

## **The Tech Scholars Learning Community: Transition in Progress from Community College to University**

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### **1. Introduction:**

Encouraging and supporting persistence and transfer among students who are academically and economically disadvantaged including minorities and women continues to be a challenge for higher education administrators, faculty and staff. To be successful in changing the dropout patterns of these students' calls for stiff determination, creativity and constant assessment.

The Michigan College/University Partnership (MICUP) Program was created by the Michigan State Legislature in 1988 as a part of the larger King-Chavez-Parks (KCP) Initiative<sup>1</sup>. The legislative intent is to increase the number of academically and economically disadvantaged students who transfer from community colleges to baccalaureate programs. The intent of the MICUP Program is to provide seed money that will serve as catalyst for institutional change, stimulating more coordinated efforts within institutes, permanently ensuring both short- and long-term measurable improvement in academically and economically disadvantaged students' completion of baccalaureate degrees. The Michigan Department of Career Development's KCP Initiative provides oversight to the MICUP Program and technical assistants to the institutions.

This paper describes a college-university partnership program supported by the MICUP Program. This partnership program, namely the Tech Scholar Learning Community, was established between the Division of Engineering Technology at Wayne State University in Detroit, Michigan and Schoolcraft College in Livonia, Michigan. The main objective is to create a learning-centered program that ensures the success of academically and economically under-prepared students as they transfer to four-year institutions. The majors that are the center focus of this program include Computer-Aided Design, Computer-Aided Manufacturing, Metallurgy, Computer Information Systems, Electronics, Computer Service, and Laser Technology. Students of other majors are also encouraged and exposed to the option of continuing their education to complete a four-year degree at Wayne State University.

According to the graduate follow-up studies, of the 9,743 students enrolled at Schoolcraft

College during the Fall semester of 2002, less than 46% of them transferred to four-year colleges and universities<sup>2</sup>. The transfer rate is even lower for the engineering-related programs. The studies show that approximately 40% of the engineering-related students went on to four-year colleges and universities, and the graduation completion rate is only 20%<sup>2</sup>. With the reality of these data as a guide, the goals set for the Tech Scholars Learning Community Program was to increase the number of transfer students by 20% and to institutionalize the program by the end of the five-year plan (2007).

## **2. The Target Group:**

The Tech Scholars Learning Community targets minority students, female students and students who are under-prepared academically and/or need financial aid. The criteria for selection of academically under-prepared students will be scores on one of three assessment tests (ASSET, Computerized Placement Test, or ACT). Students who fall below the college-level scores in writing, reading, or mathematics will be eligible. Students who are eligible for financial aid will meet the economically disadvantaged criteria.

A recent study of non-persisting students at Schoolcraft College indicates that demographic attributes have different influences on retention<sup>2</sup>. African-American students were less likely to complete individual classes than their white counterparts. Older students were less likely to persist than younger ones. Minorities and poor adult women particularly those with children, as well as under-prepared and economically disadvantaged students have little support in making the transfer from the community college to the four-year institution<sup>3-6</sup>. Based on these findings, the Tech Scholars Learning Community has actively recruited minority students and female students.

Members of the targeted students are commuter students. Students that commute are less likely to persist because they do not have the same opportunities to form close bonds with peers, faculty and staff that are normal for students in residential colleges. Many students are also faced with issues related to poverty such as insufficient food, inadequate shelter or utility shutoff. They do not know what community or university resources are available to assist with such problems. The urgency of survival and security issues overwhelms the student and can easily cause them to leave school to confront the immediate crisis. Frequently, these students are first generation college attendees. As a result, they may not receive the family support that students from middle and high-income families, whose parents are college graduates, receive. They may also find the four-year institution environment intimidating. Wayne State University for example is larger than the community college, and has multiple campuses. Its' administrative procedures and matriculation requirements may seem complex. Information is often not centralized and meeting with faculty and staff may seem impersonal. These environmental barriers within the University may prove to be overwhelming to potential transfer students. However, if they have not developed the skills required to identify the resources and form supportive relationships that would enable them to persist through the transfer process, the loss is inevitable.

