

## **Final Report**

The Development and Pilot of *Making the Connection*, a  
Model for Engaging and Retaining Community and  
Technical College Students: R305A090122



Institute on Community Integration

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**COLLEGE OF EDUCATION  
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Institute of Education Sciences

## Final Report

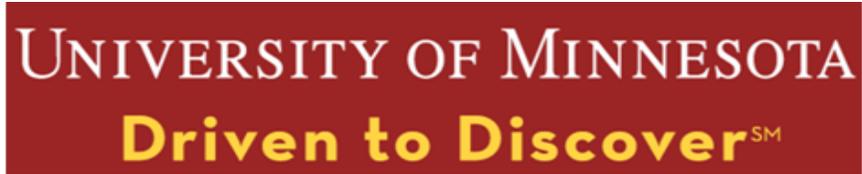
# The Development and Pilot of *Making the Connection*, a Model for Engaging and Retaining Community and Technical College Students: R305A090122

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Institute on Community Integration

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This Final Report summarizes the activities of Making the Connection Project, Institute on Community Integration (ICI), College of Education and Human Development, University of Minnesota, Minneapolis.

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## Executive Summary

This final report describes the development, pilot testing, and outcomes of Making the Connection, a model for engaging and retaining students in community and technical colleges using small group support and individual mentoring. Making the Connection is adapted from Check & Connect, an evidence-based student engagement mentoring intervention that has been used in a variety of K-12 settings. Through an iterative development process, a research team from the Institute on Community Integration in collaboration with the Department of Educational Psychology at the University of Minnesota developed and pilot tested a model at two authentic sites, The Minneapolis Community and Technical College and Jefferson Community and Technical College in Louisville, Kentucky. The development and pilot testing resulted in a final model for Making the Connection that has four components:

- 1) Small group and individual mentoring
- 2) A mentor/small group leader who keeps the focus on achieving students' academic career goals;
- 3) Systematic self-monitoring by students with feedback from the small group and mentor;
- 4) Intentional, timely, personalized "interventions" designed to help students stay on goal.

Data collected in the pilot studies both directed the development and support the final model. For example, the small group was perceived as a way to create social relationships (Karp, 2011) that dealt with the isolation non-traditional students often experience. The mentor was a key component that helped students identify, focus, and work towards academic career goals. Mentors ran the small group with a coaching approach and were available to students

individually outside of the group. Students learned to self-monitor their progress towards their goals, and most reported that the small group and mentor were critical for learning to do this. Finally, interventions were developed within the peer small group but also with the mentor individually, as needed in all cases.

Institutional comparative data supported the potential of the intervention. Participants did better than a large comparison group on their term GPA, cumulative GPA, course pass rate, and average term-to-term retention.

Based on both related literature and qualitative and quantitative findings, researchers concluded that the Making the Connection model has excellent potential that warrants a full test of the model through an efficacy study.

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## Overview

### Background

In 2009, The Institute on Community Integration (ICI) in collaboration with the Department of Educational Psychology at the University of Minnesota received funding from the Institute of Education Sciences (IES) under Goal Two to determine the feasibility of adapting Check & Connect (C&C), a secondary dropout prevention and intervention model, for use in postsecondary education settings with students ages 18-30. The purpose of the project was to take what has been learned over the past 18 years from research on C&C concerning student persistence, engagement, and successful school completion, and to adapt this knowledge for postsecondary settings. This adaptation focused on academic engagement, social integration, and goal commitment—three key components documented by both research on C&C and research on postsecondary education as influencing successful school completion.

C&C was developed at ICI by a partnership of researchers, practitioners, parents, and students beginning in 1990 and has since undergone several trials to validate its effects on improving school completion rates (Christenson, Sinclair, Thurlow, & Evelo, 1999; Sinclair, Christenson, Evelo, & Hurley, 1998; Sinclair, Christenson, & Thurlow, 2005). In September 2006, C&C met the evidence standards of IES and was included in the What Works Clearinghouse (WWC, 2006) as an evidence-based intervention (see WWC for more information on previous C&C studies: <http://ies.ed.gov/ncee/wwc/reports/topic.aspx?tid=06>). The effectiveness of C&C at the secondary level has been established, but C&C had not been used at the postsecondary level. The Minneapolis Community and Technical College (MCTC), Minneapolis, Minnesota and Jefferson Community and Technical College (JCTC), Louisville, Kentucky are the authentic settings where the postsecondary intervention was developed.

The Goal Two project was based on the premise that educational outcomes for students in community and technical colleges could be improved through the development of specific structured intervention strategies to increase student persistence, engagement, and retention (Bailey, Alfonso, Scott, & Leinbach, 2004). The student population of many community and technical colleges includes students at-risk of non-completion, but research has identified alterable behaviors and conditions (e.g., factors within the community college as well as within the power of educators and students to change) that can be positively influenced by intervention strategies (Hollenbeck & Kimmel, 2002; Hudson, 2006).

Students who attend community and technical colleges face a number of unique challenges, including previous negative educational experiences, lack of preparation for postsecondary education, higher incidences of poverty, and greater family responsibilities (American Youth Policy Forum [AYPF], 2007; Naretto, 1995). Given these complex issues, the development of a structured approach to support student engagement and retention was critically important to pursue.

We developed our intervention by building on the foundation of research and practice on the C&C intervention at the secondary level. The C&C intervention for secondary education has two main components: “Check” and “Connect.” The “Check” component utilizes monitors/coaches/mentors to continually assess student engagement through close monitoring of student performance data and progress indicators (such as attendance, grades, and credits). The “Connect” component involves program staff intervening in a timely fashion based on individual student academic performance information obtained from monitoring or systematic checking, in partnership with school personnel, family members, and community service providers.

**Why this project?**

Although America is recognized internationally for providing access to postsecondary education, there is growing concern with student persistence, too many students who enter postsecondary education do not finish. Of the 53% of high school graduates who enter college directly from high school, only 35% graduate with a college degree (AYPF, 2007). Findings are similarly dismal for students who enroll in community and technical colleges. Tinto, Russo, and Kadel (1994) found that one-third of students who initially enroll full-time in community colleges successfully complete their programs of study and graduate. The National Center for Education Statistics (1998) reported that 42% of students who enroll in a typical community college leave during their first year of enrollment. Even among those who enroll with the goal of earning a degree or certificate, fewer than half actually complete a credential of any kind (Silverberg, Warner, Fong, & Goodwin, 2004). College attrition has significant personal and societal implications (Baum & Payea, 2004; Pascarella & Terenzini, 2005). Individuals who complete a community and technical college degree earn an average of \$11,000 per year more than those with only a high school diploma, while a four-year college degree increases yearly earnings by roughly \$23,000 (O'Leary, 2007).

Because of the high stakes involved, exploring the conditions that contribute to postsecondary success and persistence has been a focus of educational and psychological research for the last three decades. Some researchers have noted that students who are actively engaged in learning are more likely to persist in college (Gardner, 1998), whereas others emphasize the role student involvement in college/out-of-class experiences plays in student persistence (Astin, 1975; Kuh, 1991). No single variable explains persistence. In a study of students at four-year colleges, Astin (1993) found that multiple variables each contribute

significantly to persistence, including prior academic achievement, college academic performance, living on campus, and involvement in co-curricular activities. Such variables are inherent to C&C—e.g., monitors check on students' academic performance and connect students with extra-curricular activities.

The transition from high school to postsecondary education is difficult for most students. First-year college students are confronted with changes related to leaving familiar surroundings, teachers, and friends (Gardner, 1995). In response, many two- and four-year colleges have created and implemented programs and courses to promote professional and personal success among first-year students (Barefoot & Fidler, 1996; Noel, Levitz, & Saluri, 1985; Tinto, 1993). First-year orientation programs, faculty-led freshman seminars, enhanced academic advising, and positive social interactions with peers all contribute to student persistence (Gardner, 1998; McGrath & Braunstein, 1997).

Many colleges and universities have implemented “First Year Experience” programs to ease the transition to college and help first-year students feel connected to the university. First Year Experience programs provide many services designed to help first year students in their transition to college, including academic and social orientations, ongoing student assistance, freshman seminars, and courses that include topics such as time management, study strategies, career/major exploration, and academic planning (Barefoot & Fidler, 1996; McGrath & Braunstein, 1997). However, First Year Experience programs typically do not provide individualized attention based on the unique issues of at-risk students.

The federal government's recognition of the postsecondary challenges faced by disadvantaged students led to the development of the federal TRIO Programs, educational opportunity outreach programs designed to motivate and support college students from

disadvantaged backgrounds. TRIO involves six outreach and support programs designed to help low-income students, first-generation college students, and students with disabilities progress from middle school to postbaccalaureate programs. TRIO programs such as Student Support Services and Talent Search provide assistance with basic study skills, tutorial services, financial and personal counseling, guidance on career options, mentoring, and assistance in securing admission into four-year and graduate programs (U.S. Department of Education, 2004).

Many of the interventions to address student persistence are based on traditional-age students in residential settings of universities and four year colleges (Wild & Ebbers, 2002). Wild and Ebbers note that community colleges and universities share similar issues around student attendance, curriculum, and achievement; however, each setting serves different types of students with different goals. Community colleges are necessarily more heterogeneous because of the focus on workplace skill development and the demands of work and family for students. Interventions that address persistence among community college students must consider these differences.

Although the goals of programs to improve persistence overlap with the goals of C&C, they differ in several key ways. C&C is a proactive structured process to “check” with at-risk students via close monitoring of student performance and progress indicators and “connect” them with the services and supports they need, in partnership with school personnel, family members, and community services. On a national scale, TRIO programs provide some of the same services and supports as C&C, but not in the consistent, systematic, proactive manner of C&C. Unlike the C&C model, these federal programs vary significantly by site and are locally controlled; therefore, they have few common core strategies from which to evaluate program effectiveness.

The postsecondary environment inherently extends both basic and intensive interventions

to students (e.g., advising, career counseling and planning, tutoring, and other support services). The primary goal of the project was to develop the C&C Postsecondary intervention strategies using such existing services at the postsecondary institution first and subsequently to add additional interventions as needed to strengthen the overall potential of the intervention to improve student persistence.

### **Partners**

Two community colleges joined the team at the University of Minnesota in this development project, Minneapolis Community and Technical College (MCTC) and Jefferson Community and Technical College (JCTC) in Louisville, Kentucky. Both schools are located in large urban centers, and have similar profiles. In 2010, MCTC enrolled 12,766 students while JCTC enrolled 15,748 students (for more demographic information about each site, see Appendix A). The MCTC site coordinator noted that retention rate varies by how the data is collected and interpreted, varying from 50% to 64%. The JCTC site coordinator noted that the retention rate is 44%, which is affected by the number of students taking developmental courses, 60% total with 80% of the total needing developmental mathematics. Both site coordinators noted that their students' two biggest challenges are social/academic readiness (particularly in math) and financial/job obligations (which include transportation, healthcare, and homelessness) (See Appendix A).

## **Developing the Model**

### **Iterative Development Process**

Development of the Making the Connection model occurred through an iterative development process, a process adapted from software development (Siddiqui, 2005) and developmental evaluation (Patton, 2011), in which time available for development (2 years) was

portioned out into blocks or iterations. In each iteration, specific developmental tasks were performed and real-time data was gathered and analyzed to inform revision of the developing model. The desired result of the process was a fully developed model with clearly defined, minimal, and adaptable specifications that can be taken to scale.

We employed three iterations in the development of our model. The first iteration involved working at each site to assess the context and draft a model based on secondary Check & Connect and adapted individually for each context. The second iteration was implementation of the model during spring semester 2010 at both sites and subsequent revision of the model. Similarly, the third iteration was implementation of the revised model in the fall semester 2010 and final revision of the model.

**Data collected.** Both qualitative and quantitative data were collected during the pilot of the second and third iterations of *Making the Connection*.

***Qualitative Data.*** Qualitative data included the following:

1. Development team meeting notes/ retreat discussion notes
2. Interviews with key participants including project director, project coordinator, investigator, mentors, site coordinators, and participants
3. Bi-weekly mentor reports

***Quantitative Data.*** Quantitative data included the following:

1. Historical data from participants and a comparison group used to analyze variables related to persistence (e.g., enrollment status, continuous enrollment, courses attempted/courses completed, class attendance, registration behaviors)
2. Frequency data on appointments with the mentor, co-curricular activities, and number of service referrals made by the mentor

### 3. Participant personal inventory

In what follows, we describe each iteration, the tasks completed, and the revisions based on feedback that were part of the development process.

