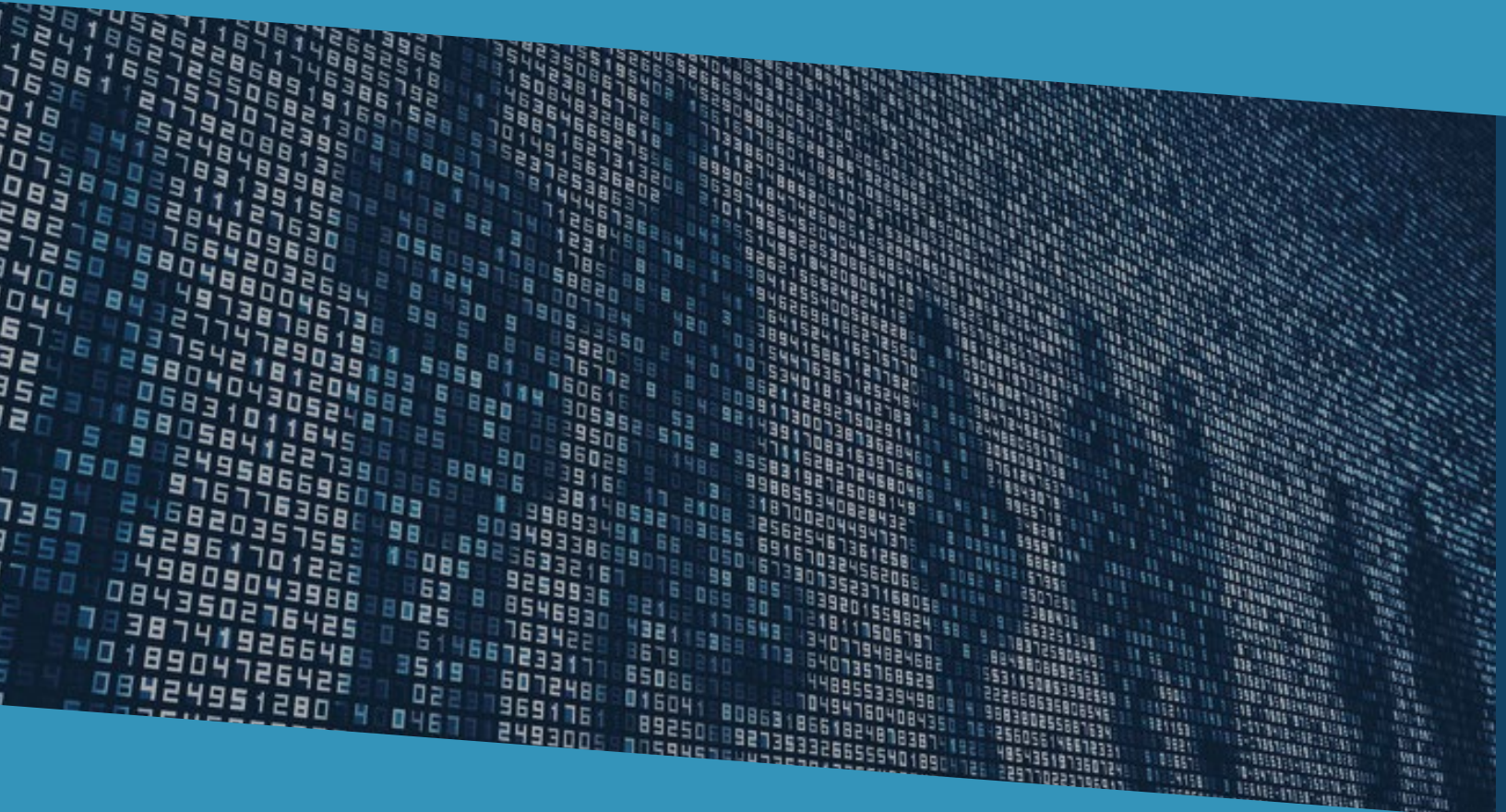


# IR CORNER

December 2020 Issue 1

## Uncovering the Story *Insights through Data*



**Co-Requisite Math Model**  
Accelerating the math pathway?

**College for Kids**  
Do CFK 8<sup>th</sup> graders become  
TCC college students?

**TARRANT COUNTY COLLEGE**  
OFFICE OF INSTITUTIONAL RESEARCH  
DIVISION OF INFORMATION TECHNOLOGY



**IR OFFICE:**

**Rosemary Reynolds**  
Executive Director of IR

**Kira Barrington**  
Asst. Executive Director of IR

**Arjun Banjade**  
Director of State Reporting

**Sarah Davis**  
Research Analyst

**Bonnie Hurford**  
Lead Programmer Analyst

**Bob Lorick**  
Director of Analytics

**Sarah Mizher**  
Administrative Assistant

**Liz Northern**  
Research Analyst

**Teresa Ray**  
Coordinator of State Reporting

**Jake Roden-Foreman**  
Research Analyst

**Martin Salgado-Flores**  
Lead Statistical Analyst

**Holly Stovall**  
Director of Research

## Beyond the Numbers

Holly Stovall

Somewhere between the extremes of viewing our world as a collection of numeric facts, completely definable, or human behaviors, unexplained by logic and patterns, lays the realm of stories told through data. Although self-professed “data nerds,” we are equally passionate about the success of TCC’s students, faculty, and staff.