## **3. Project Overview:**

The analysis of student background characteristics was used as guideline for developing

the plan of operation for the Tech Scholars Learning Community. The overall strategy adopted to improve transfer rates of the target students focuses on identifying students early in the process, creating learning communities, coordinating specialized services, and adapting the Electronic Portfolio<sup>3</sup> to assess student and program performance. The planned activities include:

- **Establish Advisory Board:** To address the proposed increase in collaboration between SC and WSU an Advisory Board will be established. The Advisory Board will provide a means to increase dialogue between WSU and SC faculty and staff members on the issue of student retention and transfer. Such collaboration will serve to enhance program strategies and service delivery for transfer students.
- **Create a Learning Community:** Many students need personal attention and encouragement to help them continue their education. The learning community allows students to pair up to do team project and learn from each other while at the community college and continue after transferring to WSU. This new method teaches teamwork skills in early semesters, but mostly fosters a sense of belonging, and helps students develop their education plan, provides peer mentoring and a focus on academic achievement.
- **Develop Individual Educational Plans:** The WSU Division of Engineering Technology has set up plans of study for all six majors transferring from community colleges. WSU staff will meet with SC staff and students to assist students in setting up their electronic plans of study specifically based on Schoolcraft College transfer equivalencies.
- **Provide Support for English and Math Courses:** MATH 129 Pre-calculus is the lowest mathematics course recognized for transfer by WSU. Any student that places below that course will be required to go through the developmental math sequence at Schoolcraft College. An optional math summer sessions will be provided jointly by WSU and Schoolcraft College to enable students to master the math courses needed to transfer. ENG 101 English Composition is a required English course that transfers to WSU. Students would be required to complete that course at Schoolcraft College. Writing Fellows is a support program at Schoolcraft designed to help students one-on-one in the preparation and development of writing. Students, who are excellent writers, are selected by faculty to help other students by reviewing their written work. These peer tutors receive specialized training by the Learning Assistance Center. There are currently over 26 Writing Fellows on campus. Writing Fellows are also available on-line.
- **Provide Students with Support and Assistance to Secure Financial Aid:** Schoolcraft College received an endowment for scholarships to support academically and economically disadvantaged students from the Thompson-McCully Foundation. WSU also has Presidential Scholarships and Tech Scholars will be encouraged to apply. Often students would not visit with financial aid advisors, particularly, if they had failed to file the federal financial aid application in a timely manner. This sometimes resulted in the student having to stopout because financial resources were not available to pay for the semester.
- **Establish Peer Mentoring between WSU Students and Tech Scholars:** The Peer-Assisted Learning program at Schoolcraft places students who have successfully completed

the course in the classroom to assist students with additional tutoring. This allows the tutors to follow assignments first-hand and closely monitor student learning. WSU (junior and senior) students from Engineering Technology will also be used as peer mentors to increase academic success and to encourage relationships between Schoolcraft Tech Scholars and WSU students.

- WSU Orientation and Series of Personal Development/ Critical Thinking Workshops:**  
 A series of personal development workshop featuring such topics as time management, credit management, handling relationship crisis, working effectively with professors, handling change will be developed for University Bound students. Students will also be given workshop activities on the *7 Habits of Highly Effective People* and critical thinking.

#### 4. The Learning Community:

The research continually supports learning communities as a systemic approach to improve educational outcomes<sup>7-8</sup>. The most important aspect of the learning community is that it provides an opportunity for students to build relationships with one another and with faculty while being immersed in the content. Moreover, it also calls for faculty to interact with one another more frequently and to provide quality personal attention to students

The concept of learning community was implemented through the development of a tested curriculum, taught by knowledgeable faculty, and delivered through a seamless pathway from high school, through the community college, to the university. Table 1 shows the courses sequence for the first cohort students recruited in Fall 2002. Each semester 24 more students will be added. Over the course of four semesters (or the two-year program), a total of 96 students will be served. The cohort selection will be repeated each semester through the grant cycle of Fall 2007. After that time, the program will be institutionalized and continue with college funds.

**Table 1: Program Sequence for First Cohort Students**

Semester One Winter 2003	Semester Two Fall 2003	Semester Three Winter 2004	Semester Four Fall 2004	Semester Five Winter 2005
English 100	Political Science 105	English 102 or 106	Humanities 106	Math, Statistics, or Accounting Requirements
Math 113	Elective	Psychology 153	Science Elective	
CAD 103	CAD, CAM, CIS, ELECT or MET required courses (select 3 from major)	CAD, CAM, CIS, ELECT or MET required courses (select 3 from major)	CAD, CAM, CIS, ELECT or MET required courses (select 3 from major)	CAD, CAM, CIS, ELECT or MET required courses (select 3 from major)
Introduction to Technology 101			Dual Enrollment Course with WSU	Dual Enrollment Course with WSU

\*Computer-Aided Drafting (CAD), Computer-Assisted Manufacturing (CAM),  
Computer Information Systems (CIS), Electronics (ELECT), Metallurgy (MET)

Table 2 listed the support systems for the first cohort students. The Electronic Portfolio (EP) was developed by Schoolcraft College, through a grant with the League for Innovation and the Pew Charitable Trust, for students to use for self-assessment and faculty to use for program assessment. Students and faculty use the e-portfolio to demonstrate and assess learning outcomes. The skills are performance-based and incorporate general education as well as specific occupational competencies. Beyond the benefit of skills assessment, the students work in teams, apply new technology (web-based information), and integrate concepts across the curriculum.

