

## The Benefits and Costs of Shortening Time to Graduation

Karen De Urquidi<sup>a</sup>, Matthew Ohland<sup>b</sup>, and Allison Godwin<sup>b</sup>

<sup>a</sup>East Carolina University/<sup>b</sup>Purdue University

### Abstract

Time to graduation for students varies significantly by the type of degree being pursued, the pre-college preparation of the student, the level of support provided by a student's family, and other factors. The intended completion time for a bachelor's degree is four years; however, there is sufficient variation in completion time that both the United States Department of Education and the National Collegiate Athletic Association use a six-year completion rate as the measure of success. The effect of pre-college preparation involves both circumstance and choice. Some students matriculate with Advanced Placement credit, others choose not to enroll in AP courses, and still others never had the opportunity to enroll in them. Others must take remedial courses before they are able to enroll in the published curriculum. To investigate how time to graduation may vary, our research question is, 'All pre-college factors being equal, what are the consequences of longer or shorter times to graduation?' This paper will examine the various consequences of a longer or shorter time to graduation.

**Keywords:** Higher education, time to graduation, undergraduate, remediation, advising

### Introduction

Historically, university quality has been measured using retention and graduation rates. According to the National Center of Education Statistics (NCES), the 2006 cohort of first-time, full-time college students in the U.S., 39% of students graduated in four years<sup>1</sup>. This percentage increased to 59.2% of students who graduated within six years. Thus, almost 20% of those who graduated took longer than four years to complete a "four-year degree." This extension beyond four years in higher education is being referred to "not graduating on time" or "taking longer than necessary to complete the degree." Why is this happening and what are the consequences of taking longer than four years? What can be done to shorten this time? In this paper, we explore the published literature to understand reasons for this increased time to graduation as well as positive and negative consequences of this increase. We also discuss methods to decrease this time for some individuals.

### Diversification on College Campuses

Society is changing, and the type of student entering college is changing. The norm is no longer the 18-year-old student who excelled in high school, goes off to college, and graduates in four years to begin their career. In a study of high school graduates from 1980, only slightly over one-quarter of graduates went on to a four-year university in pursuit of a bachelor's degree<sup>2</sup>. Approximately a third of the students in that study did not pursue any post-secondary education. Students did not need a bachelor's degree in order to make a living and support a family. This trend has changed with the onset of the technology revolution. The technology revolution of the 1970s has changed the US economy from a manufacturing to a service economy. This new

service economy is one that requires information and technology skills<sup>3</sup>. Also, the unemployment rate for those who do not pursue education beyond high school is at least twice the rate of those with a four-year college degree<sup>3</sup>.

The type of students enrolling in post-secondary education has continued to change. Currently nearly half of all undergraduate students are over 25 years old<sup>3</sup>, not the 18-22 year-olds who previously made up the majority of the undergraduate population. As more students enter post-secondary education, the diversity of the student body is increasing. Many students have jobs (part-time or full-time) and families to support. A 2011 report by Complete College America stated that 75% of students in post-secondary education are juggling jobs, family, and school responsibilities<sup>4</sup>. For reasons such as cost, flexibility, or lack of direction, more students are beginning post-secondary education at community colleges and then transferring to a four-year institution. The number of sub-baccalaureate degrees awarded increased by 28% between 1997 and 2007<sup>5</sup>. Because of the need for a college degree, many students who struggled in secondary school need to find a way to be successful in post-secondary education. Many of these students would have entered the workforce directly after high school in the 1980s. Today, these students are looking for ways to enroll and succeed in college coursework. The atmosphere on a college campus is becoming more diverse and campuses must change to welcome and accommodate this diversity. Resources for those who need help learning content that is expected of college-going students (often referred to as remedial courses) needs to be available. Colleges increasingly need to provide flexibility for students juggling family responsibilities. Services for students with various special needs requiring accommodations must also be offered.

### **Changing Time to Graduation**

In the recent past, institutional quality has been measured by first-year retention and four-year and six-year graduation rates. College Board lists four-year graduation rates by institution to inform students who are deciding which institution to attend<sup>6</sup>. Recently, however, the measure of time-to-graduation has become more of a benchmark of university success than first-year retention. As an example, in the University of North Carolina (UNC) System, first-year retention for first-time, full-time students was dropped from the Retention and Graduation Report put out by its General Administration in the 2014-2015 report<sup>7</sup>. The reason for this is that the UNC system contains many transfer and part-time students who would be excluded from this report. If traditional measures of time to graduation were used, more than one-third of the student body would not be represented<sup>8</sup>. The student body has changed and the definition of success of the university is changing to accommodate that shift.

