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A Center for Academic Achievement: How Innovative Collaborations Between Faculty and Learning Center Administrators Built Model, Credit-Bearing, First-Year Courses with Embedded Support for At-Risk Students

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A Center for Academic Achievement: How Innovative Collaborations Between Faculty and Learning Center Administrators Built Model, Credit-Bearing, First-Year Courses with Embedded Support for At-Risk Students

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Abstract: Establishing a centralized learning assistance program to systematically address the academic challenges of all students was the first priority of the Academic Achievement Center (AAC) at Bridgewater State College when it was formed in 2001. This new, open, bright, comfortable, and inviting place has truly become the heart of the campus, for it is here that abundant human and material resources are available to support all students. In this learning environment, students can access services in advising, testing, disabilities resources, study, research, writing, communication, mathematics, adaptive technology, tutoring, and English as a second language. Primary responsibility for learning assistance lives with faculty directors who plan how to place meaningful assistance in the path of all students. This article describes the challenges and rewards in establishing and sustaining campus commitment to centralized learning assistance programs as well as some of the exciting opportunities for collaborative innovation on learning assistance that have resulted from such a commitment at Bridgewater State College. An additional discussion focuses on the administrative strategies that support this successful model, and the profound professional opportunities presented to faculty, graduate students, undergraduate student staff, and professional staff through this model. Besides the various services provided at the AAC, systemic delivery of learning assistance is meshed through academic courses for at-risk, first-year students. A description and analysis of quantitative and qualitative data point out the observed trends of student persistence and academic standing for each cohort that has benefitted from this comprehensive model.

Keywords: Learning Environment, Sites of Learning, Learning Assistance, College Experience

COLLABORATION IS THE key to teaching and learning (Friend & Cook, 1992). Values and beliefs about learning and teaching, collegiality, and interrelationships are all shaped by interactions with other professionals (Friend & Cook; Lyons & Pinnell, 2001). At a comprehensive, public state college in the northeastern United States, faculty directors at the college's Academic Achievement Center (AAC) have created a model for providing academic support for first-year students. In this article, we will discuss the implementation and maintenance of this successful, first-year program that weaves learning assistance structures into specific classes as the result of significant faculty and administration involvement. We also will describe faculty-driven initiatives and administrative efforts to institutionalize highly collaborative approaches to support the successful academic trans-

ition of approximately 500, deliberately placed, at-risk students each academic year. Finally, we will share data (descriptive, inferential, and qualitative) from supported courses that substantiate our efforts and our students' success.

The Setting for this Collaborative First-Year Program

The Academic Achievement Center is a bright, comfortable, open space that occupies 9,000 square feet on the ground floor of the college's library. In this environment, offices and expansive areas are combined to allow students access to services in advising, testing, disabilities resources, study, research, writing, mathematics, technology, communication, adaptive technology, tutoring, and English as a second language (Figure 1). The Academic

Achievement Center is administered by a director and two assistant directors. Faculty, with alternate assignments from their teaching responsibilities, direct learning assistance services in communication, study and research, writing, mathematics, and English as a second language. Full-time personnel and faculty members from various academic disciplines provide advising services. Additional assistance in

disabilities resources and testing are given by full-time staff, while undergraduate and graduate students, fulfilling work study and assistant positions, work directly with the students who frequent the Academic Achievement Center. The expansive, open space arrangement of the AAC is most conducive to collaboration between the center's administrators, faculty directors and advisors, and student assistants.