We all question the world around us and want to derive meaning. Research empowers us to take an in-depth query to find answers and make data-informed decisions. Whether you have five minutes or an hour, we hope you will take time to join us on this important data journey.

A wide breadth of topics are included in this inaugural issue of IR Corner. We highlight TCC’s nursing program and provide a quick overview of the co-requisite model in developmental math education. We conduct an in-depth study tracking the success of College for Kids eighth graders in comparison to all Texas eighth graders and examine whether supplemental instruction reaches those who might benefit the most from this academic support.

Each article gives a unique perspective of our students and sheds light on their experiences at TCC. Results may surprise you, and we welcome the new research questions that arise as you read.

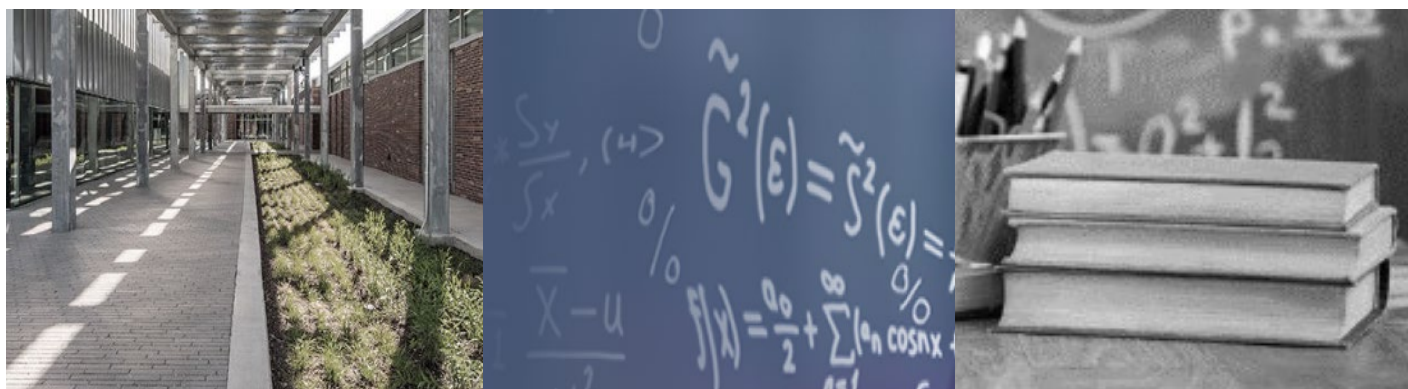
Our goal in *IR Corner* is to bring life to the numbers by humanizing their narrative and hopefully inspire some creativity and innovation along the way.

## insplRe

*“Not everything  
that can be  
counted counts  
and not everything  
that counts can be  
counted.”\**

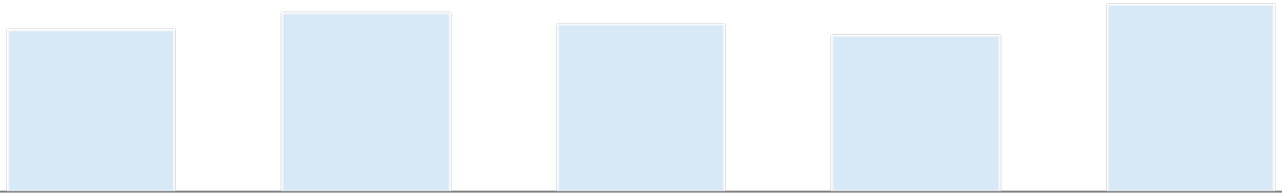
*\*Attributed to Albert Einstein and  
William Bruce Cameron*

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# Need Data?