### **Reasons for Change**

As the student body has become more diverse, pathways to graduation have also changed. Increased need for remediation, lost coursework due to transferring, changing majors, university requirements, and even financing of the college education have caused many students to take longer than four years to graduate.

Additionally, as more students enter into post-secondary education, the need for more remedial courses has increased<sup>9</sup>. More students from low performing schools are entering the system and they have not received the level of education necessary to begin much of the college level

curriculum. Remedial courses are needed to strengthen their foundation, yet they will also not count towards the intended degree and, instead, add time to the graduation path. Several universities will not even offer remedial courses and require the students to take these at a local community college instead<sup>10</sup>.

In the UNC system mentioned above and across higher education in general, the increase in students attending a two-year college prior to transferring to a four-year institution has increased. Students transferring to new institutions often have to retake courses they have already taken, due to the new institution not accepting the previous credit. With current estimates stating that one third of students transfer to other institutions<sup>11</sup>, this leaves many students taking extra credit hours that they do not necessarily need. Transfer students may also lose time as they adjust to a new institution<sup>12</sup>.

The current generation of students was raised in an era where responsibility was not laid on them and they have time for self-focused exploration<sup>13</sup>. This has led more and more students to change their major at least once during their time in college. Data from the Beginning Postsecondary Students Longitudinal Study (BPS 04) show that the rate of students changing majors range from 27% to 42% depending on college major<sup>14</sup>. This switching of majors results in courses being taken that are not needed for the final major and may cause the time to graduation to exceed four years.

Although many majors have specific course requirements, universities may also have general foundation requirements added on to the major requirement that could cause a higher than 120 hour credit to degree. These students must then take a minimum of 16 credits per semester, or take summer classes, to make up the difference. It is these majors that are tough to complete in just four years. Engineering is one such degree that may require upwards of 128 credits to complete<sup>15</sup>.

As costs for education rise and the amount of federal help declines, some students are forced to choose a college based upon the best financial aid package offered<sup>16</sup>. This leaves some students, the majority of whom are low-income, foregoing college quality (as measured by graduation rates) for more scholarship money from lesser institutions. Marginal students have lowered their college completion rates by choosing to take the scholarship over the quality school<sup>17</sup>.

### **Penalties of Added Time**

For students who must take longer than four years to complete a degree, different penalties come into play. There is a limit to the amount of time federal financial aid is available to a student. This time-frame is typically four years or eight semesters. Also, many schools consider “satisfactory academic progress” as graduating in eight semesters. Some federal aid is dependent on the university definition of satisfactory academic progress. In 2012, this time limit was increased from eight to twelve semesters for some federal grants and loans<sup>18</sup>. At some universities, satisfactory progress is also defined as passing 80% of classes for which a student was registered<sup>15</sup>. If a student fell below that level, aid was withheld and the student had to find another way to finance the classes needed. At the state level, many state programs will only pay for 12 credits per semester or 24 credits per year<sup>19</sup>. For a typical 120 credit hour degree, this

leaves a student to graduate in five years, or pay for the extra credits in another manner. The situation is worse for degrees requiring even more credits.

On top of the availability of financial aid, some institutions implement a tuition surcharge when students surpass a certain number of attempted credit hours. Credits included for determination of the surcharge include credits from every other postsecondary institution attended by the student, both out of state and out of country<sup>15</sup>. For example, beginning in 2009, the UNC system imposed a tuition surcharge on credits over 110% of those required for a degree. The surcharge is only imposed if the student takes longer than four years to complete the degree. For an engineering degree that required 128 credits, any credits over 140 would be charged the tuition surcharge if the student did not complete the degree in four years<sup>20</sup>. This surcharge began as 25% of the normal tuition, but increased to 50% in 2010. Credits not included in the surcharge were AP/ CLEP/ IB credits, early college credit, and credit from summer classes. With this system in place, students are highly discouraged from taking extra time to graduate. Unfortunately, this structure penalizes those students who need remedial courses and those students who are juggling jobs and families alongside schooling. The brighter, more focused students who take AP courses and know which major they want are not as affected by this surcharge since their time to graduation is not necessarily extended beyond four years.