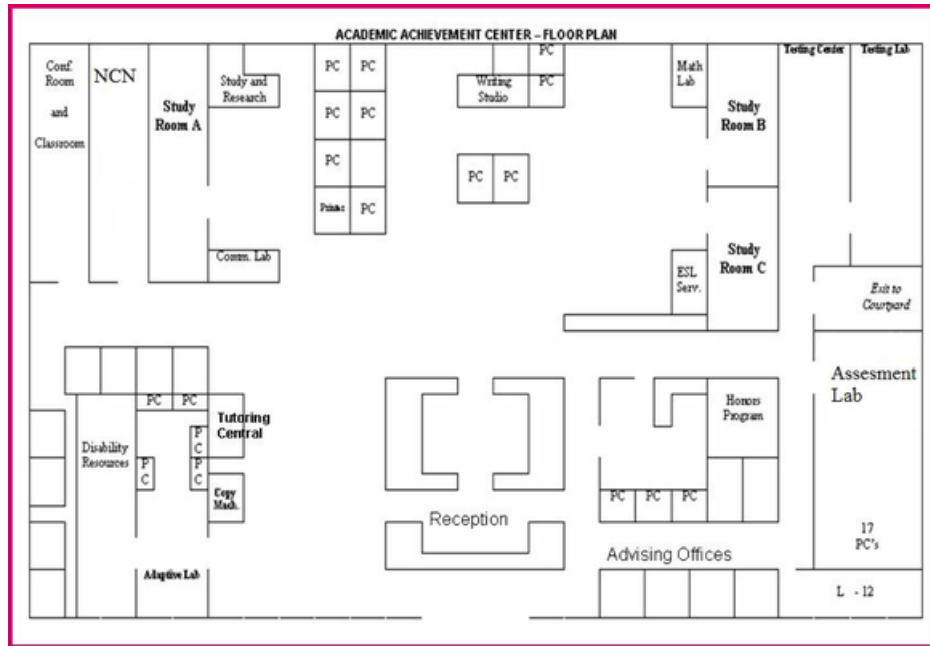


Figure 1

The present physical environment and philosophy of support at the Academic Achievement Center have only been in existence since 2001. Prior to this time, academic services were housed awkwardly within the library, providing little opportunity for collaboration and discussion between the personnel who provided the services. First-year students, whose performance on college entrance testing deemed them "at-risk" for college learning, were placed in three specially designed Freshmen Skills (FRSK) courses. FRSK 100 featured intrusive advising and college-level study skills; FRSK 101 provided students with an intensive review of basic reading and writing skills; and FRSK 102 gave students individualized, self-paced practice in arithmetic, algebra, and geometry. Often students, particularly those from under-resourced high schools, found themselves in all three courses, effectively marginalizing them from the mainstream student population (London, 1989). The credits from these courses could not be used to satisfy general education requirements, so students were delayed in starting courses which would count toward general education requirements or their content major. Faculty, on alternate assignment, taught Freshman Skills courses or provided services in individual "laboratories," where remedial instruction

was given, based on repeated practice of isolated skills.

Changing beliefs about teaching and learning (Brooks, J. & Brooks, M., 1999; Jenkins, 1978) led to changing identities regarding supportive services at this college, which was founded in 1840 and includes a student population of 10,000 undergraduate and graduate students, 300 full-time faculty, and four academic schools. This new humanist and constructivist philosophy (Brooks, J. & Brooks, M.) was instrumental in the Reading Lab becoming the Reading Center and subsequently Study and Research Services, and the Writing Lab becoming the Writing Center or Writing Studio. These centers gradually evolved as places where students dropped in for one-on-one learning assistance in their coursework. Instead of workbooks, faculty directors and undergraduate and graduate assistants worked with the students' own textbooks to teach and model strategies specific to the students' immediate academic needs. Consequently, faculty directors of these centers established close ties with teaching faculty to promote a clearer understanding of these services and to offer assistance to students in their courses. As a result, the centers also began to take on a more social flavor—students began to use the centers as places to

meet and study together (Tinto, Goodsell Love, & Russo, 1994).

This interactive, collaborative model of instruction and learning (Brooks, J. & Brooks, M., 1999) combined with poor retention and completion rates of students placed in Freshman Skills courses caused the administration at this college to make a bold and innovative commitment to advising and learning assistance services. In 2001, after years of research and planning, the college's Academic Achievement Center, as it exists today, was developed. Along with this new space, was a new definition of support services to first-year students (Arendale, 2000; Duranczyk, Higbee, & Lundell, 2004; Tinto, Goodsell Love, & Russo, 1994; Upcraft, Gardner, & Barefoot, 2004).

As the new Academic Achievement Center was designed, definitions of student services were re-defined (Boylan, 2002). Having become increasingly troubled by the incongruence of FRSK courses that marginalized students and delayed their academic progress, the college discontinued FRSK courses. First FRSK 100 and later FRSK 101 were linked to regular credit-bearing core courses. A model of supplemental instruction (Boylan; Martin & Arendale, 1994) was established that was directly linked to specific sections of English 101 courses. In this model, course content is supplemented through weekly meetings in study skills instruction, writing instruction, book clubs as well as meetings with peer advisors. An additional section of ENGL 101 (ENGL 101XL), taught by faculty in the Department of English and focused in the development of reading and public speaking skills, was created for students who entered college speaking languages other than English.

