

# **The Academic Intervention and Mentoring Model: A comprehensive academic initiative for at risk first-year students**

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**Abstract--Utilizing a multi-pronged approach, the Academic Intervention and Mentoring (AIM) program tackles retention challenges for at risk, first-year students. The model targets difficult course content, underdeveloped study skills, and other factors that often put first-year students at risk. Supplemental Instruction is offered in historically challenging first year courses – those with a high D, F, W (withdrawal) rate or sequential courses like mathematics or computer programming – in order to improve study habits, peer learning relationships, and academic performance. Similarly, the AIM program provides drop-in peer tutoring for challenging content courses such as mathematics and physics. This service is provided directly in the residence halls, where most first year students live. Finally, the AIM program offers additional support for at-risk students, those with a D, F or W grade in their first year of college, by offering them a learning assistant who works with them individually to design an action plan to assist with the coordination of campus support services through a case management model. The AIM program has completed a two-year pilot with great success, including positive persistence and academic performance indicators.**

## **Introduction**

Based on consistent and compelling evidence that first year students with low performance indicators – specifically D or F grades and/or course withdrawals (W) – were at a greater risk for attrition, the leadership of Rochester Institute of Technology (RIT) designed a new initiative to address these risk factors. The Academic Intervention and Mentoring (AIM) program has three major components which are designed to address varying aspects of academic challenge. The three major components include Supplemental Instruction (SI) for historically challenging courses, content area tutoring in mathematics and physics, and individualized academic support via a learning assistant role. Together these elements address concerns stemming from poor study and learning skills, deficits in content area mastery, and challenging course material and delivery while supporting the student's overall growth. Additionally, this initiative benefitted from actively engaged senior leadership and an organizational model that intentionally spanned both the academic and student affairs' divisions. Outcome data from the two-year pilot indicate the initial success of each of these components based upon usage/participants rates, and indicators of persistence and academic performance.

## **Background**

From the inception, the AIM program sought to offer seamless academic and developmental support in an engaging and multi-layered approach. Initial planning focused on a program that would provide students with traditional academic support, peer interactions, and the assistance of a professional learning assistant to support student growth and development. The AIM program, co-sponsored and co-led by academic affairs and student affairs, sought to intentionally support first year learning in order to reduce D, F, and W grades in the first year and increase graduation rates.

The authors were charged to develop this program based on their divisional affiliations, one in student affairs, the other in academic affairs, and their experiences with academic, transitional, and assessment programs. The authors hold a breadth of practical experience and knowledge of research in academic support services, learning assistance techniques, First Year Enrichment (FYE), learning communities, SI, developmental academic advising, and assessment. In order to develop a program that would be beneficial to students, as well as embraced and valued by the institution, the authors consulted existing literature and best practice, with a focus on collaboration and excellence. The following section will share salient and meaningful research that serves as the underpinnings of the program.

Student engagement in college is widely accepted as integral to academic success and persistence (Pascarella & Terenzini 2005, Kuh 2007). However, it is not uncommon for first year students to experience individual courses as separate entities with no relevance to other courses; students may also find themselves disconnected from a consistent group of peers (Tinto, 1999). Astin's (1999) involvement theory includes the belief that "the amount of student learning and personal development associated with any educational program is directly proportional to the quality and quantity of student involvement in that program" (p.519) . Some first year initiatives, such as FYE and learning communities, have been implemented to help build connections inside and out of the classroom. Through discussion and thoughtfully planned curricula, these initiatives may help students find meaning and relevance in their own college education. Research indicates that students are more likely to graduate from institutions that provide academic, social, and personal support to their students (Tinto, 1999). The AIM program recognizes that in order to assist students, we need to foster student engagement and involvement on multiple levels—from encouraging communication and interaction with faculty to providing students the opportunity to talk with their peers in a student-run discussion about their coursework.

*Learning Reconsidered* (2004) posits the whole campus as a learning community, and an argument is made for an integrated definition of student learning to incorporate both academic learning and student development into the educational experience (ACPA & NASPA, 2004). As the AIM program evolved, this concept was imbedded in communication, materials, and training agendas.