#### **Iteration I - Stakeholder Meetings**

The first iteration began with convening stakeholder groups at each site, JCTC and MCTC. These groups were made up of administrators, advisors, faculty, student support services personnel, and others who represented the broad interests of all students. Stakeholder groups participated in an in-depth review of C&C as it is currently applied in secondary educational settings. Each group identified and assessed the retention programs/initiatives their college already had in place and determined what components of the secondary version of C&C were relevant to postsecondary settings. Groups met during the summer and fall before the January implementation in 2010. The stakeholder meetings terminated in a draft model for the iteration II implementation (Figure 1). In what follows components of the logic model are explained.

**Theories.** The theories guiding the development of *Making the Connection* included Social Cognitive Career Theory (SCCT), Self-determination Theory, and Validation Theory.

- *SCCT* explains that through self-efficacy beliefs, outcomes, personal goals, and contextual supports, people are able to regulate their own career behavior (Lent, Brown, and Hackett; 1994); thus intervening to increase self-efficacy beliefs, to help students set personal goals, and to provide support to overcome contextual barriers are central to Making the Connection.
- *Self-Determination Theory* is a theory of human motivation that contends that the three psychological needs essential for personal wellbeing are autonomy, relatedness, and competence (Ryan and Deci, 2000). Schuetz (2008) concluded that students'

engagement in community college can be fostered through interventions that help students meet these three needs. Making the Connection attempts to promote students’ autonomy, relatedness, and competence.

- **Validation Theory** asserts that both involvement (the time, energy, and effort the student devotes to the learning process) and validation, as delivered through advising and instruction, are prerequisites to student development. This theory implies the need for the institution and mentors to help students feel as though they are valued members of the campus community.

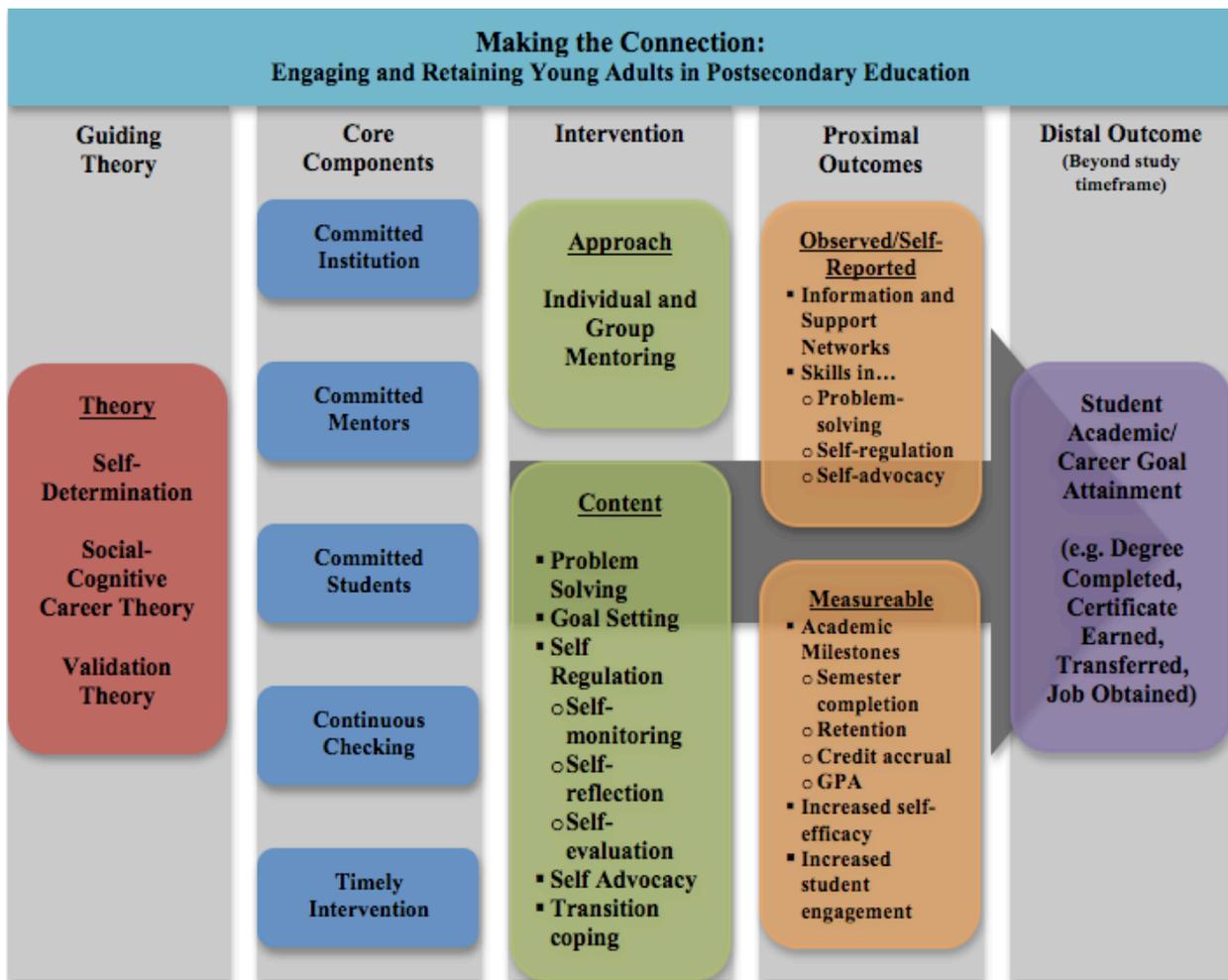


Figure 1. Making the Connection logic model developed during Iteration I and implemented during Iteration II.

**Core Components.** Working with both stakeholder groups, in the first iteration, the project team identified components of the secondary C&C strategies that required modification to accommodate or enhance policy, administrative, and organizational processes at the two sites. These included a review of current admissions, advising, support services and other policies and practices. Three core components described in the logic model (the first three below) were adapted directly from the secondary Check & Connect (C&C) model, while the other two were added for the community college setting.

Table 1

*Core components of the Making the Connection Model*

	Core Component	Description
Adapted from Secondary C&C	1. A mentor who keeps education salient for students	Committed mentors who work with students throughout their educational program at the community college.
	2. Systematic monitoring (“Check”)	Continuous checking in which students regularly self-monitor and self-evaluate their progress toward their academic and career goals and mentors regularly check on students’ progress, looking specifically at indicators of risk for dropping out (e.g. absences, poor grades, lack of credit accrual, etc.) through use of the self-monitoring form (Figure 2) (Appendix B).
	3. Timely and individualized intervention (“Connect”)	Students in jeopardy of not completing their community college program will receive timely interventions to help them overcome barriers to success.
New for the Community College Setting	4. Committed students	Students who are committed to participating in the intervention in order to improve their likelihood of completing their educational program
	5. Committed institutions	Institutions that are committed to implementing the <i>Making the Connection</i> intervention in order to engage and retain students in their educational programs.

**Intervention: Approach.** Stakeholder groups saw value in both individual mentoring and participation in a small group that would foster peer relationships and problem solving. Literature about adult development and local knowledge about students suggested that adult learners profit from working with other adults, but the hallmark of K-12 C&C is the relationship between the mentor and student. Content for the intervention was established based on the aforementioned theories, as well as the fact that both sites saw the need for skills such as: academic discipline/conscientiousness (Robbins et al., 2006, Napoli & Wortman, 1998); goal setting with C&C mentor’s help; problem solving (Bransford & Stein, 1993); balancing work, family, and school life; self-regulation; navigating transitions; and literacy/numeracy skill building.

Making the Connection Self-Monitoring Sheet																
Student _____				College _____				ID _____								
Semester _____				Dates _____ - _____				Mentor/Advisor _____								
A. What is your career goal? _____																
B. What are your academic goals for this semester? (Create SMART goals – Specific, Measureable, Attainable, Results-oriented, Time-bound)																
1. _____																
2. _____																
3. _____																
C. In the boxes below, for each week mark how you think you did in this area: += Excellent, √ = Fair/OK, — = Poor																
	Week of the Semester															
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Attendance																
Assignment Completion																
Time and effort put into schoolwork																
Preparation for Class																
Participation in Class																
Progress toward academic goal #1																
Progress toward academic goal #2																
Progress toward academic goal #3																
Communicated with mentor (date when occurred)																
GPA	Semester GPA: _____										Cumulative GPA: _____					
Credits earned/ Courses passed	Credits earned out of _____ possible										Classes passed out of _____ possible					
D. Skills/Areas that I am doing well (add to this list throughout the semester): _____																
_____																
E. Skills/Areas that I need to work on improving (add to this list throughout the semester): _____																
_____																

Figure 2. Self-Monitoring Form used for both the “continuous checking” and “timely intervention” core components.

Questions that arose about the initial individual and small group mentoring model included: Who serves as the contact point for students? How often can contact realistically be made? How do you make good contact in the community college setting? How should we support mentors? How can their work be organized within the existing structure so they can be available as mentors? Another issue that stakeholder groups noted was that community college students balance competing priorities of work, family, and school; they do not reside on a campus. Thus finding time to work with an individual mentor might be problematic for both the student and the mentor. In K-12 C&C, mentors keep tabs on students and connect with them during the school day. This is not desirable or feasible with adults in the community college setting.

**Intervention: Content.** The content of small group and individual mentoring was informed by our guiding theories and by research that has demonstrated the importance of psychosocial readiness for positive college outcomes for students (Napoli & Wortman, 1998; Robbins, Allen, Casillas, Hamme Peterson, & Le; 2006; Robbins, Lauver, Le, Davis, & Lagley, 2004). In addition to providing information about navigating the college system such as information on college resources, student support services, financial aid, and registration, mentors also worked to promote goal setting, self-regulated learning, problem solving, self-advocacy, and transition coping skills through their small group meetings.

Problem solving was the major content in both small group and individual mentoring. As in secondary C&C, mentoring using problem solving promoted the acquisition of skills to resolve conflict constructively, encourage the search for solutions rather than a source of blame, and foster productive coping skills. In small groups, time was provided for group sharing and group problem solving through issues raised by group members. Students were encouraged to

talk through common issues together to identify the problem, develop potential solutions, choose solutions to try, and then share their trial of solutions and the outcomes of implementing those solutions at future meetings. In individual mentoring, the mentor worked one-on-one with students to work through barriers to their school success. The same problem solving method was used in individual mentoring with the mentor encouraging students to develop their own possible solutions to problems and then coaching them on how they might implement those solutions.

**Proximal Outcomes.** The final portion of the logic model includes proximal and distal outcomes meant to be achieved through the implementation of *Making the Connection*. Proximal outcomes refer to the short-term outcomes that we can expect to see achieved by the end of each semester of implementation. The identified proximal outcomes for the second iteration of *Making the Connection* are listed below.

- ***Information and support networks.*** Students develop relationships with mentors and other students that enable them to call upon one another for help, information, encouragement, and support.
- ***Increased student engagement.*** The students demonstrate an increase in their academic, behavioral, cognitive, and affective engagement in their education. Academic engagement (such as time on task, assignment completion, and credit accrual) and behavioral engagement (such as attendance and classroom participation) are observable indicators of student engagement. Cognitive engagement (such as perceived relevance of schoolwork and self-regulation toward goals) and affective engagement (such as belonging and perceived connection with community college personnel and instructors) are internal indicators of student engagement.

- **Increased self-efficacy.** Students demonstrate an increase in their self-efficacy beliefs (beliefs about one's ability to perform).
- **Increased skills in problem solving, self-regulation, self-advocacy.** Throughout their educational program, students will face barriers to achieving their academic goals. Participation in *Making the Connection* helps students to develop the skills they need to overcome those barriers. Students develop problem-solving skills to work through their problems on their own and with others. Students will increase their ability to self-regulate their own learning, including the ability to set goals for their learning and then attempt to monitor, regulate, and control their cognition, motivation, and behavior (Pintrich, 2000). Students also develop the skills necessary to advocate for themselves such as being able to ask for help and making decisions that move them toward achieving their goals.
- **Academic milestones.** Students meet academic milestones such as earning credits in their courses, maintaining a GPA that will allow them to earn a certificate/degree or transfer, making progress toward their academic and career goals, and continuing enrollment in the community college until they have reached their goals.

**Distal outcome.** Proximal outcomes can be measured throughout the implementation of *Making the Connection* and serve as milestones on the path to the eventual achievement of the distal outcome, which is expected to be achieved outside the scope of the intervention timeframe.

- **Student attainment of future goals.** The distal outcome represented in the logic model is student attainment of future goals (e.g. degree completed, certificate earned, transferred, job obtained). Students who participate in *Making the Connection* persist in their educational program until they have met their goal of either earning a certificate/degree that will move them toward obtaining a position in their desired career or until they have

transferred to another educational institution.