In addition to attaching supportive assistance to specific sections of English 101, math coaching has been added to certain sections of pre-calculus courses (MATH 100). Students requiring these supportive math services are those who perform below criterion on state-mandated Accuplacer testing, and whose declared majors (science, technology, and mathematics) require calculus. Math coaching as well as the supplements offered through specific English 101 sections are now providing appropriate support mechanisms for students.

Faculty, who direct the supplemental instruction, are full-time instructors from various academic departments and are on alternate assignments for three to six credits each semester. These faculty directors meet with the Academic Achievement Center administrators on alternate weeks throughout the year. In these meetings, high school and college placement test data are used to identify students who will benefit from additional support in their first college semester. Academic Achievement Center administrators and

faculty directors track the services closely throughout each term, monitor student achievement, follow cohort groups in subsequent semesters for comparative purposes, and explore possibilities for new ways to collaborate and serve the needs of more students. We will now describe these supportive courses in English and mathematics, additional assistance to students from the Communication Lab and through English as a Second Language (ESL) services, and the over-arching support provided from academic advising.

Targeted English 101

Our targeted version of English 101, a four-credit course, replaced a Freshman Skills course for which students received no credit. There are several components of our targeted English 101 program. First, students have weekly, required meetings (one-on-one or in small groups) with a writing fellow, an advanced undergraduate student, who supports the writing the students complete in the targeted English 101 class. Next, students meet weekly in small groups of five with a graduate assistant from the Academic Achievement Center's Study and Research Services, who coaches these undergraduates regarding the implementation of relevant and useful study skills and research strategies. Additionally, small groups of targeted English 101 students meet weekly with a volunteer facilitator in a book club (McMahon & Raphael, 1997) to discuss a novel the students had previously self-selected in class. Finally, each freshmen student in targeted English 101 is assigned a peer advisor, an undergraduate student, who provides a connection between the targeted English 101 students, the course instructor, and the student's academic advisor. The peer advisor becomes a "critical friend" to the targeted English 101 student when the student has missed several classes, has not submitted course work, or is not attending supplemental components attached to the course.

There is specific training involved for book club facilitators, study session leaders, and writing fellows. During the summer preceding the start of each fall semester, the Academic Achievement Center Director and Assistant Directors solicit volunteers from every academic department on campus to be book club facilitators and/or co-facilitators. These book club facilitators and co-facilitators often include different college vice presidents, school deans, librarians, ancillary support staff, and faculty. In late August before the beginning of the new academic year, the faculty director of the AAC's Study and Research Services conducts a two-hour training session for all book club facilitators and co-facilitators. At this training session, the rationale for book clubs (Daniels, 2002; McMahon & Raphael, 1997;

Rosenblatt, 1995; Roser & Martinez, 1995) is explained; the book choices for book clubs are shared; possible behaviors displayed by first-year, at-risk college students are described; and a simulated book club is practiced. While the facilitators and co-facilitators feel prepared for the start of book clubs, periodic meetings take place throughout the fall semester between the faculty director of Study and Research Services, the faculty teaching targeted sections of English 101, and the book club facilitators and co-facilitators in order to discuss the book club sessions and refine facilitation skills. An enjoyable, culminating book club activity is a group presentation by the students in the book club to their professor and the other members of their targeted English 101 class. The book club facilitator and co-facilitator are the honored guests at these presentations and delight in watching the students' interpretation of the novel the book club read and discussed during the semester.

In like manner, study session leaders have an introductory workshop and then on-going training throughout the semester regarding optimal study and research skills to facilitate at weekly study sessions. Under the direction of the faculty director of Study and Research Services, the six graduate assistants from Study and Research Services learn how to become an academic coach for a group of five students from a targeted English 101 class. The graduate assistants are shown how to rely on their own exemplary study habits and are additionally taught various strategies for guiding these first-year students toward a successful college semester and college career. Some of the topics that are modeled/facilitated by the graduate assistants and practiced by the study session members are the effective use of a range of campus resources; the development and implementation of a calendar for course schedules and assignments; problem-solving techniques regarding course assignments and course activities; and the recognition of various factors that can influence college success such as peer pressure, economic hardships, and personal relationships (London, 1989; Nist & Simpson, 2000; Risko, Alvarez, & Fairbanks, 1991). Additionally, the graduate assistants learn, model, and facilitate various developmentally appropriate strategies (asking and answering questions, summarization, elaboration, organization of information, and metacognition and self-regulation, for example) that the students can apply, not only to their targeted English 101 course, but to their other college courses as well. Finally, in the different training venues for the study session leaders, the faculty director of Study and Research Services stresses the importance of forming personal relationships, where the coach (graduate assistant) and student are viewed as a team, who is working toward the same goal – the successful

completion of English 101 and a satisfying induction into college life.