The Center for Postsecondary Research at Indiana University's DEEP (Developing Effective Educational Practice) project identified effective educational practices at strong performing colleges and universities. These schools, known as DEEP institutions, recognize that partnerships between student affairs and academic affairs benefit students by creating strong and supportive--rather than isolated and competitive--learning environments that benefit students (Kuh, Kinzie, Schuh, Whitt & Associates, 2005). These institutions model excellence through academic rigor, collaborative learning relationships and innovative practices.

The Policy Center on the First Year of College established criteria for institutional excellence for the first year of college, and, through a detailed selection process, identified thirteen exemplary colleges and universities that have committed to institutionally relevant approaches to the first year experience (Barefoot, et.al, 2005). In addition to some of the more common first year initiatives at institutions of excellence such as first year seminars, learning communities, orientation, and core curriculum, Supplemental Instruction was also included as an initiative that contributes to excellence in the first year (Barefoot, et.al., 2005).

Supplemental Instruction is a well established model of academic assistance. It allows students another layer of interaction and academic integration while providing important transitional and academic support. SI leaders may introduce learning and study strategies in SI sessions, including how to take good notes, cooperating in group assignments, test review, navigating a course syllabus, and using a text as a

study tool (Martin, Arendale, & Associates, 1993). The University of Missouri-Kansas City (2007) provides Supplemental Instruction's goals: "improve student learning; reduce rates of attrition within targeted historically difficult courses; increase graduation rates" (slide 2). In sharing 2003-2006 national data, The University of Missouri-Kansas City reported that students who use SI earn higher final course grades and withdraw from courses less frequently than students who do not attend SI; data also indicate "higher reenrollment and graduation rates" for students who use SI (slide 5). The correlation between SI use and decreased D, F, and W grades, as well as the correlation between SI use and higher incidence of reenrollment and graduation, provided evidence for incorporating SI in the AIM program design. An additional compelling reason to utilize SI was demonstrated by the opportunity to increase student engagement and involvement through modeling and support provided by SI leaders.

Adelman (2006) articulated three important benchmarks to inform advising and intervention: a minimum of twenty credits earned by the end of the first calendar year of enrollment, the quality of persistence in the second year and beyond, and the use of summer term to increase the likelihood of graduation rates. The AIM program attempted to intervene by setting up a program to help reduce D, F, and W grades, strengthen study skills and learning behaviors for success throughout college, and reward successful students with a summer tuition waiver.

## **Model**

The AIM model was developed to specifically target the first year student population in order to eliminate or greatly reduce D, F, and W grades. Recent institutional data revealed that students with D, F, or W in their first year had two year attrition rates of 28.8% compared to only 8.2% for those students with stronger academic standing. By reducing failing grades and withdrawals early in a student's academic career there is an opportunity to avoid a low grade point average which can be difficult to overcome later, reduce the need to repeat courses which could artificially extend time to graduation, and increase self-efficacy. Specifically, the parameters and goals for the AIM program were to:

- Reduce the D, F and withdrawal grades in historically difficult or sequential first-year courses
- Provide individual interventions and support for first year students with D, F course grades
- Increase the availability of tutoring for first year students by expanding services in evenings and residence hall locations

In both years of the two-year pilot, the SI, learning assistance and tutoring components were available and followed the same basic protocols. In year one, however, the entire AIM program was incentive-driven which influenced certain program decisions and protocols. Free summer tuition was made available to those students who completed all of the AIM requirements such as attending SI for appropriate courses, meeting with an AIM Learning assistant or attending study skills workshops. Given the nature of the incentive plan, it was necessary to have contracts with students and to strictly monitor participation. The staff working with the AIM program felt strongly that the restrictiveness required to maintain the incentive-based model was problematic and should be eliminated in year two. In the second year, all program elements were the same except for the incentive model. There was no tuition waiver option for the year two cohort. Participants in year two were able to take advantage of SI, learning assistance and tutoring and the program closely tracks activity and outcome data, but the contracts and strict requirements were removed.