**Site Implementation Design.** Stakeholders at JCTC and MCTC agreed on the components of the model presented above, but the intervention unfolded differently at each site (Table 2). Both sites converged on the need for supporting students who place into developmental coursework; however, criteria for inclusion in the study differed. Also, although both stakeholder groups agreed on a combination of individual and group mentoring, they did not agree on how to deliver both. MCTC tied Making the Connection to an existing course, Academic Development – Strategies for Success (ADEV 1100), a college success course that all students who place into developmental course work must take during their first semester. JCTC delivered the intervention as a separate group that met outside of class work. Sites agreed on the content of the intervention.

Table 2

<i>Site Implementation Design</i>		
	<b>JCTC</b>	<b>MCTC</b>
<b>Criteria for inclusion</b>	<ul style="list-style-type: none"> <li>a) College-level reading ability</li> <li>b) Passed at least 1 fall class</li> <li>c) Failed or withdrew from at least 1 class but not more than 50% of fall classes</li> <li>d) Could include both full- and part-time students</li> </ul>	<ul style="list-style-type: none"> <li>a) Enrolled in an ADEV 1100 course</li> <li>b) READ 200, ENGL 900 placement</li> <li>c) Full, minimum 12 credits</li> <li>d) First semester students (starting mid-year, Jan.)</li> </ul>
<b>Delivery</b>	<ul style="list-style-type: none"> <li>a) Students meet in a small group, outside of regular coursework</li> <li>b) Leader of small group is also available for individual mentoring</li> </ul>	<ul style="list-style-type: none"> <li>a) Students participate in the ADEV course 1100 and Making the Connection intervention is delivered in conjunction with the course.</li> <li>b) ADEV faculty is paired with counselor/ advisor and both act as mentors</li> </ul>
<b>Curriculum</b>	Goal setting, academic discipline/conscientiousness, problem solving, balancing work, family, and school life	Goal setting, academic discipline/conscientiousness, problem solving, balancing work, family, and school life

## **Iteration II - Spring Semester Pilot**

**Participants.** In the spring of 2010, the second iteration of *Making the Connection* began and the model developed with stakeholders in Iteration I was piloted at JCTC and MCTC with 45 students. Selection criteria for participants established by the stakeholder groups did not allow for a large enough sample, and so the criteria were revised at each institution for implementation of the second iteration. For MCTC, participants in *Making the Connection* were students enrolled in the ADEV 1100 course. At JCTC, participation in *Making the Connection* was opened to all students not participating in a different intervention. At MCTC, 41 students signed consent forms to participate in *Making the Connection* in the spring semester; however, 18 students never participated while 23 students participated regularly and completed the semester. JCTC enrolled 25 students of which 22 participated and completed the semester in *Making the Connection*. Once the students were enrolled and the small groups commenced, students took the *Making the Connection Personal Inventory* (Appendix C)

The *Personal Inventory* was used to give mentors insights into the issues that the students faced. We administered this as a pre-test, with the intention of giving it as a post-test; however, attrition and willingness to take it again made this impossible. We believe that further study should be able to make better use of this measure.

*Making the Connection* was implemented through two main approaches: individual and small group mentoring. In both approaches, mentors and students built relationships with one another, basing the relationships on trust and empathy. Mentors intervened with groups of students around common, shared concerns and barriers to success in community college. Mentors also provided individual interventions to students around their individual needs as they arose. Specific strategies for implementation varied at each site (Table 3).

Table 3

<i>Iteration II Implementation</i>		
	JCTC	MCTC
Mentors	6 Mentors <ul style="list-style-type: none"> <li>• 1 Faculty</li> <li>• 1 Dean of Student Affairs</li> <li>• 4 Student Services Personnel</li> </ul>	7 Mentors <ul style="list-style-type: none"> <li>• 3 ADEV Instructors</li> <li>• 4 counselors/advisors</li> </ul>
Participants	Self-referred students <ul style="list-style-type: none"> <li>• Ages 25-53</li> <li>• 3-7 regular attendees per group</li> <li>• Assigned to groups based on schedules</li> </ul>	Students in the ADEV course <ul style="list-style-type: none"> <li>• Ages 18-62</li> <li>• 3-10 regular attendees per group</li> <li>• Assigned to groups based on ADEV instructor</li> </ul>
Small Group Mentoring		
Frequency	Biweekly	Weekly
Duration	75 minutes	30-60 minutes
Content	<ul style="list-style-type: none"> <li>• Campus Resources/Information</li> <li>• Self-monitoring</li> <li>• Goal setting</li> <li>• Problem solving</li> <li>• Self-evaluation</li> <li>• Self-advocacy</li> </ul>	<ul style="list-style-type: none"> <li>• Campus Resources/Information</li> <li>• Goal setting</li> <li>• Self-reflection</li> <li>• Problem solving</li> <li>• Self-monitoring</li> <li>• Self-advocacy</li> </ul>
Individual Mentoring		
Frequency	<ul style="list-style-type: none"> <li>• Biweekly emails to mentees</li> <li>• Additional meetings/communication as needed</li> </ul>	<ul style="list-style-type: none"> <li>• As needed and by appointment</li> </ul>
Mode	<ul style="list-style-type: none"> <li>• Email, drop-in, appointment for meeting</li> </ul>	<ul style="list-style-type: none"> <li>• Email, phone, drop-in, appointment for meeting</li> </ul>
Content	<ul style="list-style-type: none"> <li>• Problem Solving</li> <li>• Campus Resources/Information</li> </ul>	<ul style="list-style-type: none"> <li>• Problem Solving</li> <li>• Campus Resources/Information</li> </ul>

**Iteration II Findings that Informed Revision of the Model.** Of the data collected, the most useful for informing the next iteration of *Making the Connection* were the mentor biweekly surveys, mentor interviews, and participant interviews. Table 4 provides a summary of mentor

biweekly survey and interview responses as well as participant interview responses compiled following the first semester of implementation.

After the first semester of implementation, the university development team, representatives from each site, and the evaluation team convened to discuss preliminary findings based on bi-weekly mentor surveys; mentor records of 1:1 meetings with students; student self-monitoring sheets; interviews with mentors, students, and key development leaders; focus groups of stakeholder teams; and a student inventory developed for this project. Table 5 presents a summary of these preliminary findings. The team discussed how they might use the data collected to inform next steps for revision of the existing model and implementation of iteration III in the spring semester.

Table 4

*Summary of mentor survey and interview responses participant interview responses from Iteration II.*

	Mentor Responses		Participant Responses	
	JCTC	MCTC	JCTC	MCTC
Frequency of Meetings	<ul style="list-style-type: none"> <li>• Need to start early in the semester</li> <li>• Every week may help to establish a routine</li> </ul>	<ul style="list-style-type: none"> <li>• Weekly was the right frequency</li> </ul>	<ul style="list-style-type: none"> <li>• Some liked meeting biweekly</li> <li>• Some would prefer weekly because it would be easier to keep track of.</li> </ul>	<ul style="list-style-type: none"> <li>• Weekly was the right frequency</li> </ul>
Duration of Meetings	<ul style="list-style-type: none"> <li>• 1.25 hours was the right amount some times, not enough others.</li> </ul>	<ul style="list-style-type: none"> <li>• Some met 30 minutes and some 60.</li> <li>• Sometimes needed more time</li> </ul>	<ul style="list-style-type: none"> <li>• 1 hour 15 minutes was the right amount of time</li> </ul>	<ul style="list-style-type: none"> <li>• An hour or so was about the right amount of time</li> </ul>
Most Helpful Part/Content	<ul style="list-style-type: none"> <li>• Self-monitoring</li> <li>• Goal setting</li> <li>• Problem Solving</li> <li>• Self-evaluation</li> <li>• Self-Advocacy</li> <li>• Having the mentor there as a support person and resource</li> <li>• Small group discussions and problem solving</li> </ul>	<ul style="list-style-type: none"> <li>• Goal setting</li> <li>• Self-Reflection</li> <li>• Problem Solving</li> <li>• Self-monitoring</li> <li>• Self-Advocacy</li> <li>• Check-in piece</li> <li>• Small group discussions and problem solving</li> <li>• Meeting and interacting with new people</li> <li>• Sense of belonging</li> </ul>	<ul style="list-style-type: none"> <li>• Talking with other students</li> <li>• Long-term planning/ Goal-Setting</li> <li>• Problem Solving</li> <li>• Campus information – financial aid, registration</li> <li>• Time management</li> <li>• Having a place to go to get answers</li> <li>• Accountability</li> <li>• Documenting progress</li> <li>• Being connected to resources</li> </ul>	<ul style="list-style-type: none"> <li>• Talking with other students and learning from each other</li> <li>• Time management</li> <li>• Goal setting</li> <li>• Campus information – financial aid, registration</li> <li>• Resources for students with disabilities</li> <li>• Having and advisor and mentor</li> <li>• Self-monitoring</li> </ul>
Least Helpful Part/Content	<ul style="list-style-type: none"> <li>• Self-monitoring sheets</li> <li>• Allowing the discussion to drift</li> <li>• Trying to have all groups covering the same content rather than meeting the</li> </ul>	<ul style="list-style-type: none"> <li>• Need more structure</li> <li>• People didn't always take the self-monitoring sheets seriously – would rather share aloud.</li> <li>• Group sessions when</li> </ul>	<ul style="list-style-type: none"> <li>• 2 students mentioned the weekly update/self-monitoring sheets as being tedious but sometimes helpful</li> </ul>	<ul style="list-style-type: none"> <li>• Too repetitive</li> <li>• Didn't understand the purpose of the intervention</li> </ul>

Small Group Mentoring

	Mentor Responses		Participant Responses		
	JCTC	MCTC	JCTC	MCTC	
Individual Mentoring	Frequency	<ul style="list-style-type: none"> <li>• Amount varied by participant</li> <li>• Mentors sent reminder emails about meetings</li> </ul>	<ul style="list-style-type: none"> <li>• Amount varied by participant</li> <li>• Instructors contacted them less than advisors (because they had them in small group while the advisors did not)</li> </ul>	<ul style="list-style-type: none"> <li>• At least biweekly by email (the weeks the group did not meet)</li> <li>• Some met weekly or more in person</li> </ul>	<ul style="list-style-type: none"> <li>• Regular reminder emails about meetings</li> <li>• Otherwise, contact was on an as needed basis</li> </ul>
	Mode of Contact	<ul style="list-style-type: none"> <li>• By email</li> <li>• Phone</li> <li>• Drop-in</li> </ul>	<ul style="list-style-type: none"> <li>• Email</li> <li>• In person</li> <li>• Phone</li> </ul>	<ul style="list-style-type: none"> <li>• Email</li> <li>• In person</li> </ul>	<ul style="list-style-type: none"> <li>• Email</li> <li>• In person</li> <li>• Phone</li> </ul>
	Initiation	<ul style="list-style-type: none"> <li>• Initiated both by mentors and mentees</li> </ul>	<ul style="list-style-type: none"> <li>• Most often student initiated</li> <li>• Set appointments with students</li> <li>• Checked in with students by email and phone</li> </ul>	<ul style="list-style-type: none"> <li>• Mentor emailed biweekly</li> <li>• Students emailed when needed</li> <li>• Students dropped in</li> <li>• Students scheduled an appointment</li> </ul>	<ul style="list-style-type: none"> <li>• Most often student initiated</li> <li>• Drop-in</li> <li>• Made appointments</li> <li>• Emailed mentor occasionally</li> <li>• Email reminders from mentors</li> <li>• Advisors called students</li> </ul>
	Mentor Role/Qualities	<ul style="list-style-type: none"> <li>• Coach</li> <li>• “Someone who inspires, shares, and empowers”</li> <li>• Counselor</li> <li>• Friend/ peer</li> </ul>	<ul style="list-style-type: none"> <li>• Counselor</li> <li>• Advisor</li> <li>• Therapist</li> <li>• Someone to bounce information off</li> <li>• Resource</li> </ul>	<ul style="list-style-type: none"> <li>• Caring</li> <li>• Go-getter</li> <li>• Responsive</li> <li>• Advisor</li> <li>• Good resource</li> </ul>	<ul style="list-style-type: none"> <li>• Mentor</li> <li>• Advisor</li> <li>• Helpful</li> </ul>
	Most Helpful Content/Part	<ul style="list-style-type: none"> <li>• Personal Support</li> <li>• Problem Solving</li> <li>• Mentor as a resource person</li> </ul>	<ul style="list-style-type: none"> <li>• Problem solving</li> <li>• Resource to students</li> <li>• Advising</li> </ul>	<ul style="list-style-type: none"> <li>• Problem solving</li> <li>• Campus resources</li> <li>• Guidance on registration</li> <li>• Nice to have someone to talk to when something came up</li> </ul>	<ul style="list-style-type: none"> <li>• Getting questions answered</li> <li>• Information about campus resources</li> </ul>
	Least Helpful Content/Part	<ul style="list-style-type: none"> <li>• None</li> </ul>	<ul style="list-style-type: none"> <li>• None</li> </ul>	<ul style="list-style-type: none"> <li>• None</li> </ul>	<ul style="list-style-type: none"> <li>• None</li> </ul>

