

Supporting Student Success and Closing Opportunity Gaps in LBC Outcome of a College Discussion on 2017-03-21

On average, LBC students have relatively high persistence and graduation rates. Of the students who started at Lyman Briggs College in 2010, almost 87% of them graduated from MSU within six years. The overall MSU average for the same year was about 78%, and the national average was only about 60%.

However, there are still large opportunity gaps – in LBC and at MSU – between the graduation rates of majority and non-majority students, particularly for Black/African-American students. At MSU, the six-year graduation rate gap between Black/African-American and White students is 19 percentage points (59% compared to 78%). And, while LBC has higher graduation rates than the university average for all races and ethnicities, it has the same opportunity gap between White students and Black/African-American students (69% compared to 89%). These gaps are worrisome, but they represent an opportunity for LBC to lead the university in addressing them.

This document summarizes the ideas discussed during (and soon after) a college discussion in March 2017 about what we can do individually within our roles as educators to support student success and close opportunity gaps. It includes a variety of steps that some faculty and academic staff are already taking -- and that may merit wider adoption.

Conversations

- My course requires students to come see the professor (in groups of 1-3 students) for a conversation early in the term. Sample questions the students might use to initiate discussion are given out beforehand. After this meeting, students tend to come to office hours more frequently.
- A simple but powerful gesture is to just reach out to students: personally invite them to office hours, tell them that you are here to help them learn, let them know it is not an inconvenience to the instructor to show up at office hours. Students who may feel isolated, which is often the case for students from underrepresented groups, hear a clear message: the instructor is here to help them succeed. I find that I usually need to reach out several times to some students before they understand that I mean what I say.
- Faculty and advisors can reach out to one another to talk about how they can coordinate on supporting students who are struggling, how to get the student to engage with the faculty in the course they're having difficulties with, etc.

- We (the faculty and staff) ourselves should be “teacher-mentors” (see Lonnie Hannon’s Tedtalk about why HBCU’s are successful, especially the last two minutes: <https://www.youtube.com/watch?v=0HzzsalgBnw>)
- Maybe we should have “show and tell” in our first year classes or in office hours with our first year students, “which club have you joined, and why do you like it?” See the quote from *Tomorrow’s professor* volume 97 issue 8 below:

“We know that ‘learning, academic performance, and retention are positively associated with academic involvement, involvement with faculty, and involvement with student peer groups’ (Astin, 1993, 394). Academic involvement includes time allocated to studying and doing homework, courses taken, and specific learning experiences. Involvement with faculty includes talking with faculty outside of class (for example, as part of involvement in student organizations), being among a group invited to a professor’s home, or working on a research project. Involvement with student peer groups includes participating in intramural sports, being a member of a social fraternity or sorority, being elected to a student office, and hours spent in socializing or in student clubs or organizations (385).”

Astin, A.W. 1993. What Matters in College? Four Critical Years Revisited. San Francisco: Jossey-Bass.

Assessments

- Use many kinds of assessments (tests, homework, projects...) as part of the course grade, so that students who freeze on tests won’t be unduly penalized.
- Diversify the kinds of skills that assessments evaluate: writing, teamwork, design, calculation... all are shown to be relevant to the course. This can help students build a sense of identity as a scientist.
- In my lab course, every student is taught and is then required to concretely demonstrate the ability to perform certain key lab skills at the start of the term. This prevents a student who is less familiar with lab work from just withdrawing and not contributing to their team; it can prevent the initial gap between students with strong vs. weak prior science training from widening. This enables all students to contribute to and benefit from doing the more complex labs later in the course.

Group Projects

To ensure that all students contribute fairly to group projects, that all have their contributions recognized, and that none are shut out from participating by their peers (e.g., due to implicit bias), try some of the following:

- Have team members submit reports on how their peers are contributing to the team. What earns points is the quality of the review or report a student produces; that is, a student earns points by writing a helpful, professional review of a peer. Points are not awarded to one student based on whether another student says they are doing a good job.
- Have students reflect (in writing) on how they are contributing to their team.
- Use Google Docs as a way to document exactly what each team member has contributed to any jointly-written document or project. This can provide a nice impetus for the team members to ensure everyone takes part.
- Have a team write a “credits” section of their report, listing who did what on a given project.

Exams

- A low-stakes mini-exam is given at the end of the 3rd week of class in my course. It doesn't necessarily count for many course points. But this gives students immediate feedback on how well their study tactics and understanding are aligned with course expectations.
- After the first exam, I devote an entire course period to study skills to put them in the context of the discipline and show just how important this is. It is a time when the students who most need this may be most ready to listen.
- I ask my students to write correct solutions to exam problems they did not earn full points on. The write-up consists of a re-statement of each problem, followed by a correct solution, followed by a brief reflection on what error was made or what aspect is now better understood. Students are encouraged to learn how to correctly solve the problem by engaging with peers (classmates, LAs, or anyone, really) or the instructor. The students earn up to one third of the lost points (assuming the “solution” is now correct; partial credit is given). These points are added to their exam score. This reinforces that we are here to learn, and that we are likely to make many errors during this process. Correcting errors and continually improving and learning is and should be rewarded. From the instructor's perspective, students take the time to seriously think about errors made on an exam (which is rarely the case, otherwise). Unfortunately, the re-grading is very time consuming. I think it this is time well-spent, however.

Research Engagement

There are always an abundance of research projects going on around MSU related to math education. So one thing I do to promote student engagement in math is that I invite graduate students (and other researchers) to come into my classes and talk about their projects. In particular, they are often looking for students to participate in research. For example, last semester I had about 15 students from my MTH 103 class participate in a colleague's math education research project (about a 1 hour commitment outside of class).

I don't know if participating in research improves their grades in my classes, but there is no doubt that it helps with their engagement. Many of the MTH 103 students have had bad experiences with math, don't think of themselves as "math people", and are nervous about engaging in a math class. By participating in a research project (even if it's only for an hour), they begin to see that someone values them, and they begin to increase their participation in the math/math ed. community.

If anyone wants a math ed. scholar to come into their classes and invite students to participate in research, [Abe Edwards] can make the connection.

EASE Reports *[enhancing academic success early]*

You can submit an EASE report on a student in your class at any time during the semester – doing so early on is particularly helpful, since it can lead to better outcomes for the student during that same semester.

Submitting EASE reports promptly when the university's online system requests them triggers a set of targeted communications and resources designed to help students get (or stay) on track. Both the LBC advisors and the Office of the Associate Provost for Undergraduate Education reach out in an individualized way to let students know the university cares about their progress and is ready to help.

Given that MSU data shows that a drop-off in a student's semester GPA often heralds a dramatically increased likelihood that the student will ultimately not graduate (even if the initial GPA is pretty solid)... submitting EASE reports whenever students' performance falls off over the course of a semester is vital.