## **Supplemental Instruction**

The Supplemental Instruction design at RIT was based on the national model created at the University of Missouri-Kansas City's International Center for Supplemental Instruction. SI was placed in primarily first-year courses with a history of high D, F, or W rates. All courses and sections selected to include SI

were reviewed and approved by the academic departments as well as the AIM staff. Under this initiative, SI leaders were undergraduate students who had previously demonstrated a high level of performance in the related course. Faculty reviewed and approved all applicants who were hired. On a weekly basis, SI Leaders attended class to observe and identify barriers to the students' learning, held two one-hour study sessions, and attended weekly SI leader training session. SI study sessions were facilitated by SI leaders to help students process and consolidate course content and learn how to adapt study skills for the course.

Evaluation of SI included regular assessment of:

- SI session attendance
- Grades of students in SI supported sections
- Persistence of students in SI supported sections
- Feedback from SI Leaders via clipboard survey
- Evaluation of SI experience from faculty members in supported courses
- End of quarter survey to students in supported course regarding their experience with SI
- SI Supervisor's evaluation of SI Leaders

### **Learning Assistance**

Learning assistance at RIT was based on a case management and intrusive intervention framework. The goal for this component of the AIM program was to intentionally target first year students with D, F or W grades with an overall GPA of no less than 2.0. Program staff have come to refer to this group as those who "have stumbled, but not fallen". RIT had other initiatives in place for the highest risk group of students (below a 2.0) that are more intensive in scope and commitment. AIM was designed to address those students with at-risk indicators but who were not yet on a clear path to suspension. This component supported students in making meaningful connections with resources, information, and their own learning.

Students who received a D, F, or W grade in the previous quarter were invited (email and hard copy invitation) to participate. Specifically, the process began with a formal intake meeting which allowed the learning assistant to understand the student's complete background and the factors that may have contributed to their academic difficulty. Additionally, the learning assistant completed a mid-quarter and final report to ensure that students received ongoing feedback and communication about their progress, course grade status and clear, concise recommendations for improvement. This information was provided in a narrative report to each student, was shared with students' academic advisors, and, when appropriate, disseminated to other professionals with whom the student had worked.

### **Tutoring**

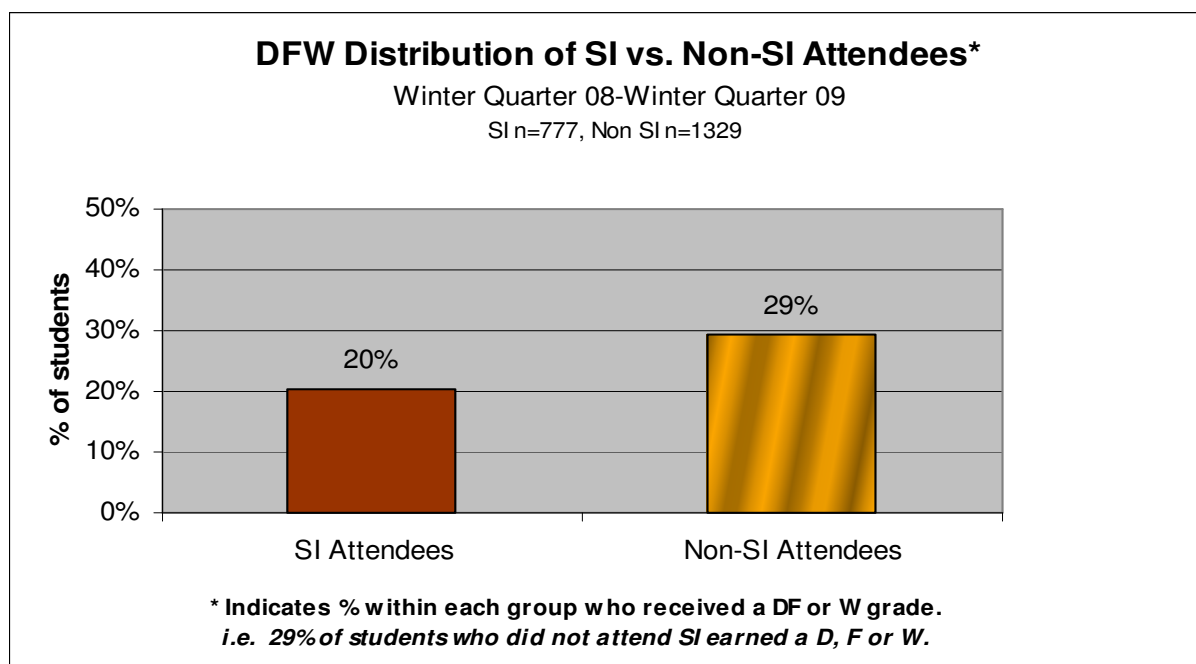
In order to supplement existing math, physics and study skill support offered by the Academic Support Center at RIT, the AIM program allocated resources to offer the services in new locations and during evening hours. Traditional peer-lead math and physics tutoring was offered Monday through Thursday evenings in the main residential area of campus where most first year students live. In addition, professional staff offered evening study skills workshops on note-taking, test taking, time management and other topics.