Table 5

*Summary of data used to inform iteration III of Making the Connection.*

	Structure	Content
What is Working?	<ul style="list-style-type: none"> <li>• Small group format</li> <li>• One-on-one mentoring</li> <li>• Activities                             <ul style="list-style-type: none"> <li>○ <i>On Course</i> exercises</li> <li>○ Games</li> <li>○ Reflections</li> <li>○ Computer Activities</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Goal setting</li> <li>• Self-monitoring</li> <li>• Problem solving</li> <li>• Self-advocacy</li> <li>• Self-reflection/self-evaluation</li> <li>• Information on navigating the college</li> <li>• One-on-one advising</li> <li>• Group sharing/problem solving</li> </ul>
What Needs Refining?	<ul style="list-style-type: none"> <li>• Hold small group meetings more frequently</li> <li>• Lengthen small group meetings</li> <li>• Allow for more individual meetings</li> <li>• Increase group size/add participants</li> <li>• Encourage better participation</li> <li>• Keep it voluntary</li> <li>• Have a central office/drop-in center for the program</li> <li>• Develop a standard structure for small group meetings</li> </ul>	<ul style="list-style-type: none"> <li>• Limit the breadth of content covered</li> <li>• More in-depth focus on:                             <ul style="list-style-type: none"> <li>○ Goal setting</li> <li>○ Problem solving</li> </ul> </li> <li>• Use fewer handouts/worksheets</li> <li>• Help students overcome barriers to participation (e.g., transportation, daycare, financial aid, etc.)</li> <li>• Students want more information on time management and financial aid</li> </ul>

**Logic Model Revision.** Based on the teams’ input and data gathered, the model developed in Iteration I and piloted in Iteration II was revised (Figure 3). First, a new format for the logic model was used to postulate the causal relationships between the intervention’s inputs, outputs, and outcomes. The intervention’s Goal—“Increasing student persistence and promoting the successful completion of community and technical college”—guides the overall intervention, while the effects of Contextual Variables such as students’ circumstances (e.g., age, educational history) and the two colleges’ contexts (e.g., advising structure, commuter campus) on the intervention are acknowledged.

**Inputs.** The term “coach” rather than “mentor” was used as a way to differentiate the *Making the Connection* mentor role from other mentor-like roles at community colleges (e.g.,

advisors, counselors). “Community college student in College Success course” was added to the inputs because we found that student participants at both sites were required to take such a course, whether as a requirement of being a developmental students as in the case of MCTC or as a requirement of enrolling at JCTC. We believed that *Making the Connection* could supplement and reinforce content presented through the course. Additionally, Adult Education and Engagement theories, which guided our work throughout the development process, were added explicitly to the model in this version of the logic model.

**Outputs.** The combination of individual and small-group mentoring was retained across both semesters of implementation. The logic model also clarified our vision for student-student relationship—namely, as a way to help students build support and information networks among themselves. We borrowed the concept of *information networks* from Karp and Hughes (2008), who define them as social ties that facilitate the transfer of institutional knowledge and procedures (p. 76) and note that “the institutional environment can encourage the creation of these networks through formal mechanisms such as Student Success courses” (p. 72).

Most of the content or “curriculum” outputs were repeated from the Iteration II logic model, with the exception of time management, which was added because it is a perennial issue for community college students and a prerequisite for the practice of other kinds of dispositions and skills this intervention aimed to cultivate—i.e., students cannot make progress toward meeting their goals if they do not dedicate time to do so.

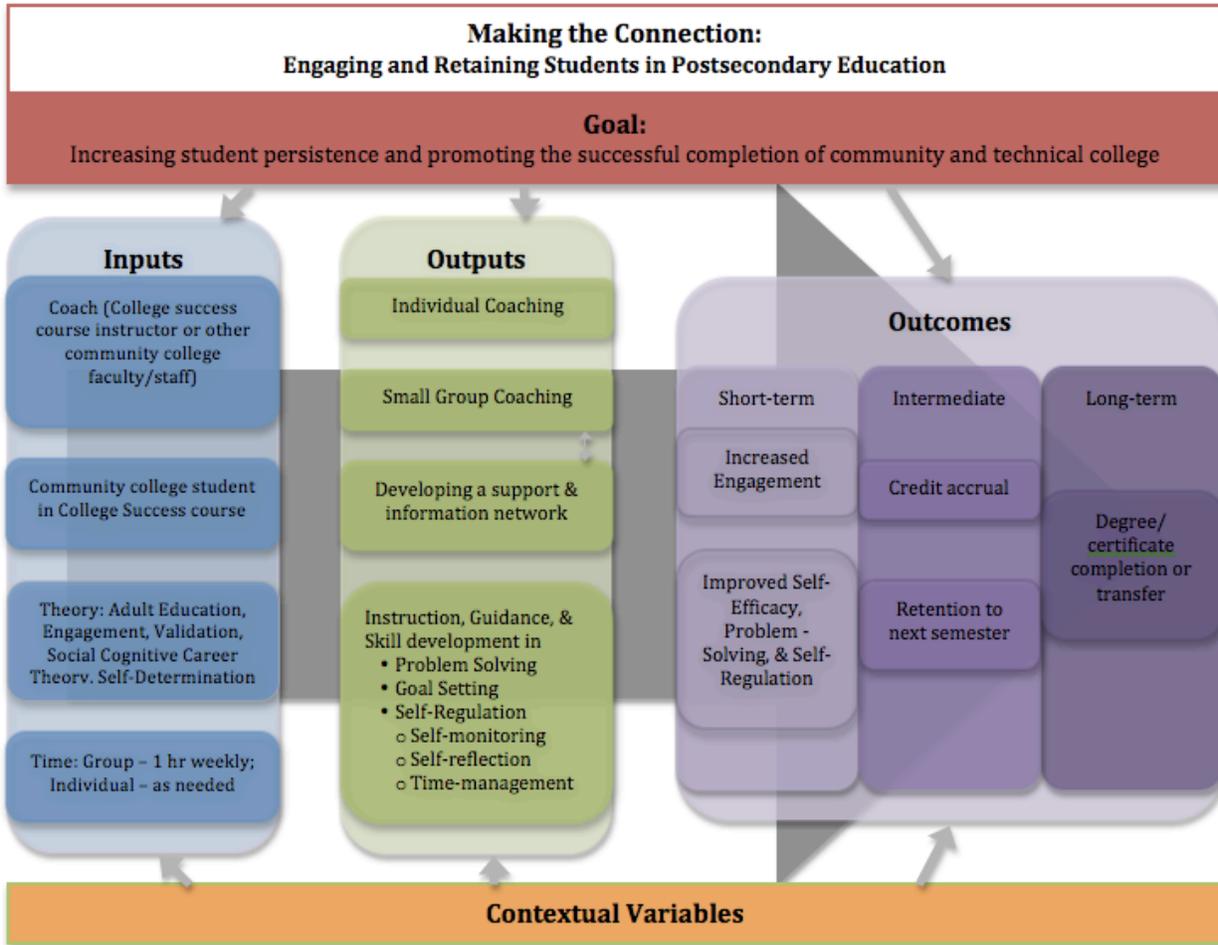


Figure 3. Making the Connection – Iteration III logic model

**Outcomes.** Although Iteration II’s logic model included both proximal and distal outcomes, this version becomes even more fine-grained with three levels of outcomes: short-term, intermediate, and long-term. This change was made for two main reasons: first, to show the relationships between the outputs (e.g., problem-solving) and the outcomes. This rendition of the outcomes shows how psychosocial skills and dispositions are not just useful life skills, but prerequisites for passing classes, persisting from semester to semester, and ultimately, achieving one’s academic goals. Second, the outcomes were revised to respond to mentor feedback on Iteration II’s logic model, that student progress in the community college environment is a tenuous, piecemeal, incremental accomplishment, not something that can be encapsulated within

short-term and long-term outcomes. Increasing students' engagement, self-efficacy, and so on are accomplishments within themselves.

**Lingering Questions.** Despite reaching consensus on a new model and agreeing to changes for implementation in the fall, the following major questions remained unanswered after the second iteration:

1. For which target population is the model best suited?
2. How do we help keep education salient for nontraditional students?
3. How do we maintain student commitment?
4. What is the role of the mentor?

### **Iteration III - Fall Semester Pilot**

**Agreed Upon Implementation Changes.** After completing the first semester of implementation and analysis of mentor and participant feedback, the stakeholder and university teams agreed to the following changes for implementation in Fall 2010 (changes are reflected in Table 6):

1. Small groups would meet weekly
2. More students would be recruited
3. Sites would attempt to keep existing small groups intact and also start new sections/cohorts with new participants.
4. Students would be required to check-in with their mentor at least once per semester
  - a) Individual mentoring would continue as needed
5. University researchers would develop 5-6 curriculum pieces and each site would create 5-6 of their own to provide more structure for the small group meetings.

- a) The University project team created six “modules” or lessons for mentors’ use in small group meetings, on the following topics: Discovering Your Dreams, Goal-Setting, Growth Mindset, Managing Your Time, Problem-Solving, and Self-Management (See Appendix D)
6. Sites would implement a uniform structure for small group mentoring based on coaching professional development. This would include:
- a) Check-in about the past week (both successes and struggles)
  - b) The mentor either leads students through a module or shares information about a campus resource (e.g., financial aid) or student-life-related task (e.g., registering for classes for the next semester)
  - c) Students set goals for the next week and share them with the group.

Table 6 provides information about the Fall 2010 implementation. Both sites had six mentors, and JCTC continued to serve self-referred students, with 3-7 attendees per group and total participation varying from 18-42 students. MCTC enrolled new participants through the ADEV course, and returning participants participated in a small group scheduled outside coursework and were asked to have weekly meetings with their mentors. Weekly meetings lasted 75 minutes at JCTC and from 30-60 minutes at MCTC. JCTC mentors used the recommended structure, but this was not implemented consistently at MCTC. Returning participants at MCTC did not participate consistently in the groups scheduled outside of the class schedule, although they continued to see their mentor.

At the end of the semester, we again collected data for the semester. Findings for *Iteration III*, from the bi-weekly mentor surveys, mentor interviews, and participant interviews,

are summarized in Table 7. Findings from the third iteration are described in greater detail since this iteration was the final opportunity to inform the model.