The final type of training that is provided to AAC personnel, who give support to students in targeted English 101 sections, is the preparation of writing fellows. Writing fellows are chosen from a group of the Academic Achievement Center's Writing Studio consultants (advanced undergraduates and one graduate student), who have been hired by the Writing Studio based on these consultants' writing ability and interpersonal skills, and who have expressed a desire to work with at-risk writing students. The faculty director of the Writing Studio (Writing Center) first interviews each prospective writing fellow before the student is hired. During this interview, the prospective writing fellow participates in a mock writing consultation with the faculty director of the Writing Studio. This "practice" consultation, along with a post-consultation debriefing, enables writing fellow applicants to fine-tune their knowledge of strategies for writing effectively (Atwell, 1998; Calkins, 1994; Fulwiler, 2007). Next, once hired but before beginning his/her work, the new writing fellow meets with former writing fellows to discuss the challenges and solutions of working with undergraduate students in order to improve these undergraduates' writing skills. Finally, the new writing fellow participates in a several-hour orientation at which this writing fellow, with the guidance of the Writing Studio director, assesses the strengths and limitations of sample student work, reads a two-page handout regarding guidelines addressing how to be an effective writing consultant, and reads and analyzes transcripts of effective and ineffective consultations. This multi-faceted preparation allows each writing fellow to become an effective writing coach to the students enrolled in targeted English 101 course sections.

Math Coaching for Pre-Calculus: Math 100 and Pre-College Math: FRSK 102

Observing high drop/fail/withdraw rates in pre-calculus courses during the fall of 2004, the Department of Mathematics collaborated with the Academic Achievement Center to offer Math Coaching, which is support for selected incoming freshmen whose majors require calculus (science, technology, and mathematics). All incoming students are required to take a specific math entrance test. Students whose majors require calculus, and who do not pass this examination are placed in a targeted course – either MATH100: Pre-Calculus (four sections or 100 students each fall) or FRSK102: Pre-College Math (three sections or 75 students). The particular course in which the student is placed is dependent on the student's placement test score.

Similar to the book clubs of the successful targeted English101 program, the math coaching program splits each class of 20-25 students into five subgroups. Each subgroup meets with an undergraduate math coach for one hour per week at the Academic Achievement Center. Additionally, the math coach sits in on all student lectures, acting as a model student and occasionally helping with seat work and small group activities. Students see their math coaches in class for three hours per week, and thus, the coaches become familiar, accessible models of student success. Attendance at coaching sessions is mandatory and graded for this program to be effective. The Department of Mathematics' decision to implement this supplemental instruction program in this way was influenced by Uri Treisman's (1992) successful program at the University of California at Berkeley.

Math Coaches are recruited primarily by reviewing a list of math majors specializing in education. Those students with sufficient math backgrounds and high GPAs are invited to interviews over the summer, during which they are informed of the requirements and goals of the program. At present, formal training is limited to a few hours of informational sessions before the start of the semester and email support during the semester. In addition, all math tutors are invited to attend the Academic Achievement Center's Peer Tutor Training Program each semester. In the future, the Department of Mathematics hopes either to involve the School of Education in preparing and training tutors for the program and then recognizing their efforts with some sort of academic credit or to provide incentives for faculty to observe coaches during coaching sessions and advise the math coaches on their techniques.

Math coaching sessions are designed to promote the following study habits: regular completion of homework, collaboration with peers, time-on-task outside the classroom, and commitment to attend courses. Students with poor homework or attendance records are referred to their course's attached peer advisor for counseling. The math coaching program has the added benefits of familiarizing students with support services available at the Academic Achievement Center and giving them access to an experienced, successful role model in the person of the math coach.