## IR Services:

- State & Federal Reporting
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- Data Courses
- Data Videos



# SLAMMING THE DATA!





# COLLEGE FOR KIDS

Starting  
students  
**EARLY**  
on the path  
to college

By Elizabeth Eder Northern

**Eighth graders....** While they currently hold seniority in middle school, they are not quite veteran teenagers. Their progression out of childhood may be focused on immediate issues such as braces, acne, and learning to drive, but deeper pressures from school work, bullying, parents, and social media also cause profound stress. They're likely anxious about high school and the future, but are they thinking about college?

The Texas Higher Education Coordinating Board (THECB) tracks entering eighth grade cohorts at Texas public schools and their progression into high school, onto college, and to postsecondary graduation in Texas. Each cohort is followed over eleven years, and data are reported at the state and regional level by gender, ethnicity, and socioeconomic status.

Just over **one in five** eighth graders from Texas public schools go on to graduate with a degree or certificate within six years of their expected high school graduation.



Between 2003 and 2018, about **26,000** students took at least one College for Kids course at TCC.

According to the THECB, “Just over one in five eighth graders from Texas public schools go on to graduate with a degree or certificate from a Texas institution of higher education.” With about 80% of eighth graders not graduating from college within six years of their expected high school graduation, various community enrichment programs have been created in an effort to foster a college going culture at a young age. Tarrant County College hosts one such program – College for Kids. <sup>[1]</sup>

College for Kids (CFK) is a three week summer enrichment program at Tarrant County College (TCC) for children in the first through eighth grades. Children enroll in academic, arts and crafts, science and technology, and health and fitness classes. Courses are taught by experienced and motivated faculty who encourage and challenge students in an atmosphere that supports inquiry and exploration. Since 2003, over 26,000 students have taken part in the CFK program at TCC. <sup>[2]</sup>

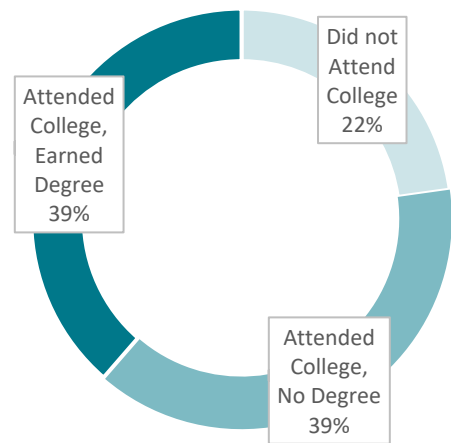
[1] Texas Higher Education Coordinating Board. (2019). Insights from the Eighth-Grade Cohort Longitudinal Study. Retrieved from <https://www1.thecb.state.tx.us/map/8thgradecohort/>.

[2] ST Student Enrollment Data, DA Degrees, ST Students by Ethnicity and/or Gender by Program.

Did eighth grade students who participated in CFK attend and graduate from college at higher rates than other eighth graders in Texas and in Tarrant County? Outcome data from the THECB for entering eighth graders and from entering eighth graders who participated in CFK at TCC were examined in this analysis, for years 2003 through 2007.

## An example....

In the summer of 2003 at TCC, there were 259 eighth grade-aged students who attended CFK. These students started eighth grade in August of 2003. Of these students, about 77% attended a two or four year postsecondary school in Texas before fall of 2014. Additionally, about 50% of the 2003 CFK cohort who attended college completed a degree or certificate before fall of 2014. <sup>[\*]</sup> <sup>[3]</sup>