Table 6

*Iteration III Implementation*

	JCTC	MCTC
Mentors	6 Mentors <ul style="list-style-type: none"> <li>• 1 Faculty</li> <li>• 1 Dean of Student Affairs</li> <li>• 4 Student Services Personnel</li> </ul>	6 Mentors <ul style="list-style-type: none"> <li>• 3 ADEV Instructors</li> <li>• 3 counselors/advisors</li> </ul>
Participants	Self-referred students <ul style="list-style-type: none"> <li>• Ages 25-53</li> <li>• 3-7 regular attendees per group poster says 2-7</li> </ul>	<ul style="list-style-type: none"> <li>• Returning Making the Connection Students</li> <li>• Students in the ADEV course                             <ul style="list-style-type: none"> <li>○ Ages 18-62</li> <li>○ 3-10 regular attendees per group</li> </ul> </li> </ul>
Small Group Mentoring		
Frequency	Weekly	Weekly <ul style="list-style-type: none"> <li>• Returning students did not attend small group meetings</li> </ul>
Duration	75 minutes	30-60 minutes
Content	<ul style="list-style-type: none"> <li>• Campus Resources/Information</li> <li>• Goal setting</li> <li>• Self-monitoring</li> <li>• Problem solving</li> <li>• Time management</li> </ul>	<ul style="list-style-type: none"> <li>• Campus Resources/Information</li> <li>• Goal setting</li> <li>• Self-reflection</li> <li>• Problem solving</li> <li>• Self-monitoring</li> <li>• Self-advocacy</li> </ul>
Individual Mentoring		
Frequency	<ul style="list-style-type: none"> <li>• Biweekly emails to mentees</li> <li>• Additional meetings/communication as needed</li> </ul>	<ul style="list-style-type: none"> <li>• As needed and by appointment</li> <li>• Returning students met weekly with their mentor</li> </ul>
Mode	Email, drop-in, appointment for meeting	Email, phone, drop-in, appointment for meeting
Content	<ul style="list-style-type: none"> <li>• Problem Solving</li> <li>• Campus Resources/Information</li> </ul>	<ul style="list-style-type: none"> <li>• Problem Solving</li> <li>• Campus Resources/Information</li> </ul>

Table 7

*Summary of Participant and Mentor Survey and Interview Data from the Fall 2010 Pilot*

<i>Small Group Mentoring</i>		
	<i>Participants</i>	<i>Mentors</i>
<i>Frequency</i>	<i>Weekly meetings are preferred</i>	<ul style="list-style-type: none"> <li>• <i>Weekly works well as a routine</i></li> <li>• <i>May be too often for some students</i></li> </ul>
<i>Duration</i>	<i>1 to 1.25 hours is the right amount of time</i>	<i>At least an hour is needed</i>
<i>Most Helpful Content</i>	<ul style="list-style-type: none"> <li>• <i>Goal setting</i></li> <li>• <i>Time management</i></li> <li>• <i>Navigating the college</i></li> <li>• <i>Study skills</i></li> </ul>	<ul style="list-style-type: none"> <li>• <i>Having a point of contact with campus staff</i></li> <li>• <i>Developing peer relationships</i></li> <li>• <i>Problem solving</i></li> </ul>
<i>Relationships</i>	<ul style="list-style-type: none"> <li>• <i>Formed connections with other participants</i></li> <li>• <i>Appreciated the camaraderie and chance to work through common issues together</i></li> </ul>	<ul style="list-style-type: none"> <li>• <i>Students built relationships with one another</i></li> <li>• <i>Students benefitted from connecting personally to group members</i></li> </ul>
<i>Individual Mentoring</i>		
<i>Frequency</i>	<ul style="list-style-type: none"> <li>• <i>Most participants communicated with their mentor by email or in-person weekly and as needed</i></li> <li>• <i>Communication was two-way, initiated by both mentors and participants</i></li> </ul>	
<i>Content</i>	<ul style="list-style-type: none"> <li>• <i>Individual problem solving about goals, career, courses, academics, financial aid, and personal issues</i></li> </ul>	
	<i>Participants</i>	<i>Mentors</i>
<i>Mentor Qualities/Role</i>	<i>Nonjudgmental, encouraging, approachable, welcoming, understanding</i>	<i>Advisor, counselor, support person, information resource</i>

**Mentor Biweekly Survey.** During Iteration III, the mentors continued to complete bi-weekly online surveys reporting on the content they addressed in their small groups and when mentoring students one-on-one, methods they found to be effective and ineffective for addressing the selected content, and suggestions for changes to the implementation.

**JCTC.** Even though University project staff had provided the mentors at both sites with modules for use in the small groups, the JCTC mentors most frequently reported not using a module. Of the modules that were used, Problem Solving, Managing Your Time, Growth

Mindset, and Goal Setting were used most often. Some of the mentors felt as though the modules were repetitive of one another (e.g., Self Management and Goal Setting) or did not account for the demands of community college students' lives or their existing knowledge. For example, one mentor noted that the Self Management module assumed that students had more time to devote to achieving their academic goals and did not help them balance those goals with their work, family, and other responsibilities. Another mentor thought the Time Management module was too simplistic for the students in his small group. Both of these complaints attest to the tremendous variation among community college students, including their other life roles and demands and previous educational experience.

*MCTC.* Even more so than the JCTC mentors, MCTC mentors reported not using the modules, in some cases because students had requested that other content be covered in the small group (e.g., financial aid). MCTC mentors' lack of use of the modules may also be due to the modules' similarity with some of the content covered in the ADEV course, so that the mentors perceived their use to be redundant with what students were already being taught in class. (JCTC has a required college success course that covers time management and other academic skills, but many students do not take it until after their first year of school.)

Of the modules used, Goal Setting, Problem Solving, and Managing Your Time were the most commonly used. Mentors noted that when they did use a module, students responded "very well" and "seemed to be motivated by the discussion," but one MCTC mentor also noted the need to broaden the modules to address the context of students' lives:

The modules are great in addressing goals, strengths, and for motivation but most of community college students have other barriers that prevent them from moving forward.

So the modules have to be modified to address barriers (i.e. study habits, procrastination, and income).

In individual meetings, mentors reported discussing some of these barriers, including academic concerns, academic planning, personal problems, childcare, and transportation.

**Mentor interviews.** All of the mentors at each site were interviewed again using a standard set of questions at the end of the second semester of implementation (Iteration III). Interview questions addressed the *Making the Connection* logic model; the frequency, duration, format, and content of small-group meetings; the role of the mentor; the role of participants; the holding power of the intervention; and mentor training.

**JCTC.** Reflecting on the program theory/logic model for *Making the Connection*, the JCTC mentors described the intervention in different but related ways. One noted how the intervention provided both academic and personal mentoring and “a peer atmosphere” via the small groups. Another described the mentor role as providing participants with a “liaison” to the college environment. Two mentors noted the student goal attainment aim of the intervention. Finally, one mentor described how the intervention encompassed both the validation of participants and institutional accountability for students’ success, and the mentor’s role in diffusing participants’ fear of failure in the college setting.

As noted above, most JCTC mentors felt that moving to weekly small group meetings was beneficial and that the 75-minute time slot was ample. Most small group meetings involved some combination of the following activities: check-in/catch up about previous week, group problem-solving, modules, other content, set goals for the following week. Some of the JCTC mentors noted that of these, the review of the previous week seemed most helpful to students, and started to become a routine of self-monitoring for some of them.

The JCTC mentors had many words to describe how they envisioned their mentor role, including facilitator, resource, coach, peer, leader, helper, question-answerer, guide, group facilitator, consultant, care-er, listening ear, teacher, and campus buddy. They were more consistent in how they saw the participants' role in the intervention, with most noting that they felt that students were obligated to commit fully and participate actively in the intervention. In addition, several mentors noted the importance of participants being honest with the mentors about their academic progress, as well as the need for participants to be open to mentors' advice and take advantage of mentors' referrals.

As is apparent from the mentors' comments about students' need to commit to the intervention, the "holding power" of the intervention was a concern in the second semester of implementation as well. The JCTC mentors disagreed about the best way to increase the intervention's holding power, including whether to incentivize participation and whether to somehow attach the intervention to a college success course in future implementations.

Regarding mentor training, most of the JCTC mentors valued the training they had had with the life coach in April 2010 and wished it would have taken place sooner in the project. They also noted that meeting every other week in Spring 2010 (the first semester of implementation) allowed them to have mentor meetings in the off weeks and that that was valuable time for them to compare notes and share resources among themselves. Some JCTC mentors also noted that the modules and other information and resources provided to them by the University team were helpful.

**MCTC.** When asked to reflect upon the *Making the Connection* model, several MCTC mentors noted its labor-intensiveness: one described the intervention as "high-touch" and "really intrusive," while another saw the mentor as "somebody who's giving them more attention." The

MCTC mentors were also more likely to mention the college and life skills they were cultivating in participants—as one put it, “supporting them and empowering them with skills that they may not have had prior to attending MCTC or being a part of this program.”

As described above, MCTC took a more flexible approach to the second semester of implementation, allowing veteran participants to “connect” with their mentors individually in lieu of attending small-group meetings, while new participants were supposed to meet in small groups as the veterans had the previous semester. The small group meetings of new participants were anticipated to take place weekly, but in practice, this routine worked out better for some small groups (i.e., one that met immediately following a Saturday morning class) than others. The Fall 2010 iteration also included some information sessions about campus resources, set up by the mentors and open to both new and returning participants. The small group meetings usually included a check-in about the previous week and then modules or other content. Also, because the MCTC participants were recruited from the ADEV class, sometimes the small group meetings continued the discussion from class that day—for example, using the Goal Setting module in the small group to extend what they had talked about in class. Of all of the activities and content covered in the small group, the mentors noted that just having a space in which to share one’s circumstances and talk through one’s decisions was probably the most valuable for participants.

Similarly to the JCTC mentors, the MCTC mentors envisioned their role in many ways: advisor, resource, therapist, conduit, listener, supporter, and collaborator. Regarding the role of the participant, the MCTC mentors noted the same things the JCTC mentors did: that students needed to commit to the intervention and the mentoring relationship, to ask for help when they need it, to be honest with the mentor, and to listen to the mentor’s advice.

The MCTC mentors also noted the importance (and difficulty) of fostering holding power in the intervention. Their suggestions included incentivizing participation, either at the individual meeting level or with a scholarship as an incentive for a semester of participation; or making participation mandatory, such as for students coming back to the college after having been on academic probation.

Like the JCTC mentors, the MCTC mentors appreciated having mentor meetings and having outsiders come in and provide training—in their case, a University professor who talked about mentoring. The MCTC mentors seemed to like the modules more than the JCTC mentors did, perhaps because those modules resembled the ADEV class, of which several of the mentors were instructors and from which all of the participants were recruited.

**Participant interviews.** A convenience sample of participants at both sites was interviewed following the second semester of implementation. These interviews sought participants' perspectives on the small-group and individual mentoring approaches—including frequency and duration of the small group meetings, the frequency of individual mentoring, their relationship with their mentor(s) and members of their small group, the content of the small group meetings, and the question of whether to attach the intervention to a college success course in the future—as well as the holding power of the intervention, why they signed up to participate, and whether they would recommend it to other students. Note that while all of the mentors were interviewed, only a small subset of participants at each site were reachable by phone, despite multiple attempts: 9 JCTC participants and 5 MCTC participants were interviewed.

**JCTC.** JCTC participants found meeting weekly to be ideal, in contrast to the every-other-week schedule of the previous semester's implementation. They also found the 75-minute meeting time, a holdover from the previous semester's small group meetings and also the

duration of most class periods at JCTC, to be a good amount—manageable to fit into one’s weekly schedule and routine. Participants reported that there was usually enough time to cover everything (although groups sometimes ran longer) in 75 minutes.

Regarding what was covered in the small group, JCTC participants appreciated the time devoted to study strategies, time management, self-management, and navigating the college. Most did not mention any content that was unhelpful, except for one student who noted that some of the modules seemed more appropriate for younger community college students. One participant especially appreciated how the content was personalizable—that they were supposed to apply it to their own life and situation.

Participants appreciated the medium of the small group as much as the “curriculum,” reflecting that the group members encouraged one another, showed each other that they weren’t alone in what they were dealing with, and provided camaraderie and others with whom to discuss their problems. All participants seemed to have made connections or formed bonds with the others in their group, but only about half of the participants reported being in contact with the members of their group outside of group meetings. One JCTC small group created a Facebook page to facilitate members’ contact with each other.

The frequency and amount of individual mentoring received outside the small group depended on participants’ needs. Although mentors at both sites reported reaching out to students via phone and e-mail, participants were most likely to want to connect with the mentor when there was something they needed help with immediately. When asked about having both individual mentoring and the small group as components of the intervention, one JCTC participant commented:

I liked both of them. My favorite was the group, being with everybody, but it was a couple of times in there with him, he was really good. He could explain what I needed, what I was asking for and stuff, but yeah, my favorite was the group.

For their part, JCTC participants described their mentors as nonjudgmental, professional, encouraging, approachable, unintimidating, understanding, respectful, and sincere.

Most JCTC participants liked the idea of tying *Making the Connection* to a college success course (e.g., as a 1-credit “lab section”), but were also hesitant about forcing authentic relationships into a structure characterized by requirements and grades. As one participant reflected:

. . . I think that when you get to a teacher and student, it’s not a choice anymore. Turning it into a class is like I have to do it. I think it takes the friendliness or the connection away from the actual program.

Consistent with this, the JCTC participants who were interviewed reflected that the connection with the mentor, the connection with the members of their small group, and the information provided all contributed to the holding power of the intervention in its current form.

All of the JCTC participants interviewed would recommend *Making the Connection* to their friends. They had signed up for it for a variety of reasons: to have a mentor, to get involved in campus life, to improve their odds of success in community college. Several of them credited their success in community college to date with their participation, including one who recognized:

Last semester was actually the first semester that I was able to successfully complete my course of study with higher grades and no academic probation. I credit it to [*Making the Connection*] because if it was me doing it alone, I probably would have dropped the ball

around the last day to drop classes, which is what I have done in the past. It was definitely good for me.

*MCTC.* MCTC participants' experiences and opinions both varied more than the JCTC participants'. The MCTC respondents included one who participated in the intervention during Spring 2010 only, two who participated during both semesters, and two who were new participants during Fall 2010.

Among the MCTC participants interviewed, most thought the frequency of meetings was just right, whereas one thought that the small groups did not meet frequently enough. Likewise with the duration of the small group meetings: most thought the meetings were long enough, but one thought that longer meetings would be helpful.