Additional Support Offered to First-Year and Other College Students

In addition to the guidance and academic support offered to first-year students enrolled in targeted English 101, Math 100: Pre-Calculus, and FRSK 102: Pre-College Math, the Academic Achievement Center also provides assistance to students with oral

speaking anxieties by means of the Communication Lab and to students for whom English is a second language by means of ESL Services. Since the Communication Lab and ESL Services also are directed by faculty with alternate assignments and complement the work in Study and Research Services, the Writing Studio, and in Math Services, the purpose and support offered by the Communication Lab and ESL Services will now be discussed.

The Communication Lab lends support for oral communication activities that occur in conjunction with college course speaking requirements. The assistance is provided for Core Curriculum Spoken Communication Requirements, Speaking Intensive Second Year Seminars, and any other course that requires class presentations. Students may receive assistance with topic selection, selection of supporting evidence, outlining, and presentation practice. Since communication anxiety is a normal reaction to the stress of presentation, there is not an instrument to measure when a student will need assistance (Miskelly, 2002; Morello, 1997; Nicosia, 1997; Roland et al., 2000; Rubin, 1983; Rubin et al., 1990). Individuals have varying tolerances for speech anxiety (Morello; Roland; Rubin; Rubin et al.). Students in the Communication Lab self-identify their need for assistance.

The services in the Communication Lab parallel the services offered in the other learning assistance areas. Communication anxiety is a problem for a large percent of the student population (Morello, 1997; Roland, 2000; Rubin, 1983; Rubin et al., 1990). Students who wish to prepare for presentations in order to reduce anxiety during their presentations use the Communication Lab. The Communication Lab uses pretests and self-reports of speech anxiety to ascertain student needs. Also, there are follow-up interviews to determine the student's success with oral assignments. Once the oral presentation has been given, the majority of students return for assistance with other assignments. The instructors of courses that require presentations are interviewed to determine their evaluation of student performances. Peer Tutors and the Communication Lab director maintain a constant dialog regarding the services sought and client reactions.

In the fall of 2000, our college recognized a need to offer English language support to students for whom English is a second language. A faculty position was created to coordinate Second Language Services in the Academic Achievement Center and to work on curriculum issues. To strengthen this new position and to provide better communication between faculty and staff, the faculty initiated the creation of the ESL Advisory Board, an interdisciplinary, college-wide committee that develops, exam-

ines, and proposes changes related to ESL populations.

Through the collaborative effort of the ESL Advisory Board, our college has adopted the ESL placement policy that ensures a fair evaluation of students' language skills through standardized and on-campus individualized assessment tools and places students accordingly in an appropriate level of ESL and writing. Students complete zero to six credits in ESL and enroll in the ESL section of Writing 101. Credits earned in ESL count toward the completion of the Core Curriculum Requirement in Humanities and/or in Global Culture and Multiculturalism. This indicates to students and faculty that the work conducted in these ESL courses is not remedial but is an expression of intellectual curiosity, personal freedom, and dedication that ESL students bring with them on campus.

The ESL courses taught through the Department of English are focused on the development of reading and public speaking skills. Students participate in small- and large-group discussions, make group and individual presentations, and complete reading and writing assignments. The targeted ESL section of Writing 101 is fortified by several innovative approaches, some of which are similar to those applied in the other targeted courses, and some of which are specific to the needs of ESL students. ESL students work with a writing fellow, have a conversation partner, and have access to ESL tutoring. The work students do in their ESL courses is directly relevant to their work in the writing class. In ESL courses, students are encouraged to complete assignments that emphasize different language skills as they explore content material in reading, writing, and discussions (Brisk & Harrington, 2000; Piper, 1993; Spangerberg-Urbschat & Pritchard, 1994). The emphasis is put on consistent editing and revision as well as self-correction in both speech and writing. Throughout their work in class and with tutors, conversation partners, and writing fellows, students acquire effective language learning strategies (Brisk & Harrington; Piper; Spangerberg-Urbschat & Pritchard) that they transfer to other courses. In both types of courses, students are taught how to be introspective and how to evaluate their progress in English. Peer tutors and conversation partners who work with ESL populations receive support and training through informal sessions with the faculty director of Second Language Services. Through this training, tutors become aware of students' needs and begin to understand how to effectively address these needs in tutoring sessions.