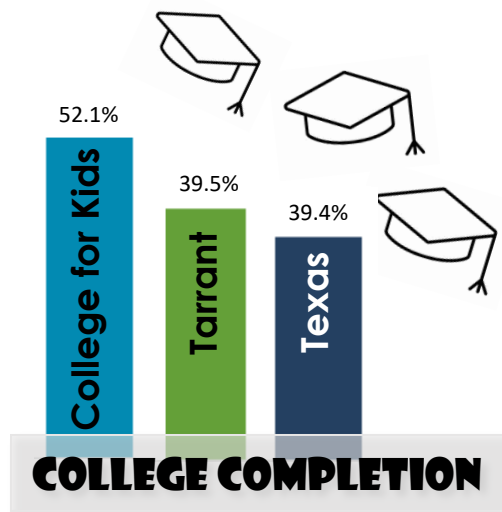
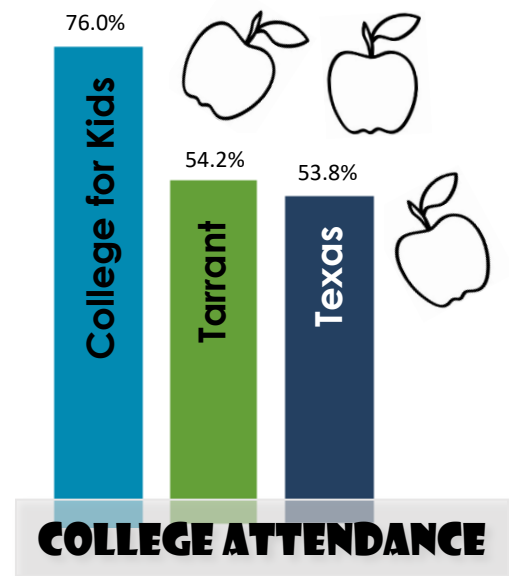


## College Attendance...

Regarding college attendance, about **54%** of eighth graders across the state of Texas attended a two or four year college in Texas within six years of completing high school. <sup>[4]</sup>

Similarly, about **54%** of eighth graders in Tarrant County attended a two or four year college in Texas within six years of completing high school. <sup>[4]</sup>

For the eighth graders who attended CFK, about **22%** attended TCC as a dual credit student during high school. Additionally, about **53%** of CFK students returned to TCC for undergraduate courses. <sup>[3]</sup> Further, **3 in 4** CFK students attended a two or four year college in Texas within the tracking time period. <sup>[4]</sup>



## College Completion...

For those eighth graders who attended post-secondary education, about **40%** across the state of Texas earned a degree or certificate at a two or four year college in Texas within six years of completing high school. <sup>[4]</sup>

Similarly, about **40%** of the eighth graders in Tarrant County who attended college earned a degree or certificate at a two or four year college in Texas within six years of completing high school. <sup>[4]</sup>

For the eighth graders who attended CFK and then attended TCC, about **12%** graduated from TCC within the tracking time period. <sup>[3]</sup> However, over **50%** of CFK students who attended college in Texas went onto complete a degree or certificate during the tracking period. <sup>[4]</sup>

[\*] CFK eighth graders were defined as turning 13 within two years prior to September 1 of their entering eighth grade year. For example, the 2003 CFK cohort includes CFK students with birthdays between 9/1/1988 and 8/31/1990.

[3] ST Student Enrollment Data, DA Degrees, ST Students by Ethnicity and/or Gender by Program.

[4] Texas Higher Education Coordinating Board. (2019). Insights from the Eighth-Grade Cohort Longitudinal Study. Retrieved from <https://www1.theccb.state.tx.us/map/8thgradecohort/>.



## So what does all of this mean...

Although causation cannot be determined through these data, especially considering each eighth grader's unique set of life experiences between middle school and college completion, data indicated stronger outcomes for CFK students. Hence, it is possible that early exposure to a college atmosphere through a program such as College for Kids might foster future college success.



## Ideas for the future...

1. Currently, CFK is housed in the Office of Community Education and Engagement, but each campus operates their summer programs differently. Perhaps a more unified, streamlined approach towards a "One College" CFK administration would help better gauge and track future success of the students.
2. TCC's CFK program is one of many summer, collegiate enrichment programs offered by various higher education institutions across Texas. Collaboration with these other institutions may assist with larger research on early engagement and the possibility of future high school and collegiate success.