MCTC participants found the most valuable small group content to be Goal Setting and the sessions devoted to navigating the college: registration, financial aid, e-mail, etc. On the former topic, one participant noted that it was helpful to learn "to set goals, that your effort pays off in the end, and to keep thinking about your goals on a short term and long term basis." Another especially appreciated learning about financial aid. Like the JCTC participants, the MCTC participants all made connections with the other members of their small group and learned from their experiences, but rarely were in contact with them outside of the small group meetings.

Similar to the JCTC participants, individual mentoring at MCTC most often took place in response to student needs. At MCTC, students were mentored by a pair of mentors comprised of an ADEV instructor and an academic advisor. MCTC participants more often reached out to the mentor who was an ADEV instructor, possibly because they already knew that person from the ADEV course. Most participants thought they met with their instructor-mentor as often as they

needed to, but that they did not get as much mentoring from their advisor-mentor as they could have used. MCTC participants described their mentors as understanding, welcoming, helpful, and reassuring.

The question of whether to tie the intervention to a college success course in the future was seen differently by the MCTC participants, since for them, *Making the Connection* was already connected to ADEV insofar as they were targeted for participation because they were taking ADEV, because one of their mentors was probably their ADEV instructor (unless they had to belong to a different small group due to schedule constraints), and because much of the content covered in *Making the Connection* supplemented the college success skills and dispositions they were learning in ADEV. Not surprisingly, most of them reflected that it worked well to have *Making the Connection* tied to ADEV, and some noted that it was more difficult to make it to small group meetings when those meetings did not take place immediately before or after their ADEV section, as they often did.

The MCTC participants identified the information, resources, knowledge, and support provided in *Making the Connection* as factors which kept them participating in the intervention. Most said they would recommend participating in it to their friends, including one who reflected:

. . . it is a really good program. I even told some of my friends that don't even go to this school that we have this program. . . . I tell them I meet with someone every so often and it is really nice to have someone to go to. It is like having an advisor, but more of a mentor. It is somebody who is always going to be there to help you. . . . It is enjoyable when we do meet. They have helpful programs and classes that you actually get something out of. If you want to do well in school, I would definitely do that.

**Summary of Iteration III.** Considering respondent comments together, that is, both participants and mentors, most favored the two access points of support, the small group and the individual mentoring. Mentors expressed concern about keeping students engaged in the intervention and some believed that an incentive was needed. Others, however, believed that the relationship, if given time to develop, provided holding power for the intervention. Student participants supported this observation—that relationships in the small group and individually with the mentor were the real holding power of the intervention.

On the issue of small group sessions, a structured format was favored by both mentors and participants, but the issue of what content was less clearly resolved. Mentors want autonomy in deciding what to work on, and participants were not as concerned, willing to leave that decision to the mentors. On the other hand, both mentors and participants liked making individual issues the focus, believing that participants can learn from one another.

**Institutional Data.** Finally, institutional data from each site for participants in the Fall 2010 implementation (Iteration III) shows better term and cumulative GPA, course pass rates, and term-to-term retention rates for *Making the Connection* participants across the board (see Table 8). While these statistics are encouraging, recall that *Making the Connection* participants were self-selected and may have experienced these outcomes even if they had not participated in the intervention. In addition, relatively few students are represented among the Participants below. However, as an IES Goal 2: Development grant, the purpose of this project was to develop an intervention and demonstrate its feasibility and potential, and the statistics below provide evidence for *Making the Connection*'s potential to help community college students pass their classes with better-than-average grades and persist from semester to semester.

Table 8

*Institutional Data*

	JCTC Participants (n=17)	JCTC Comparison Group (n=1109)	MCTC Participants (n=42)	MCTC Comparison Group (n=790)
Term GPA, C or Better	82%	64%	64%	59%
Cumulative GPA, C or better	88%	64%	58%	55%
Course Pass Rate	67%	63%	71%	58%
Average Term-to-Term Retention	100%	76%	79%	70%

**Final Model**

Based on our data from the third iteration and on supporting literature, we refined our model using the four components of C&C as a template. Figure 4 summarizes the model components.

<b>Making the Connection (MtC) Model Components</b>
1. Small-group and individual mentoring.
2. A mentor/small group leader who keeps the focus on achieving the students’ academic career goals (via setting goals on the monitoring form and use of modules on goal-setting). The mentor both facilitates the group and is available for individual mentoring. The mentor provides <i>active</i> support.
3. Systematic self-monitoring by students with feedback from the small group and mentor.
4. Intentional, timely, personalized “interventions” designed to help students stay on goal.

*Figure 4.* Making the Connection (MtC) Model Components

In determining the components, we looked at support from the literature and support from our data. As we were analyzing results for this final report, Melinda Mechur Karp at the Community College Research Center, Teachers College published a working paper about the

importance of non-academic student support (2011). The supports she discusses map cogently onto the components of the MtC model, although our model was developed independently. These are incorporated into the following detailed description of the final model and its support in research and pilot study findings.

**Component #1. A small group of community college students who want/need extra support.**

*Theoretical Support.* Models that seek to explain student attrition support the need for interventions that address developing a social network or experiencing social integration at college. Although studies show that persistence and retention are more problematic at two-year institutions, these dominant explanatory models have drawn primarily from research conducted with traditional four-year college students and institutions. The most widely recognized and tested model of student attrition is Tinto's Student Integration Model (1975), which argues that student persistence is related to the degree of integration into the academic and social life of the college. Other studies support the construct of integration as predictive of student attrition (e.g., Pascarella & Chapman, 1983; Terenzini, Lorang, & Pascarella, 1981).

In 1980, drawing from the literature on organizational turnover, Bean proposed his Student Attrition Model, which maintains that beliefs formed through institutional experiences (e.g., quality of coursework), friends, and other factors (including non-institutional ones) develop attitudes that influence students' intentions to either remain in school or to leave school. Additionally, Braxton and McClendon noted that there are two "empirically reliable sources of influence on college student departure: social integration and subsequent institutional commitment" (2001, p. 57). Unfortunately, researchers (e.g., Bean and Metzner, 1985; Pascarella & Terenzini, 2005; Tinto, 1993) have noted that non-traditional students do not have the same

opportunities to become socially integrated into the institution. Indeed, these students often have “external communities” that work against integration into college communities (e.g., work and family), and these external communities may not be supportive of college goals (Karp, 2011).

Other theories also call for interventions that promote a sense of belonging, including validation theory (Rendón, 1994), self-determination theory, and adult learning theory. Finally, Karp (2011) identifies *creating social relationships* as one of four non-academic supports that help students develop belongingness and provide access to information and resources.

***Pilot Project Support.*** Based on the above theoretical foundations and their knowledge of their college’s students, the stakeholder groups for our Goal 2: Development project decided on a small group (with individual mentoring) intervention. Pilot project data supported the usefulness of the small group. For example, students noted the following ways in which the small group supported them: helping problem solving, having a place to go for answers, being held accountable by the mentor and group members, sharing with others with similar issues, meeting new people, belonging, connecting, encouraging, and realizing one was not alone. One student said, “Good way to network and get real answers about college and keep in contact with someone willing to help.” Another noted, “It was college situations associated with life situations. I guess it was a situation that made you want to give up, but when you are talking about that situation with the group, somebody else would come in with either the same problem or a worse problem. It pulled you through because somebody other than you was having a problem. You realized that you are not alone.”

**Component #2. A mentor/small group leader who keeps the focus on achieving the student’s academic and career goals. The mentor facilitates both the group and is available for individual mentoring. The mentor provides *active* support.**

***Theoretical Support.*** Adult learning theory (Knowles, 1973; Speck, 1996) suggests that, for adults, transfer of learning is not automatic and must be facilitated. Mentors can provide that facilitation through the teaching and modeling of cognitive problem solving (a key element of C&C) (D’Zurilla & Goldfried, 1971). As previously discussed, social cognitive career theory (Lent, 2007) informed our selection of intervention targets for MtC, with mentors modeling and facilitating students’ expansion of vocational interests, clarification of career goals, strengthening of self-efficacy beliefs, development of realistic outcome expectations, management of environmental barriers, and building of environmental support systems through small group mentoring and individual support as needed. Finally, theoretical foundations of coaching informed our model. A coach/mentor, who functions as a trusted role model, advisor, friend, or guide, helps individuals learn rather than *teaching* them (Stober & Grant, 2006). As such, he/she “is someone trained and devoted to guiding others into increased competence, commitment, and confidence” (Hudson, 1999, p. 6; cited in Stober & Grant, 2006, p. 3). Finally, Karp (2011) lists *clarifying aspirations and enhancing commitment* as a non-academic student support.

***Pilot Project Support.*** One contribution of this pilot project is a better definition of effective mentoring for community college students. Mentors and students provided the following descriptions of the mentoring role: taking a personal interest in the student, offering guidance and support, providing answers, helpful, understanding, welcoming, professional, encouraging, facilitator, good listener, seeing students holistically (not just academically), proactive in seeking out students (unlike a counselor). One student commented in reference to her mentor: “He made me feel like I could succeed, and that at above 50 and all, it was no big deal . . . that there was so many older students at school. He told me different ways of studying.” Another noted, “It is not something that is readily available in most colleges . . . it is a door you

can go open or go knock on. I think the information I received was just priceless.”

Descriptions notwithstanding, observations of small groups working with a mentor provided data that some mentors used more of a therapeutic approach while others used a coaching/accountability approach. Our interpretation of the qualitative findings is that the coaching/accountability approach is more effective with adult students and more in line with the problem solving and goal setting content.

**Component #3. Systematic monitoring by the student with feedback from the small group and mentor.**

*Theoretical Support.* Two premises of adult learning theory (Knowles, 1973; Speck, 1996) support the need for systematic monitoring of student progress. First, adults need to receive feedback on how they are doing and the results of their efforts. Second, adults want to originate their own learning, and they will resist learning activities that threaten their competence. Self-regulated learning theory also supports the need for monitoring and feedback. To become a self-regulated learner, students must become aware of their own behavior, motivation, and cognition. This can be achieved by students setting goals for their learning and monitoring their progress toward achieving those goals, reflecting on what supported their success and what stood in the way. Pintrich (2004) reinforces the need for self-monitoring, listing it as one of the four phases of self-regulated learning: 1) Forethought, planning, and activation; 2) Monitoring; 3) Control; and 4) Reaction and reflection.

In C&C, the monitoring is done by the mentor and is gradually turned over to the student; however, we did not see this approach as desirable for postsecondary students. Rather, we believed that adult students should self-monitor, as Zimmerman and Paulson describe: “students can assess their progress and make necessary changes to ensure goal attainment. Self-monitoring

can serve as a tool for self-improvement by enabling students to direct their attention, to set and adjust their goals, and to guide their course of learning more effectively” (1995, p. 4). Karp (2011) notes the importance of *developing college know-how*, which the self monitoring and coaching components support.

***Pilot Study Support.*** In MtC small group, students monitored themselves on a weekly basis, setting short-term goals and reflecting on their attainment or non-attainment. We believed that doing this systematically would strengthen and routinize the self-monitoring process. Students noted that this process was among the most helpful parts of the intervention. Comments include: “I thought it was helpful to see what I was lacking and to see what it would take to meet my goals;” “Just the goal setting was helpful—short term and long term—getting work done each week, getting assignments in. I had a lot going on and the goals helped keep me on track;” “I like looking at what was holding me back at times or what was helping me do better.”

**Component #4. *Intentional and timely, individualized “interventions” designed to help the student stay on goal.***

***Theoretical Support.*** The mentor role in both C&C and MtC is proactive—the mentor does not wait for students to ask for help. Student advising and counseling in community and four-year college settings require that students seek help. Non-traditional, first-generation students often do not have role models of how to navigate the college environment (Cox, 2009; Levin, 2005); thus they are not comfortable going to professors and other college staff for help.

Validation theory supports the need for proactive support from the mentor (Rendón, 2004). Validation refers to “an enabling, confirming and supportive process *initiated by in- and out-of class agents* that foster[s] academic and interpersonal development” (Rendón, 1994, p. 44, emphasis added). Note that, unlike most other theories of student persistence, the practice of

validation relies on the actions of institutional or external agents instead of within-person agents. Karp (2011) also recommends that colleges “*redesign advising and counseling so that it is both streamlined and personalized*” (p. 25, italics in the original).