The First-Year Advising Program

The first-year advising program is a direct connection to and an impetus for the faculty-directed services offered to first-year students at our college's Academic Achievement Center. The advising staff works under the direction of one of the assistant directors at the Academic Achievement Center and consists of full-time advisors; faculty from all academic disciplines who are on alternate assignments; and graduate assistants, who usually are counseling or social work majors. The advising staff meets weekly with the Director and Assistant Directors of the Academic Achievement Center to discuss and refine advising services. The advisors also periodically meet throughout an academic year with the AAC's faculty directors in order to provide connected and collaborative services to all first-year students.

Prior to the start of each academic year, the advisors assess all newly matriculated first-year students for their proficiency in reading, writing, and mathematics. By utilizing assessment data in reading, writing, elementary algebra, and college level mathematics, advisors place students in the necessary writing and/or mathematics courses based on the students' skill levels. In cases where a student demonstrates the need for additional academic support, trained faculty and professional advisors guide students through the process of selecting appropriate courses and ensure students understand the mandatory supplemental components attached to the respective course such as those associated with targeted English 101, Math 100, and FRSK 102. Typically occurring at the New Student Orientation Program, advisors communicate the benefits of supportive courses at least twice in the registration advising process for selection of first-semester courses. All students, and especially those in these special placement courses, are encouraged to balance their academic course load (McLaren, 2004). Students, therefore, consider what each course will require of their time, how many credits are feasible, what other priorities could interfere with their academic schedule, and a host of other factors that may be of concern.

Moving into the first semester of an academic year, a structured, first-year advising program includes an additional contact for students placed into specialized, targeted courses. From the second to the fourth week of the semester, students' first-year advisors invite the students to meet and discuss goals for the semester. Since the students have already demonstrated a need for additional academic support, it is vital that the advising program dedicates more time and energy to assisting this population. The advising session focuses on academic enhancement for the first semester, a foundation point for these students' remaining academic careers. By assessing

the students' impressions of their first semester course load and its challenges, advisors provide students with initial strategies to continue the students' progress towards academic success. A discussion of short- and long- term goals is then followed by highlights of how this college experience fits into the students' future plans. Finally, a tour of the learning assistance areas at the Academic Achievement Center connects the students to the support they may need in any of their courses throughout the semester. This supportive advising experience allows students to recognize that their educational program is a partnership as they are not in it alone (Sanford, 1962).

Impact of Services Provided to Students in Targeted Math and English Courses

Since 2004, approximately 1300 students have received supplemental instruction as a result of their

placement in targeted sections of English and math courses. On average each year, 140 designated students (peer advisors, writing fellows, conversation partners, study session facilitators, math tutors, etc.); faculty; and administrators collaborate to provide this support. Descriptive data for retention and academic persistence show the gap between targeted students and students overall is closing. These data suggest that as a result of their targeted first-semester experience, students have reduced the incidence of dropping, failing, withdrawing from, or receiving an incomplete in subsequent courses. (See Tables 1 and 2 for Targeted English 101 data, Tables 3 and 4 for Targeted Freshman Skills Math 102, and Tables 5 and 6 for Targeted Math 100: Pre-Calculus.) We have highlighted targeted English and math courses as we have substantial evidence of students' subsequent academic success from participating in these supportive courses.

Table 1: Outcomes for Targeted English 101

	Targeted English 101 Students 2005 F	Targeted English 101 Students 2006 F	Targeted English 101 Students 2007 F	Students Not in Targeted English 101 Section 2005 F	Students Not in Targeted English 101 Section 2006 F	Students Not in Targeted English 101 Section 2007 F
Drop/Fail/Withdraw/Incomplete Rate	18%	19%	12%	16%	15%	12%

Table 2: Success Rate for Targeted English 101 Students

	Targeted English 101 Students 2005 F	Targeted English 101 Students 2006 F	Targeted English 101 Students 2007 F	Students Not in Targeted English 101 Section 2005 F	Students Not in Targeted English 101 Section 2006 F	Students Not in Targeted English 101 Section 2007 F
Success Rate	82%	81%	88%	84%	85%	88%

Table 3: Outcomes for Targeted Freshmen Skills 102 (TFRSK Math)

	TFRSK Math 102 Students 2005 F	TFRSK Math 102 Students 2006 F	TFRSK Math 102 Students 2007 F	Students Not in TFRSK Math 102 2005 F	Students Not in TFRSK Math 102 2006 F	Students Not in TFRSK Math 102 2007 F
Fail/Withdraw Rate	19%	27%	14%	15%	21%	19%

