
Study Habits	**390**	**72.6%**
☐ Did Not Obtain or Read Text	113	21.0%
☐ Poor Class Attendance	31	5.8%
☐ Poor Time Management	183	34.1%
☐ Procrastination	125	23.3%
☐ Difficulty Concentrating	60	11.2%
☐ Test Anxiety	101	18.8%
☐ Other (Specify)	85	15.8%
Personal Issues	**62**	**11.5%**
☐ Family Problems	14	2.6%
☐ Health Problems	14	2.6%
☐ Other (Specify)	39	7.3%
Student Feels He/She Does Not Need Help	**55**	**10.2%**

II. Assistance Provided		
Reviewed Course Content and/or Homework	**219**	**40.8%**
Providing Coaching/Handout on Study Skills	**419**	**78.0%**
☐ Time Management	209	38.9%
☐ Test Preparation/Test Taking	237	44.1%
☐ Note Taking	115	21.4%
☐ Better Reading	141	26.3%
☐ Concentration/Motivation	103	19.2%
☐ Other (Specify)	93	17.3%
Provided Advice on Personal Issues	**39**	**7.3%**

Notes:

1) The rows in blue report the aggregated response for each section, this figure is a non-duplicated student.

2) The rows in white will not total 100% because peer mentors were allowed to mark all the options that applied to each student in each category, figures reported represent how many students responded to that category.

Table 7: Early Warning Action Plan

I. Seek Outside Assistance		
☐ Professor's Office Hours	230	42.8%
☐ TA's Office Hours	366	68.2%
☐ Drop-In Tutoring	282	52.5%
☐ Supplemental Instruction	212	39.5%
☐ Study Skills Workshop	72	13.4%
☐ ASAP Peer Counseling	1	0.2%
☐ Counseling Center	14	2.6%
☐ BCOE Academic Advising	10	1.9%
☐ CHASS Academic Advising	31	5.8%
☐ CNAS Academic Advising	22	4.1%
☐ Career Center	20	3.7%
☐ Student Special Services	6	1.1%
☐ Student Life	12	2.2%
☐ Other (Specify)	30	5.6%

II. Take Personal Action		
☐ Do Homework and/or Practice Problems	245	45.6%
☐ Review Lecture Notes	235	43.8%
☐ Attend Lecture/Discussion	87	16.2%
☐ Obtain/Read Textbook	147	27.4%
☐ Study More Effectively	236	43.9%
☐ Improve Time Management	180	33.5%
☐ Study with Classmates	167	31.1%
☐ Other (Specify)	72	13.4%

Note:

The rows in white will not total 100% because peer mentors were allowed to mark all the options that applied to each student in each category, figures reported represent how many students were given that recommendation in that category.

Appendix A: Early Warning Evaluation Design