***Pilot Project Support.*** Both MCTC and JCTC had large advisor/counselor ratios. Participants noted their appreciation of having a support person on campus, a direct contact. They reported receiving help with academic planning, financial aid, career planning, registration, and overcoming personal obstacles from their MtC mentors. Comments included: “Whatever issue you are having at that time, someone is there on hand that knows what’s really going on;” “Help working through a problem with a professor this semester. (Mentor) offered great advice for how to handle the situation and helped me get through it;” “It was very helpful and made me feel very ahead in making sure that I was on task with not just my school work but knowing information about my major and classes I needed to pick and credits that were transferable and financial aid questions I had;” “She went through the classes I had a couple of years ago and found out that I had a lot toward my degree.”

Findings across the two iterations and literature support allowed us to perfect a final for Making the Connection. Figure 5 provides a detailed logic model of the program.

### **Fidelity of Implementation**

Based on findings across the iterations, including observations of the groups in action, the team created two Fidelity of Implementation matrices (See Appendix E). These are written at two levels. The first, *Making the Connection Model*, provides a snapshot of what a fully implemented model should look like. The second, *Small Group Implementation Fidelity Matrix*, provides specific structures that need to be in place for running the small groups.

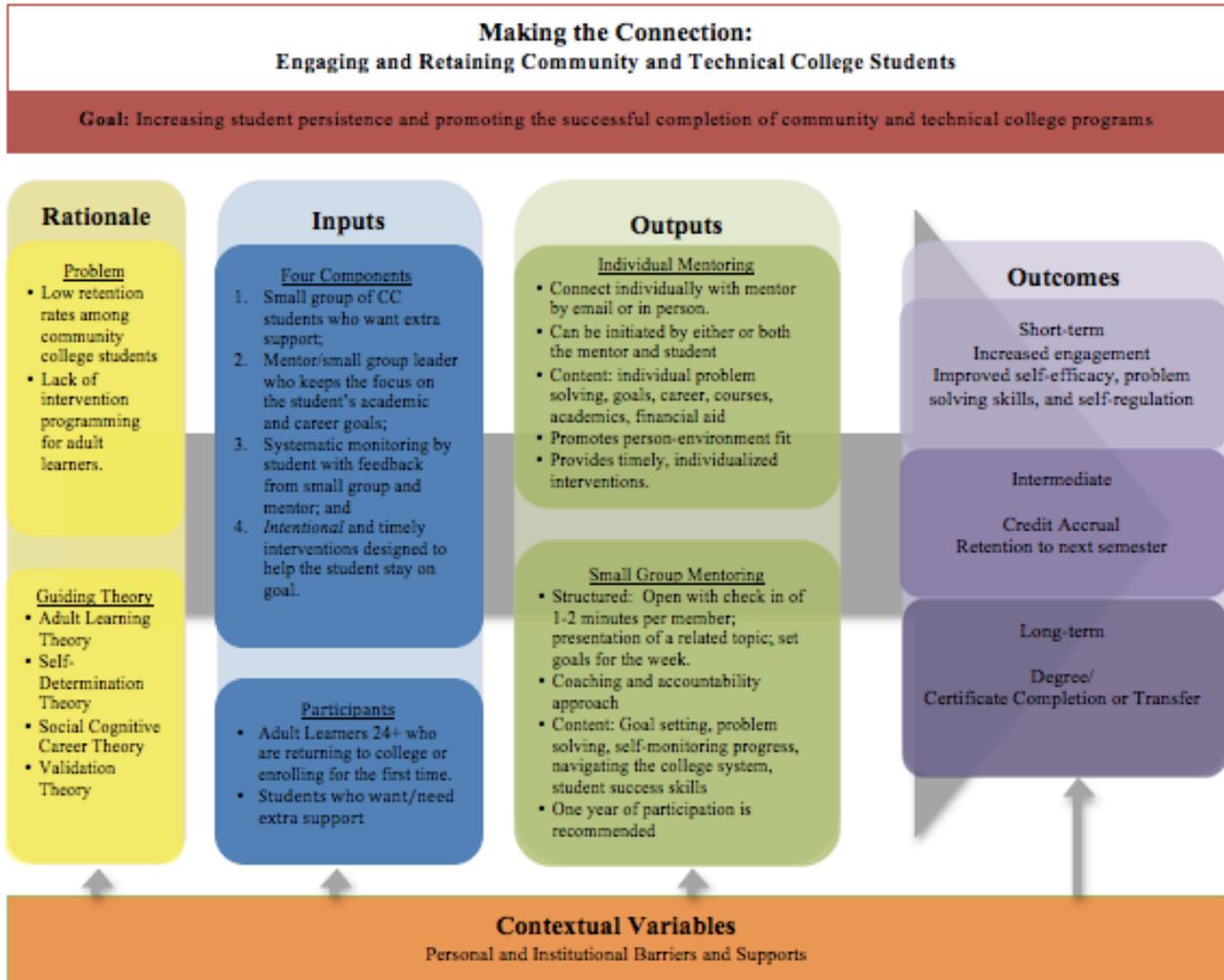


Figure 5. Final Logic Model of Making the Connection

### Conclusions

Making the Connection differs from other interventions in that it combines small group work, intended to build social integration and to teach psychosocial skills, with individual mentoring. The mentor both leads the small group and provides individual mentoring. In addition to this two-pronged approach to intervention delivery, the mentor is *proactive*, and does not wait for students to seek his/her help, but rather, stays in touch with the student through the small group and by contacting the student, especially if the student does not attend a group or has revealed a problem that requires ongoing support. The model is intended to serve non-traditional

students who can profit from a role model, need development of psychosocial skills that correlate with college success (e.g., problem solving, career goal setting), need help navigating the community college system, and need support in identifying and progressing towards goals. The combination of the small group and individual mentoring provides non-academic supports that are related to academic success and builds autonomy, belongingness, and competence.

Too many non-traditional students fail to complete their academic goals, and we believe this loss of potential productivity harms us as a society and diminishes individuals' life chances. MtC bridges the gap between theories that say that the individual needs to improve *or* that the institution needs to change to foster student persistence. It is practical, addressing both approaches to improve persistence. It is grounded in solid theoretical frameworks and is based on a successful K-12 intervention. Finally, we believe our adaptation both draws on the strengths of the community college context and provides support in areas that need improvement.

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## Appendix A

### Institutional Information

In 2010 Minneapolis Community and Technical College (MCTC) enrolled 12,766 students with an average age of 28. Of the 55% female and 45% male students, 41% attended full-time and 59% attended part-time. Forty-five percent were students of color, breaking down as 30% Black, non-Hispanic; 4% Hispanic; 6% Asian/Pacific Islander; 2% American Indian/Alaska Native, and 5% unknown. Of these, 28% were first generation college students, 2% were non-resident aliens, and 74% received financial aid, while 26% did not (IES, 2011; MCTC Office of Strategy, Planning, and Accountability, 2010). The MCTC site coordinator noted that retention rates vary from 50-64% depending how the data is collected and interpreted.

At Jefferson Community and Technical College (JCTC), of the 15,478 students enrolled in 2010, 32% attended full-time and 68% attended part-time. The average age was 26, with 53% female and 47% male students. Twenty-six percent were minorities, including 19% Black non-Hispanic; 2% Hispanic; 2% Asian/Pacific Islander; 0% American Indian/Alaska Native, and 13% unknown. There were no non-resident aliens and figures on first generation status were not available. Of these students, 83% received financial aid while 17% did not (IES, 2011). The JCTC site coordinator noted that the retention rate is 44%, which is affected by the number of students taking developmental courses, 60% total and 80% needing developmental mathematics.

In terms of graduation rates, at the end of 2006, MCTC graduated 29% White non-Hispanic; 6% Black non-Hispanic; 7% Hispanic; 9% Asian/Pacific Islander; and 10% American Indian/Alaska Native. JCTC graduated 11% White non-Hispanic; 13% Black non-Hispanic; 0% Hispanic (data unreliable); 0% Asian/Pacific Islander (data unreliable) and 11% Race/ethnicity unknown. Both site coordinators noted that their students' two biggest challenges are social/academic readiness (particularly in math) and financial/job obligations (which include transportation, healthcare, and homelessness).

### Appendix B

## Making the Connection Self-Monitoring Sheet

Student \_\_\_\_\_ College MCTC ID \_\_\_\_\_  
 Semester \_\_\_\_\_ Dates \_\_\_\_\_ - \_\_\_\_\_ Mentor/Advisor \_\_\_\_\_

A. What are your goals for this semester?

Career Goal: \_\_\_\_\_

Education Goal: \_\_\_\_\_

Finance Goal: \_\_\_\_\_

Leadership Goal: \_\_\_\_\_

Personal Goal: \_\_\_\_\_

B. In the boxes below, for each week mark how you think you did in this area: + = Excellent, √ = Fair/OK, — = Poor

	Week of the Semester															
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
<b>Attendance</b>																
<b>Assignment Completion</b>																
<b>Time and effort put into coursework</b>																
<b>Preparation for Class</b>																
<b>Participation in Class</b>																
<b>Progress toward career goal</b>																
<b>Progress toward education goal</b>																
<b>Progress toward Finance Goal</b>																
<b>Progress toward Leadership Goal</b>																
<b>Progress toward Personal Goal</b>																
<b>Communicated with mentor (date when occurred)</b>																
<b>GPA</b>	Semester GPA: _____.										Cumulative GPA: _____.					
<b>Credits earned/ Courses passed</b>	Credits earned out of _____ possible										Classes passed out of _____ possible					

## Completing the Self-Monitoring Sheet

Directions: *Complete Parts A and B immediately upon receiving the self-monitoring sheet. Complete C, D, and E at least once every two weeks and consider your performance in those two weeks. Be sure to discuss the self-monitoring sheet with your mentor.*

Part A examples: What is your career goal?

- To become a veterinary assistant.
- To become an accountant.
- To work in HVAC.
- To get my MBA and own my own restaurant.

Part B examples: What are your academic goals for this semester?

- To pass my developmental math course and be ready to register next semester for the required math for my certificate program.
- To earn credits in every course I am taking.
- To complete all assignments on time and to the best of my ability.
- To decide on a degree or certificate program.

Part C examples

Attendance:

- + = attended every class/ perfect attendance
- √ = missed a class and obtained notes or assignments from the instructor or a classmate
- — = missed more than 1 class, did not attempt to find out what I missed, and/or did not notify or absence with the instructor

Assignment Completion

- + = completed all assignments on time.
- √ = completed most assignments on time.
- — = did not complete any assignments on time and/or did not complete some assignments at all.

Time and effort

- + = spent enough time to understand my work and complete it with accuracy
- √ = spent enough time to complete my work, but didn't worry a lot about understanding or accuracy
- — = spent little to no time or effort on my schoolwork.

Preparation for class

- + = did all of the work required to be prepared for class and came ready to participate
- √ = did most of the work required to be prepared for class and was somewhat ready to participate
- — = did not do much or any of the required work and was not ready to participate in class.

Participation in class

- + = listened attentively, actively participated in discussion, and asked questions
- √ = mostly listened and sometimes participated in discussion
- — = did not participate in class

Progress toward goals:

- Consider how well you're meeting some of the steps necessary to achieve your goal.
  - Example: Goal = Pass developmental math.
    - Steps = turn in work, ask for help, prepare for class, study for exams, etc.
  - + = did an excellent job in completing the steps toward achieving my goal
  - √ = did an OK job in completing the steps toward achieving my goal
  - — = did poorly in completing the steps toward achieving my goal

Communicated with mentor: Put the date when you communicated with the mentor in the correct

Parts D + E: Add to each of these throughout the semester.

- Examples: specific subject area, homework completion, study time, GPA, attendance, etc.

## Self-Monitoring Report Form

Student: \_\_\_\_\_ College:  MCTC  ID: \_\_\_\_\_

*Directions: Reflect on the past week and rate yourself on items below. Mark a “+” if you believe your performance in the area was excellent, “√” if fair/OK, or “—” if poor. Explain your rating.*

1. \_\_\_\_\_ Attendance

---

2. \_\_\_\_\_ Assignment Completion

---

3. \_\_\_\_\_ Time and effort put into coursework

---

4. \_\_\_\_\_ Preparation for class

---

5. \_\_\_\_\_ Participation in class

---

6. \_\_\_\_\_ Progress toward your \_\_\_\_\_ goal.

---

7. Something that went well this week was...

8. Something that could have gone better was...

a. Something I could have done to help things go better is...

9. Something I plan to work on for next week is...

10. Something I would like to talk to my mentor about or could use some help with is...

## Appendix C

### Making the Connection Personal Inventory

The purpose of the Making the Connection Personal Inventory is to measure students' perceptions of themselves as college students. Please understand that there are no right or wrong answers and that different students will respond differently. Please answer each question honestly.