### **Benefits of Added Time**

By taking longer to complete a four-year degree, many students can take fewer courses per semester and focus on fewer courses. This reduced load may allow them to learn the material better while also allowing them time to join other activities on campus that can increase retention<sup>21</sup>. This extra time may also be needed to work a job and pay the bills to support a family. Students with jobs are encouraged to take fewer credits during the semester, especially in rigorous majors such as engineering<sup>22</sup>. Taking longer to graduate can ease the stress on a student since they can take fewer credits per semester. It also allows time for some students to mature and become more responsible<sup>13</sup>. Employers are looking currently for T-shaped professionals, graduates that have both depth and breadth<sup>23</sup>. Such students have the skills from their college major, but also have the skills necessary to work in teams and communicate well with others. Adding courses in these teamwork and communication areas will benefit the students when looking for jobs but may add time to graduation if the chosen major is more than 120 credits to begin with. Also, students who begin at a community college to take remedial courses and strengthen their foundational skills are better prepared for the university environment. The added time is necessary but may delay their graduation beyond four years.

### **Methods to Shorten Time to Graduation**

Two new Pell proposals beginning in fiscal year 2017 are intended to help students finish a degree in four years by allowing them to attend school year round (Pell For Accelerated Completion) or increase the grant limit for those enrolled in at least 15 credit hours in a semester (On Track Pell Bonus)<sup>24</sup>. Recently some states have implemented rules requiring students to take a minimum of 30 credits per year in order to be eligible for financial aid. In this way, they are encouraging students to graduate earlier<sup>25</sup>.

Receiving college credit for high school courses, such as dual enrollment programs and AP classes, can help students shorten time to graduation by allowing students to bring in credits upon entry to the postsecondary institution. Students who earn college credit during high school that counts in their major directly shorten the number of credits needed for the degree. Even if a student takes courses that do not count towards their ultimate degree, their time to graduation may still be shortened because they would not have taken exploratory classes during the college years. If possible, programs such as these should be encouraged.

## Conclusion

As the education system, society, and the job market continue to change, the composition of university students changes as well. Students from all backgrounds and all ages are now attending university in the pursuit of a “four year degree.” Graduating “on time” does not necessarily mean graduating in four years now, but universities will continue to be rated based on their four-year graduation rate as one measure of success. Students who need to take more time to graduate will be penalized in different ways, either by increased tuition or decreased financial aid. One way to avoid this is to encourage high school students to be dual enrolled in a community college, attend an early college high school, or take Advanced Placement courses. In this way, they can bring in college credit upon entering university as a freshman. This will allow them to find their way into the major that best suits them without the fear of taking too long to graduate. This option, however, may only be available to high-achieving, high-aptitude, and high-SES students, leaving the majority of students penalized upon entry into postsecondary education.

Using a large longitudinal dataset, it is possible to explore the relationship between time-to-graduation and enrollment patterns, performance (as measured by grades), and other outcomes. This will be considered as a topic for future research.

## References

- 1 Postsecondary Education Completion Rates, National Center for Education Statistics, 2014, retrieved from [https://nces.ed.gov/programs/digest/d14/tables/dt14\\_326.10.asp](https://nces.ed.gov/programs/digest/d14/tables/dt14_326.10.asp).
- 2 Carroll, C. D., “College persistence and degree attainment for 1980 high school graduates: Hazards for transfers, stopouts, and part-timers,” National Center for Education Statistics, Washington, DC, 1989.
- 3 Arnett, J. J., *Emerging Adulthood: The Winding Road from the Late Teens through the Twenties*, Oxford University Press, New York, 2006.
- 4 Time is the Enemy, Complete College America, 2011, retrieved from <http://completecollege.org/resources/>.
- 5 Horn, Laura and X. Li, “Changes in postsecondary awards below the bachelor’s degree: 1997 to 2007,” *Stats In Brief*, National Center for Education Statistics, Washington, DC, 2009.
- 6 Bigfuture by the College Board, retrieved from [www.collegeboard.com](http://www.collegeboard.com).
- 7 Undergraduate retention and graduation report, 2016, retrieved from [https://www.northcarolina.edu/sites/default/files/unc\\_retention\\_and\\_graduation\\_report\\_bog.pdf](https://www.northcarolina.edu/sites/default/files/unc_retention_and_graduation_report_bog.pdf).
- 8 Undergraduate retention and graduation report, 2015, retrieved from [https://www.northcarolina.edu/sites/default/files/unc\\_retention\\_and\\_graduation\\_report\\_2014rev.pdf](https://www.northcarolina.edu/sites/default/files/unc_retention_and_graduation_report_2014rev.pdf).
- 9 Grubb, W. Norton, “Rethinking remedial education and the academic-vocational divide: Complementary perspectives,” *Mind, Culture, and Activity*, Taylor & Francis Group, Berkeley, 2012.
- 10 LSU General Catalog 2015-2016, [www.lsu.edu/academics/catalogs.php](http://www.lsu.edu/academics/catalogs.php).