Participating students will be exposed to the EP concept while enrolled in the learning community develop and will maintain electronic portfolios as a way to demonstrate authentic learning at Schoolcraft College. EPs will serve to assess student progress, as well as, Tech Scholars and General Education program effectiveness. In many ways, the EP is a more efficient method of assessing when compared to pencil and paper tests. Furthermore, the electronic portfolio serves as a good process to teach the participants about communicating through the use of technology.

**Table 2: Support Systems for First Cohort Students**

Semester One Winter 2003	Semester Two Fall 2003	Semester Three Winter 2004	Semester Four Fall 2004	Semester Five Winter 2005
Learning Community	Peer Assisted Learning in Political Science	Writing Fellows in English 102 or 106	Peer Assisted Learning in Science Elective	Peer Assisted Learning in Math, Statistics or Accounting
Writing Fellows in English 100 or 101	Electronic Portfolio in Course from Major	Peer Assisted Learning in Psych 153	Electronic Portfolio in Course from Major	Electronic Portfolio in Course from Major (Business 217)
Peer Assisted Learners in Math 113	Field Trip to WSU	Field Trip to WSU	Dual Enrollment with WSU	Dual Enrollment with WSU
Career Counseling in Intro to Tech	IEP Counseling	Electronic Portfolio in Course from Major	IEP Counseling	IEP Counseling
Electronic Portfolio integrated in Intro to Tech		IEP Counseling		Preparation for Spring/Summer Internships
Individual Education Plan (IEP)		Preparation for Spring/Summer Internships		

## 5. Lesson Learned:

The Tech Scholars Learning Community Program was started in fall semester of 2002. Throughout the past year, the Advisory Board met several times to assess what needs to be done differently to increase transfer rates of target students. What became clear was the need to link the communications and technology classes together. The groundwork for those linked classes has been completed (approval of faculty committees; publication in the schedule of class booklet, etc.).

The Advisory Board established between Schoolcraft College and Wayne State University proved to be very successful. It was comprised of faculty and staff from both institutions. This group worked actively and cohesively to assess what needed to be done differently to increase transfer rates of targeted students. This group also participated in the WSU Academic Success Summit. This strategy for collaboration was beneficial and will be continued in this “university bound” program.

Faculty and staff found that direct student engagement was tremendously successful. Examples of such engagement and activities included meeting with students in classes to discuss transfer opportunities, evaluating transcripts on the spot and having WSU faculty tutor students in math. Students formed bonds with WSU faculty and felt that the personal attention was an incentive to actively pursue the transfer option. These activities are considered “BEST PRACTICES” and will be continued.

Building a learning community takes longer than anticipated. Finding faculty and students, developing curriculum (including the curriculum committee approval process) and making the deadline for the course schedule book took nearly a year. In the interim a “simulated” learning community was developed through workshops, field trips, and counseling.

Workshop attendance appeared to assist students with academic achievement. Data gathered from the project indicated that those students who attended workshops improved their cumulative grade point average. Therefore, a series of workshop activities designed to foster critical thinking, personal growth and connect students to key people within the WSU will serve to facilitate students’ sense of belonging at Wayne State University. WSU faculty/ staff and consultants will be used. These workshops will continue throughout students’ enrollment at Schoolcraft and on through graduation at WSU.

Creating an environment that encouraged and supported student decision-making, motivation and validation, improved the development of self-esteem and the sense of affiliation with peers, faculty and staff. Students were given several opportunities to participate in decisions about workshop activities that were offered. Inclusion in decision-making often increased the students’ motivation to participate. As a result of these efforts, students reported they felt validated by program staff using their ideas. Such recognition supported their sense of belonging and self-actualization. It is the intent of the program faculty and staff at both Schoolcraft College and Wayne State University to continue to solicit student advice on the workshops and the learning community.

Encouraging and supporting students to seek advice from financial aid and academic advisors helped students to continue in school without stopping out and to meet WSU academic requirements for graduation. Often students would not visit with financial aid advisors, particularly, if they had failed to file the federal financial aid application in a timely manner. This sometimes resulted in the student having to stopout because financial resources were not available to pay for the semester. Encouraging meetings with academic advisors kept students aware of the specific classes and sequences that they were required to complete in order to progress each semester toward graduation.

## 6. Conclusion:

The Tech Scholars Learning Community aims to increase the number of academically and economically disadvantaged students who transfer from Schoolcraft Colleges to engineering and engineering technology programs at Wayne State University. The description of target students and the strategies adopted to improve transfer rates are presented. Lessons learned from the first year project was discussed. Continued work needs to be done to support an environment of diversity and enhanced critical thinking, particularly about the issues of student persistence, retention, and transfer.

## 7. Acknowledgements

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