Mike McGee, an academic dean at Hennepin Technical College

Better K-12 preparation, more career-focused outreach needed to increase technically competent graduates

A Civic Caucus Focus on Human Capital Interview

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Present

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Summary

According to Mike McGee, an academic dean at Hennepin Technical College (HTC), low high-school graduation rates and high numbers of students significantly underprepared for college have a direct impact on HTC's enrollment and course offerings.

McGee reports that high percentages of students coming into HTC test at the developmental level on an assessment exam covering math aptitude and reading comprehension skills. Many of the students with high school diplomas have only seventh- or eighth-grade math and reading skills, with some graduating at even lower skill levels. Yet students cannot use federal financial aid to take developmental college classes at the eighth-grade level or below. He chastises high schools for not making senior year a very rigorous year to help prepare students for college. He calls for the country to make a "social sea change" to hold students back in grade school or high school if they're not making progress.

McGee describes a very positive partnership involving HTC and 13 other two-year MnSCU colleges with the 360° Center of Excellence at Bemidji State University. The center is focused on manufacturing and applied engineering and is engaged in outreach with high school students to expose them to manufacturing careers and training. He points out that some other states have created districts to run technical colleges, such as a state's regional planning districts or special districts with the same boundaries as a state's federal Congressional districts.

Biography

Mike McGee is academic dean of manufacturing, math and science at Hennepin Technical College, a position he has held since 2012. He was an academic dean at Minneapolis Community and Technical College (MCTC) from 2000 to 2012. He has held several positions in law enforcement and has taught criminal justice, law enforcement and sociology.

He holds a B.A. in criminal justice with a minor in psychology from St. Cloud State University and a master's in public administration from Minnesota State University, Mankato.

Background

Since the Civic Caucus released its statement on human capital in September 2014, it has concentrated on learning more about the challenges of maintaining a strong workforce in Minnesota in the coming years. On Jan. 25, 2015, the Civic Caucus released a second statement, which calls for leadership and specific actions to secure that strong workforce. The Civic Caucus interviewed Mike McGee to get his perspective on the role of technical education in Minnesota in adequately preparing and training students for the state's current and future workforce.

Discussion

Hennepin Technical College (HTC) is Minnesota's largest technical college, serving just under 9,000students at campuses in Brooklyn Park and Eden Prairie. The college, which is part of the Minnesota State Colleges and Universities (MnSCU) system, offers more than 45 programs of study, leading to certificates, diplomas or an Associate of Applied Science (A.A.S.) or Associate of Science (A.S.) degree.

Eighty-one percent of the students attend school part time (23 or fewer credits in an academic year), while 19 percent attend full time. Forty-two percent of the students are female and 57 percent male. About 39 percent are students of color, with black or African American students making up 21 percent of the enrollment. The average age of the students is 30. In 2013, the related job placement of graduates was 94 percent.

Enrollment at the college, as at other MnSCU schools, has declined in recent years. McGee said HTC current spring term enrollment is down by 8.5 percent compared to last year. He pointed to a "demographic bubble" caused by the aging of many baby boomers' children beyond the traditional college years. He said that some enrollment decline might have been evident since 2007 or 2008, except that the recession brought in more students who were unable to find work while an infusion of federal money into education also boosted enrollments.

Low high school graduation rates impact HTC's enrollment . "We don't have high school graduates in the numbers we would like," McGee said. "And many of the high school graduates are significantly underprepared for college. Some are emotionally unprepared."

He said the most recent figures show a high school graduation rate for Minneapolis schools of 52 percent. He saw a recent piece in the *StarTribune* that said many of the students who do graduate have seventh- or eighth-grade math and reading skills. "Unfortunately," he said, "many are coming out with much lower grade-level skills in math and reading than that."

There is a mix of reactions from students when they find out how unprepared they are for college. "When you're handed a high school diploma, you might believe that you have the requisite skills to succeed in a college program," McGee said. "Or if you go to a tech school, you might think you don't need academic skills, that you don't need to be very good at math or very good at reading. Some of that is reinforced by the fact that we do hand out diplomas to people who are underprepared."

"It would mean a social sea change, a choice that this country would have to make, to hold students back in grade school or high school if they're not making progress," McGee continued. "You don't have to wait until 10 th grade to measure people. In most cases, by then it's too late. Then it's difficult to bootstrap them up to even seventh- or eighth-grade math skills."