## 2017 ASEE Zone II Conference

- 11 Marcus, J., “Stopping the clock on credits that don’t count,” 2013, retrieved from <http://hechingerreport.org>.
- 12 Santos Laanan, Frankie, Transfer students: Trends and issues, Jossey-Bass, San Francisco, 2001.
- 13 Arnett, Jeffrey J., Emerging adulthood: The winding road from the late teens through the twenties, Oxford University Press, New York, 2006.
- 14 Ferrare, Joseph and Y. Lee, “Should we still be talking about leaving? A comparative examination of social inequality in undergraduate patterns of switching majors,” Wisconsin Center for Education Research, 2014.
- 15 East Carolina University Undergraduate Catalog 2016-2017, retrieved from [www.ecu.edu/registrar/catalog.cfm](http://www.ecu.edu/registrar/catalog.cfm).
- 16 Hurwitz, Michael, How does institutional grant aid impact college choice?, College Board Advocacy & Policy Center Research Brief, 2012.
- 17 Cohodes, Sarah and Joshua Goodman, “Merit aid, college quality and college completion: Massachusetts’ Adams Scholarship as an in-kind subsidy,” 2013.
- 18 Federal Student Aid, 2016, retrieved from <https://studentaid.ed.gov/sa/types/>.
- 19 Marcus, J., “Colleges confront the simple math that keeps students from graduating on time,” 2016, retrieved from <http://hechingerreport.org>.
- 20 North Carolina General Assembly Statute, retrieved from [www.ncga.state.nc.us/enactedlegislation/statutes/pdf/bysection/chapter\\_116?gs\\_l116-143.7.pdf](http://www.ncga.state.nc.us/enactedlegislation/statutes/pdf/bysection/chapter_116?gs_l116-143.7.pdf).
- 21 Strayhorn, Terrell, College students sense of belonging: A key to educational success for all students, Routledge, New York, 2012, p. 105-120.
- 22 Landis, Raymond, Studying engineering: A road map to a rewarding career, Discovery Press, Los Angeles, California, 2013, p. 28.
- 23 Hickman, Carla, “Creating T-shaped professionals,” 2014, retrieved from <https://www.eab.com/research-and-insights/continuing-and-online-education-forum/studies/2014/t-shaped-professionals>.
- 24 Fact sheet: Helping more Americans complete college: New proposals for success, U.S. Department of Education, 2016, retrieved from <http://www.ed.gov/news/press-releases/>.
- 25 Marcus, J., States offer students an incentive to graduate: money, 2013, retrieved from <http://hechingerreport.org>.

### **Karen De Urquidi**

Karen De Urquidi is a teaching instructor and the Coordinator of Advising and Retention at East Carolina University. She is also currently a PhD student in engineering education at Purdue University. She has a B.S. and M.S. in mechanical engineering from University of Michigan. Her research interests are in the success of underrepresented populations in undergraduate engineering programs.

### **Matthew Ohland**

Matthew Ohland is a Professor of Engineering Education at Purdue University. His longitudinal studies of engineering students have earned best paper awards from the Journal of Engineering Education in 2008 and 2011 and IEEE Transactions on Education in 2011 and 2015. The CATME Team Tools system developed under his direction has been used by 660,000 students. He is a Fellow of ASEE and IEEE. He is an ABET Program Evaluator and was the 2002–2006 President of Tau Beta Pi. He earned a Ph.D. in Civil Engineering from the University of Florida, M.S. degrees in Materials Engineering and Mechanical Engineering from Rensselaer Polytechnic Institute, and a B.S. in Engineering and a B.A. in Religion from Swarthmore College.

**Allison Godwin**

Allison Godwin is an Assistant Professor of Engineering Education at Purdue University. Her research focuses what factors influence diverse students to choose engineering and stay in engineering through their careers and how different experiences within the practice and culture of engineering foster or hinder belongingness and identity development. Dr. Godwin graduated from Clemson University with a B.S. in Chemical Engineering and Ph.D. in Engineering and Science Education. She is the recipient of an NSF CAREER award for her work in understanding undergraduate students' latent diversity.