### **Outcomes**

Considerable and broad reaching assessment was conducted from the beginning of this initiative and provides evidence of success and a rationale for continuing the efforts. Although many formative assessments such as satisfaction surveys or mid-quarter reviews were implemented, the primary and summative outcomes were intentionally aligned to the major program goals.

Goal #1 Reduce the D, F, W rates in historically difficult or sequential first-year courses.

During the two year pilot, 64 course sections were supported with SI. From these sections, 777 students attended at least one SI session. Results show that SI attendees were 10-15% less likely to receive a D, F, or W in the supported course. 20% of the attendees compared to 29% of the non-attendees received a D, F or W.

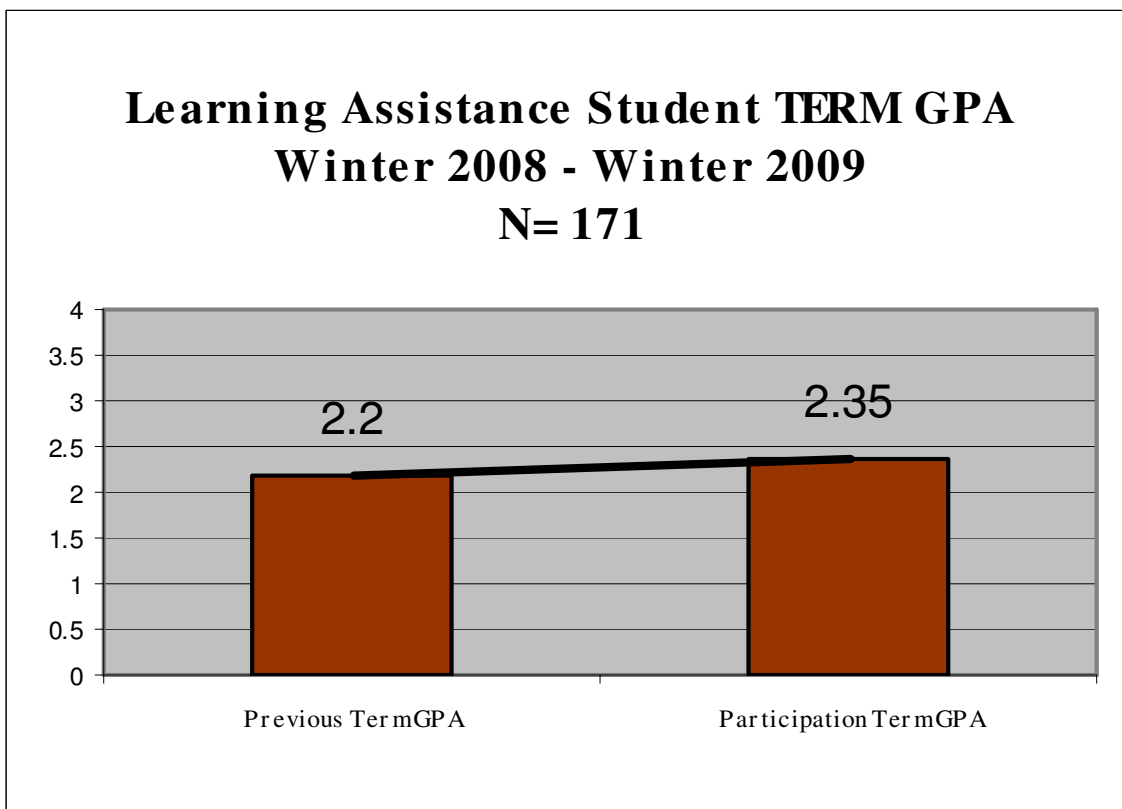


In addition to the quantitative data, the following observations were drawn from the student, faculty and staff surveys, and from an analysis of the student data base for SI participants.

- SI helped students at various levels of academic need.
- Regular participation in SI assisted in lowering the chance of receiving a D, F, or W in the supported course.
- SI session attendance was positively affected by the SI leader's ability to connect with the students and by their relationship with the faculty member.
- Faculty and department buy-in to the program was imperative to the success of the SI in the supported course.
- Students struggling with a large amount of course content benefitted from SI, but also needed more intensive tutoring.

Goal #2 Provide individual interventions for first-year students with D, F, & W grades.

During the two year pilot, 171 students participated. The term GPA for participants rose from an average of 2.22 in the quarter prior to participation to a 2.35 for the term of participation.



Through qualitative assessment and observations, it was found that Learning Assistance participants could be broken up into three groups:

- High risk (2.3 GPA and below): needed more intensive intervention
- Medium risk (2.3-3.0 GPA): were the best fit for program
- Low risk (3.0 + GPA): did not need services as frequently

Goal #3 Increase the availability of tutoring for first-year students by expanding services in evenings and residence hall locations.

Between winter 2008 and winter 2009, 2445 students took advantage of the tutoring options in math, physics and study skills. High attendance supported the assumption that there was a need for math and physics tutoring on the residential side of campus. With a lack of accessible and group-friendly study spaces in the residence halls, an alternate location for students to study outside of their rooms has proven to be effective. It is important to note that even with the addition of tutoring services in the evenings and in the residence halls, the main Math Lab did not experience a decrease in use.