Table 4: Success Rate for Targeted Freshmen Skills 102 (TFRSK Math)

	TFRSK Math 102 Students 2005 F	TFRSK Math 102 Students 2006 F	TFRSK Math 102 Students 2007 F	Students Not in TFRSK Math 102 2005 F	Students Not in TFRSK Math 102 2006 F	Students Not in TFRSK Math 102 2007 F
Success Rate	81%	73%	86%	85%	79%	89%

Table 5: Outcomes for Targeted Math 100 Students

	Targeted Math 100 Students 2005 F	Targeted Math 100 Students 2006 F	Targeted Math 100 Students 2007 F	Students Not in Targeted Math 100 Section 2005 F	Students Not in Targeted Math 100 Section 2006 F	Students Not in Targeted Math 100 Section 2007 F
Drop/Fail/Withdraw/Incomplete Rate	35%	47%	26%	50%	27%	29%

Table 6: Success Rate for Targeted Math 100 Students

	Targeted Math 100 Students 2005 F	Targeted Math 100 Students 2006 F	Targeted Math 100 Students 2007 F	Students Not in Targeted Math 100 Section 2005 F	Students Not in Targeted Math 100 Section 2006 F	Students Not in Targeted Math 100 Section 2007 F
Success Rate	65%	53%	74%	50%	73%	71%

In addition to the data represented in the previous tables, we performed the Two-Variable Chi-square test (Ary, Jacobs, Razavieh, & Sorensen, 2006; Shavelson, 1996) to the drop/fail/withdraw/incomplete and success rates for students enrolled in targeted sections of English 101, to the failure/withdraw and success rates for students enrolled in targeted Freshmen Skills Math 102, and to the drop/fail/withdraw/incomplete and success rates for students enrolled in pre-calculus (Math 100) during the fall semesters of 2005, 2006, and 2007. "The purpose of [this inferential statistical] test is to determine whether or not the two variables... are independent of one another" (Ary et al., p. 208). The larger the Chi-square statistic is, the greater the variability and statistical difference between the groups being compared. As displayed in Table 7, the drop/fail/withdraw/incomplete rates and success rates are close for students enrolled in targeted sections of English 101 as compared to students enrolled in

regular English 101 sections (2005, $X^2=.15$, $p < .75$; 2006, $X^2=1.46$, $p < .75$; 2007, $X^2=.14$, $p < .75$). In like manner, the fail/withdraw/incomplete and success rates are close for students enrolled in targeted Freshmen Skills Math 102 as compared to students not enrolled in this course (Table 8; 2005, $X^2=.48$, $p < .75$; 2006, $X^2=.98$, $p < .75$; 2007, $X^2=.80$, $p < .75$). However, when the data are compared regarding the drop/fail/withdraw/incomplete and success rates for students enrolled in targeted Math 100, pre-calculus, and those students not enrolled in this course, there is disparity between the two groups, especially for fall semester 2005 and for fall semester 2006 (Table 9; 2005, $X^2=3.65$, $p < .75$; 2006, $X^2=14.35$, $p < .05$; 2007, $X^2=.33$, $p < .75$). As stated in the next paragraph, we are still examining the data for Math 100 to determine the exact reasons for the anomalies in these comparative data regarding students' performance in both targeted Math 100 and in non-targeted Math 100.

Table 7: Two Variable Chi-square Test Applied to Drop/Fail/Withdraw/Incomplete and Success Rates for Targeted/Non-Targeted English 101 Students

	Year	Number	D/F/W/I	D/F/W/I	Success Rate	Success Rate	df	X ²
		(N)	<i>Observed (O)</i>	<i>Expected (E)</i>	<i>Observed (O)</i>	<i>Expected (E)</i>		
Targeted ENGL 101	2005	108	18.94*	17.48	89.06*	90.52	1	.15**
Regular ENGL 101	2005	1049	168.34*	169.80	880.66*	879.20		
Targeted ENGL 101	2006	168	31.42*	26.15	136.58*	141.85	1	.146**
Regular ENGL 101	2006	1024	154.10*	159.37	869.90*	864.63		
Targeted ENGL 101	2007	182	21.50*	20.08	160.50*	161.92	1	.14**
Regular ENGL 101	2007	1241	135.52*	136.92	1105.48*	1104.06		
*-.50 Corrected for Continuity ** p<.75								