There's a direct correlation between reading and math skills, McGee said. If students' reading skills are poor, it's almost a given that their math reasoning skills will be poor, as well.

It's a poor choice on the part of high schools not to make senior year a very rigorous year to prepare students for postsecondary education. " The senior year of high school is sometimes a 'throw-away year'," McGee said. "There is not much student accountability to the teachers and not many deliverables." This leaves students unprepared for the demands of the first year of college.

Kids today don't know what goes on in a technical organization. They know very little about technology and manufacturing.

HTC and several other schools are involved in a partnership under the auspices of the 360° Center of Excellence **, which focuses on manufacturing and applied engineering.** About eight years ago, MnSCU created several centers of excellence, one each in IT, health care, manufacturing and engineering, applied engineering and manufacturing, and energy. HTC belongs to centers at both Minnesota State University, Mankato, and Bemidji State University. He said the Bemidji center is "very engaged in outreach with young people to help them understand that manufacturing careers are exciting, interesting, engaging, good-paying and challenging, with good opportunities for advancement."

The 360° Center in Bemidji has been named an Advanced Technological Educational Center (ATE) by the federal government, a designation that brought in $15 million in federal funding. There are 14 two-year schools partnered through Bemidji that do the outreach and are connected to the high schools, McGee said.

The 360° Center, he said, has an online manufacturing curriculum that offers three certificates and a full degree. Students can take the course through any of the member colleges. "It's a unique way to

gateway high school students into a two-year program, because they can be dual credit," McGee said. "They might count for both high school graduation requirements and the two-year postsecondary programs."

"The 360° Center at Bemidji has been active and successful," he continued. "Karen White has done a remarkable job as executive director." It's been named an Applied Technology Center (ATC) by the National Science Foundation.

High percentages of students coming into HTC test at the developmental level on an assessment exam covering math aptitude and reading comprehension skills. In response to a question, he pointed out that in Minnesota, two-year colleges are open-access institutions, meaning students are not required to have a high school diploma in order to enroll.

If students score at the lowest developmental level of math, they would need up to four semesters to get to a college level of math. "Most people just can't do that," McGee said. "We have focused our math requirements and have tailored one course to a contextualized math, which is applied math for the trades."

Recently, he noted, the federal government began to enforce the financial-aid rule that prohibits colleges from providing financial aid for students taking developmental courses at the eighth-grade level or lower. "We've had to scramble to figure out how to bring students up from levels well below this to the ninth-grade level in math," he said. "As a result, we've lost students who have no place to go to meet their basic math requirements, except adult basic education (ABE)." He said HTC offers ABE classes, a school district program that is free to students. .

Interviewer: We must fix three weaknesses in the K-12 school system. In response to McGee's concerns about student preparation for postsecondary courses, an interviewer commented that we need the following to improve K-12 education:

1. We need counselors who have some type of applied orientation;

2. We need shop classes, which are key ingredients to subjects like engineering; and

3. We need some Marine-Corps type drill sergeants in the system.

Interviewer: Many people in middle management in postsecondary systems across the country are not prepared for their positions. An interviewer commented that the deans are the link between an institution's mission and what "goes on in trenches." But we're not training them for leadership. "There's a big gap in what we expect and the training we provide for deans to get the job done," the interviewer said. "It's a systemic problem."

At MnSCU's two-year schools, 60 percent of the faculty must be full time. An interviewer commented that 70 percent of people teaching at universities are adjunct faculty members. **"**I support having as many full-time professionals as I can find," McGee said. "But it can be really hard to find full-time professional people in technical areas. If they're really good, they're making a lot of money in the private sector."

In education, we add more and more touch points and overlay one program over another, so it's hard to know where to start in order to make changes. "Where is the path that will be effective?" McGee asked.

Some states have created larger districts to run technical colleges. An interviewer asked whether it would help to disaggregate MnSCU so that the separate schools with different missions could operate differently. McGee pointed out that it's been 20 years since the community colleges, technical colleges and four-year universities merged to form MnSCU. He thinks it has worked all right for the community colleges and the state universities to be joined together, since the two-year schools are feeders to the four-year colleges.

Prior to the MnSCU merger, the technical colleges were run by local school districts. In some states, larger districts have been created to run the technical colleges, McGee said, such as a state's regional planning districts or districts with the same boundaries as a state's federal Congressional districts.