**Determine whether you strongly disagree, disagree, agree, or strongly agree with the following statements and mark  the appropriate box.**

	<b>Strongly disagree</b>	<b>Disagree</b>	<b>Agree</b>	<b>Strongly Agree</b>
1. I'm motivated to get a college degree.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. I do all of my work to the best of my abilities.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. I am certain I will succeed in college.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. If something better came along, I would leave college.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. If I needed to miss a class, I would get the work I miss from the instructor.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. I have a sense of social connection with others at this college.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. I would rather be somewhere else than in college.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. I am able to apply what I learn in my courses to other parts of my life.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. I feel like I am valued as a student at this college.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. I'm determined to achieve my academic goals regardless of obstacles.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11. I have the ability to complete my coursework.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12. I feel comfortable working with others.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13. I prefer coursework that is easy.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14. There is at least one classmate I can call for help with my coursework.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15. I believe that I will achieve my academic goals.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

	<b>Strongly disagree</b>	<b>Disagree</b>	<b>Agree</b>	<b>Strongly Agree</b>
16. I do my coursework because I'm interested in it.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
17. When I set goals, I work hard to achieve them.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
18. What I learn in college will be useful one day.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
19. If I needed to miss a class, I would get the work I miss from a classmate.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
20. I'm thoughtful in my career planning.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
21. The instructors are approachable at this college.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22. I can do even the hardest coursework if I try.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
23. I attend college because I don't know what else to do.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
24. I think about my future career as I complete coursework.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
25. I can keep up academically with my classmates.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
26. Working hard in college now will help me in my future.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
27. I like coursework that I'll learn from even if I make a lot of mistakes.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
28. I am hopeful about my future.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
29. I am in college so that I can get a good job.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
30. If I have a difficult time with an assignment, I keep trying.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
31. I know attending college is the right choice for me.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
32. I am serious about fulfilling my obligations.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
33. If I needed help with coursework, I would ask my instructor for assistance.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
34. I am satisfied with my performance in my courses.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
35. If I needed help with coursework, I would ask my classmates for assistance.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Determine whether you do the following *never, rarely, occasionally, or regularly* and mark  the appropriate box.**

	<b>Never</b>	<b>Rarely</b>	<b>Occasion- ally</b>	<b>Regularly</b>
36. I set career goals for myself.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
37. If my solution to a problem fails, I try to figure out why it didn't work.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
38. I complete my coursework on time.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
39. I set academic goals for myself.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
40. After I solve a problem, I evaluate the solution I came up with.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
41. I make an outline before I write a paper.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
42. Participate in class discussion.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
43. Ask other students questions.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
44. Come to class having completed the assigned readings.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
45. I check over my completed coursework to make sure it's correct.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
46. If a problem is large, I divide it into smaller parts.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
47. I communicate with the professor about my absences from class.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
48. Ask the instructor questions.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
49. I plan things out before I begin my coursework.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
50. When I don't understand what I read, I reread the section.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
51. When I face a problem, I try to come up with the best solution before I act.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
52. I have a process I use to solve problems.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
53. I combine information from lecture and reading when I study for a test.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
54. Work with classmates on coursework outside of class.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

	Never	Rarely	Occasion-ally	Regularly
55. While studying, I ask myself questions to make sure I understand what I'm studying.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
56. I try to put main ideas in my own words as I study.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
57. Other activities keep me from doing my coursework.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
58. I try to connect class reading to something interesting.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
59. Use instructor feedback to improve an assignment.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
60. While reading for class, I stop once in a while to review what I've read.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
61. I try to get rid of distractions when I study.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
62. Work with classmates on coursework in class.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
63. I use a planner/assignment book to keep track of my assignments.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Read each item below and determine whether your response is *yes* or *no* and mark  the appropriate box.**

	Yes	No
64. My instructors all know my name.	<input type="checkbox"/>	<input type="checkbox"/>
65. I learned the name of at least one student I did not previously know.	<input type="checkbox"/>	<input type="checkbox"/>
66. I know what academic support resources are available at this college.	<input type="checkbox"/>	<input type="checkbox"/>
67. I know what student support services are available at this college.	<input type="checkbox"/>	<input type="checkbox"/>
68. I have talked with an advisor or mentor at this college.	<input type="checkbox"/>	<input type="checkbox"/>
69. I have chosen a program or major to study.	<input type="checkbox"/>	<input type="checkbox"/>
70. I know what career I would like to have when I am done with college.	<input type="checkbox"/>	<input type="checkbox"/>

**Biographical Information**

For each question, mark  only one box.

Are you male or female?

- Male  
 Female

How old are you?

\_\_\_\_\_ years old

What is your ethnicity?

- American Indian  
 Asian  
 Black  
 Hispanic  
 White

Is English the primary language spoken in your home?

- Yes  
 No

In what range is your overall grade point average?

- A- to A (3.5 – 4.0)  
 B to A- (3.0 – 3.4)  
 B- to B (2.5 – 2.9)  
 C to B- (2.4 – 2.0)  
 C- to C (1.5 – 1.9)  
 D to C- (1.0 – 1.4)  
 D- to D (0.5 – 0.9)

## Appendix D

### Making the Connection Module 2

#### Setting Goals to Reach Your Dreams

**Length of time:** 1 session

**Objectives:**

- Students will review their dreams and write a long-term goal for a desired future event.
- Students will brainstorm what it will take to achieve the long-term goal.
- Students will set short-term goals for meeting the long-term goal.

**Strategies:**

- Discussion
- Brainstorming
- Reflection
- Goal setting

**Materials:**

- Writing utensils
- Goal Setting Handout
- Whiteboard, chalkboard, or overhead on which you can model SMART goals

**Procedures**

**Check-in:**

- Each student has 60 seconds to share something they did during the week to help move themselves closer to achieving their dreams/ideal future.
- Students can volunteer to share something that hindered their progress toward their dreams and how they were able to overcome the hindrance (if they were).
  - If hindrances are raised that were not overcome, the mentor can offer to set up an individual meeting to discuss the challenge, or time at the end of the session may be used to problem-solve the challenge with the group.

**New Content:**

1. Instruct students to review their dreams/ideal future.
  - a. Remind students that they were to have circled the most important future event on their lifeline.
  - b. Request volunteers to share their most important dreams with the group.
2. Handout the goal setting sheet.
  - a. Have students record their desired future event on the sheet.
3. Direct students to write a long-term goal for that important future event.
  - a. Share the **SMART goals format**
    - i. **S – Specific**
    - ii. **M – Measureable**

- iii. **A – Attainable**
- iv. **R – Results-oriented**
- v. **T – Time-bound**
- Provide an example:
  - By July of 2013, I will own my own home in Minneapolis
- 4. Have students brainstorm the actions and behaviors that will be necessary to achieve their goal.
- 5. Instruct students to star 3 actions/behaviors they can accomplish during the coming semester.
- 6. Direct students to write short-term goal statements for those 3 actions or behaviors using the SMART goals format.
- 7. Students can share with a peer near them.

**Student Commitment for Next Meeting:**

- Inform students of their assignment:
  - Brainstorm the supports they will need or can count on to help them achieve their goals.
  - Share their dream and goals with at least one support person.
  - Reflect on the conversation with that support person.

## Making the Connection Goal Setting

Name: \_\_\_\_\_ Date: \_\_\_\_\_

Dream: \_\_\_\_\_

---

SMART goals

S – Specific

M – Measureable

A – Attainable

R – Results-oriented

T – Time-bound

**Long-term goal statement for your dream (written as a SMART goal):**

**Brainstorm: What actions and behaviors will it take to achieve your goal?**

**Star 3 actions/behaviors you believe you can accomplish or need to accomplish this semester in order to meet your long-term goal.**

**Short-term Goals:** Record three short-term goals that you will achieve this semester to move you closer to achieving your long-term goal (use the SMART goal format).

**Brainstorm:** What supports (people) do you have in place that can help you meet your goals?

**Assignment:** Share your desired future event, long-term goal, and short-term goals with someone who can help support you as you strive to meet the goals. Then, reflect on how the conversation went here:

## Appendix E

### Making the Connection Model Fidelity of Implementation (Century, Rudnick, Freeman, 2010)

<b>Structural</b>	<b>Educative</b>	<b>Delivery</b>	<b>Student Engagement</b>
<p><i>Time</i> 45-90 minutes</p> <p><i>Order</i></p> <ol style="list-style-type: none"> <li>1. Small group begins with 60 second recap of the week, with the focus on academics</li> <li>2. Follow-up on commitments made the past meeting</li> <li>3. Discussion of topic, either introduction of new topic or continuation</li> <li>4. Guided practice on related tasks in class</li> <li>5. Assignment or commitment to carry out over the next week</li> </ol> <p><i>Individualized Mentoring</i></p> <ol style="list-style-type: none"> <li>1. On as-needed basis</li> <li>2. Meet outside of group with mentor one-on-one</li> </ol>	<ol style="list-style-type: none"> <li>1. Mentoring guidelines</li> <li>2. Psycho-social skills</li> <li>3. Academic behavioral skills</li> <li>4. Problem solving</li> </ol>	<p><i>Facilitating student engagement with others</i></p> <ol style="list-style-type: none"> <li>1. Mentor facilitation of group work</li> <li>2. Mentor facilitation of student discussion</li> </ol> <p><i>Facilitating student engagement with content</i></p> <ol style="list-style-type: none"> <li>3. Mentor facilitation of students in goal setting</li> <li>4. Mentor facilitation of students in problem solving</li> <li>5. Mentor facilitation of students in time management</li> </ol> <p><i>Facilitating role development as community college student</i></p> <ol style="list-style-type: none"> <li>6. Mentor facilitation of student autonomy</li> <li>7. Mentor facilitation of student self-regulation</li> <li>8. Mentor facilitation of</li> </ol>	<p><i>Students engage with others</i></p> <ol style="list-style-type: none"> <li>1. Students contribute to small group work</li> <li>2. Students engage in discussion</li> </ol> <p><i>Students engage as community college students</i></p> <ol style="list-style-type: none"> <li>3. Students develop role as learners (e.g., carry and use an agenda, plan time for study, prepare assignments and for tests</li> <li>4. Students demonstrate autonomy</li> <li>5. Students use goal planning</li> <li>6. Students use problem solving approach</li> <li>7. Students understand and apply mindset</li> </ol>

**Making the Connection**  
**Small Group Implementation Fidelity Matrix**

		Concepts	Practice	Absent — Present
Content 1. Problem-solving 2. Time management 3. Growth mindset 4. Goal-setting 5. Self-management	Critical Elements	1. Advance organizer 2. Presentation of concept 3. Guided practice during group time 4. Further practice outside of class/small group 5. Setting a weekly task/goal/expectation	• Accurate information based on literature	— — — —
			• Discussion of interconnectedness of behaviors and attitudes. Focus on behavior	— — — —
			• Using problem-solving approach whenever possible	— — — —
			• Follow-up	— — — —
	Undesired Elements	Overemphasis on process	• Focus of group is process, <i>not content</i>	— — — —
		Concepts	Practice	Absent — Present
Role of the Mentor/Coach	Critical Elements	1. Enhance opportunities for success in schoolwork 2. Create caring and supportive environment 3. Keep the focus on academics 4. Build skills for personal problem-solving	• Strength-based orientation	— — — —
			• Consistency of message	— — — —
			• Cheerleading, coaching, encouraging	— — — —
			• Reflecting, reframing, problem-solving	— — — —
			• Modeling problem-solving	— — — —
	Undesired Elements	1. Act as therapist/counselor 2. Interrupts	• Gives advice rather than modeling problem-solving	— — — —
		• “Talks at” rather than listening	— — — —	

		Concepts	Practice	Absent — Present
Elements of Small Group	Critical Elements	<ul style="list-style-type: none"> <li>• Check-in</li> <li>• Follow-up from last week</li> <li>• Introduce new topic or continue from previous week</li> <li>• Participation</li> <li>• Assignment</li> </ul>	• Mentor has students report on progress since last session	— — — —
			• Reports on engagement with module tasks	— — — —
			• Each member has a chance to respond	— — — —
			• Students commit to module-related task(s)	— — — —
	Undesired Elements	<ul style="list-style-type: none"> <li>• Too much direct talk</li> <li>• Low expectations</li> <li>• No follow-up</li> </ul>		— — — —
				— — — —
				— — — —
		Concepts	Practice	Absent — Present
Time Allocation	Critical Elements	• 45-75 minutes in duration		— — — —
		• No more than 15 minutes spent on check-in		— — — —
		• 20-30 minutes spent on discussion topic		— — — —
	Undesired Elements	• Too much time spent on check-in and personal issues		— — — —
		• Mentor monopolizes time		— — — —