## Discussion

The AIM program has quickly become a well-respected model of collaborative student support at RIT. Data-sharing at the end of every term has provided faculty, staff, and students a transparent view of the program's services and support initiatives. The clarity of information paired with the program staff's eagerness to collaborate has strengthened the reputation of the services provided by the AIM program. Additionally, the data itself indicates that the initiatives of the AIM program support student success by reducing D, F, and W grades and fostering independent learning.

Shared administrative responsibility across academic and student affairs ensures a rewarding and dynamic program. Cross-divisional collaboration at all levels, including senior leaders, professional administrators, and student support professionals, creates a robust, carefully crafted, and meaningful student success program. However, a shared leadership model also presents challenges. Day to day administrative tasks may become challenging and time-consuming because of dual budgets, shared decision-making, and split reporting structures. A shared model of leadership requires constant communication in order to be seamless and successful. If an institution is considering the implementation of a shared model, deliberate efforts to communicate consistently and clearly must be made on a regular basis.

The model presented may be adapted by institutions interested in strengthening services for high-risk students and/or students in transition. By intentionally linking academic support and developmental support through a menu of services, initiatives such as the AIM program support students' holistic growth, and may help students to integrate their learning inside and outside the classroom.

An additional outcome of the initiative has been the positive experiences SI offered to the SI leaders. Though the program focused primarily on the benefits of SI for the student attendees, it quickly became apparent that SI leaders also benefitted from the opportunity to connect with faculty and gain valuable leadership skills while providing an academic support role for their peers. SI leaders are often the same students who have been recognized for their academic excellence. It is a privilege to offer these students the opportunity to model strong study behaviors, facilitate peer learning, and build meaningful relationships with students and faculty on campus.

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