Table 8: Two Variable Chi-square Test Applied to Fail/Withdraw and Success Rates for Targeted Freshmen Skills 102 (TFRSK Math) Students and Non-FRSK 102 Math Students

	Year	Number	D/F/W/I	D/F/W/I	Success Rate	Success Rate	df	X ²
		(N)	<i>Observed (O)</i>	<i>Expected (E)</i>	<i>Observed (O)</i>	<i>Expected (E)</i>		
TFRSK 102	2005	72	13.18*	11.20	58.82*	60.80	1	.48**
Non-TFRSK 102	2005	446	67.40*	69.38	378.60*	376.62		
TFRSK 102	2006	75	19.75*	16.53	55.25*	58.47	1	.98**
Non-TFRSK 102	2006	357	75.47*	78.69	281.53*	278.31		
TFRSK 102	2007	83	12.50*	15.42	70.50*	67.58	1	.80**
Non-TFRSK 102	2007	466	89.48*	86.56	376.52*	379.44		
*-.50 Corrected for Continuity **p<.75								

Table 9: Two Variable Chi-square Test Applied to Drop/Fail/Withdraw/Incomplete and Success Rates for Targeted/Non-Targeted Math 100: Pre-Calculus Students

	Year	Number	D/F/W/I	D/F/W/I	Success Rate	Success Rate	df	X ²
		(N)	Observed(O)	Expected (E)	Observed(O)	Expected(E)		
Targeted Math 100	2005	54	19.40*	25.94	34.60*	28.06	1	3.65**
Non-Math 100	2005	359	179.00*	172.46	180.00*	186.54		
Math 100	2006	2006	51.67*	35.57	59.33*	75.43	1	14.35***
Non-Math 100	2006	329	89.33*	105.43	239.67*	223.57		
Math 100	2007	118	33.50*	36.07	84.50*	81.93	1	.33**
Non-Math 100	2007	389	121.49*	118.92	267.51*	267.51*		
*-.50 Corrected for Continuity ** p<.75 ***p<.05								

As these data for students in both targeted English and math courses are examined, it is clearly seen that these students are meeting academic success from being placed in supportive courses. While the findings reported here are limited to these students at this time and cannot be generalized, continued review and analysis of the data will identify the impact of intentionally structured academic support upon at-risk, first-semester freshmen. Particular attention is being given to the students in targeted Math 100: Pre-Calculus courses during fall semester 2006 when these students' drop/fail/withdraw/ incomplete rate was higher and their success rate was lower than students not in a targeted Math 100 section (Figures 6 and 7). While exact reasons for this anomaly have not been discovered at this time, data from this cohort of students will continue to be reviewed as they extend their college careers.

Just as important as the positive course success rates displayed in the quantitative data collected from first-year students who have participated in targeted sections of English and math courses is the change in attitude of these college freshmen. Through conversations with these students as they engage in targeted courses; interact in book clubs and study sessions; and work with math tutors, writing fellows, and peer advisors, these freshmen clearly believe they are successful college students. These students' beliefs are substantiated by the goal of having read an entire self-selected book, perhaps for the first time, in a book club, writing an essay that is recognized for excellence by both peers and college faculty, or by achieving understanding of math concepts that can be applied to future course work and career skills. Although we have not performed any quantita-

tive measures regarding these affective aspects of the students' success in targeted English and math courses, this is certainly an area that could be investigated in the future.

Future Plans

While we are proud of the success of first-year students as they participate in targeted English and math courses at this college and receive support from the Communication Lab, ESL services, and first-year advising, we are constantly seeking ways to perfect and extend this first-year student support. We have recently developed an interdisciplinary, one-credit course, which will move our supportive model to a more formal organization, will institutionalize support for first-year students, will acknowledge students' additional course work, will recognize the additional workload of faculty who teach targeted course sections, and will identify challenging courses to which this supportive model may be applied. Additionally, we plan to extend this innovative support model for college freshmen through collaboration with other faculty on campus as we seek to formalize the math coaching experience as part of pre-service teacher education, and as we invite faculty into an open dialogue regarding student learning. With ongoing and unwavering support from the administration at our college and at the Academic Achievement Center as well as through continued faculty collaboration, we hope to explore many new possibilities in supplemental instruction in order for all first-year college students to become successful learners and productive members of a global society.

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