| Cohort and Year    |              | 8th Graders      | Attended College | % N          | Earned Degree/ Cert |              |                    |
|--------------------|--------------|------------------|------------------|--------------|---------------------|--------------|--------------------|
|                    |              |                  |                  |              | Earned Degree/ Cert | % N          | % Attended College |
| All Texas          | 2003         | 324,316          | 172,555          | 53.2%        | 65,920              | 20.3%        | 38.2%              |
|                    | 2004         | 329,095          | 177,527          | 53.9%        | 67,312              | 20.5%        | 37.9%              |
|                    | 2005         | 335,708          | 181,869          | 54.2%        | 70,323              | 20.9%        | 38.7%              |
|                    | 2006         | 338,342          | 182,389          | 53.9%        | 73,084              | 21.6%        | 40.1%              |
|                    | 2007         | 332,576          | 179,192          | 53.9%        | 75,694              | 22.8%        | 42.2%              |
|                    | <b>Total</b> | <b>1,660,037</b> | <b>893,532</b>   | <b>53.8%</b> | <b>352,333</b>      | <b>21.2%</b> | <b>39.4%</b>       |
| All Tarrant County | 2003         | 22,278           | 11,969           | 53.7%        | 4,463               | 20.0%        | 37.3%              |
|                    | 2004         | 22,651           | 12,365           | 54.6%        | 4,723               | 20.9%        | 38.2%              |
|                    | 2005         | 23,159           | 12,558           | 54.2%        | 4,883               | 21.1%        | 38.9%              |
|                    | 2006         | 23,307           | 12,564           | 53.9%        | 5,074               | 21.8%        | 40.4%              |
|                    | 2007         | 22,874           | 12,429           | 54.3%        | 5,281               | 23.1%        | 42.5%              |
|                    | <b>Total</b> | <b>114,269</b>   | <b>61,885</b>    | <b>54.2%</b> | <b>24,424</b>       | <b>21.4%</b> | <b>39.5%</b>       |
| College For Kids   | 2003         | 259              | 200              | 77.2%        | 100                 | 38.6%        | 50.0%              |
|                    | 2004         | 246              | 179              | 72.8%        | 99                  | 40.2%        | 55.3%              |
|                    | 2005         | 247              | 196              | 79.4%        | 106                 | 42.9%        | 54.1%              |
|                    | 2006         | 237              | 185              | 78.1%        | 98                  | 41.4%        | 53.0%              |
|                    | 2007         | 294              | 215              | 73.1%        | 105                 | 35.7%        | 48.8%              |
|                    | <b>Total</b> | <b>1,283</b>     | <b>975</b>       | <b>76.0%</b> | <b>508</b>          | <b>39.6%</b> | <b>52.1%</b>       |

| Cohort Year  | CFK 8th Graders (N) | Enrolled in ECHS or Dual Credit at TCC |              | Attended TCC |              | Earned Degree/Cert at TCC |             |                    |
|--------------|---------------------|--|--------------|--------------|--------------|---------------------------|-------------|--------------------|
|              |                     | Count                                  | % N          | Count        | % N          | Count                     | % N         | % Attended College |
| 2003         | 259                 | 58                                     | 22.4%        | 150          | 57.9%        | 14                        | 5.4%        | 9.3%               |
| 2004         | 246                 | 50                                     | 20.3%        | 134          | 54.5%        | 17                        | 6.9%        | 12.7%              |
| 2005         | 247                 | 48                                     | 19.4%        | 135          | 54.7%        | 20                        | 8.1%        | 14.8%              |
| 2006         | 237                 | 53                                     | 22.4%        | 129          | 54.4%        | 16                        | 6.8%        | 12.4%              |
| 2007         | 294                 | 69                                     | 23.5%        | 137          | 46.6%        | 17                        | 5.8%        | 12.4%              |
| <b>Total</b> | <b>1,283</b>        | <b>278</b>                             | <b>21.7%</b> | <b>685</b>   | <b>53.4%</b> | <b>84</b>                 | <b>6.5%</b> | <b>12.3%</b>       |

[5] ST Student Enrollment Data, DA Degrees, ST Students by Ethnicity and/or Gender by Program.

[6] Texas Higher Education Coordinating Board. (2019). Insights from the Eighth-Grade Cohort Longitudinal Study. Retrieved from <https://www1.thecb.state.tx.us/map/8thgradecohort/>.

# Accelerating Completion of Mathematics?

## *An early look at the new co-requisite model*

Holly Stovall

Recent state legislation (House Bill 2223) has substantially altered the math pathway for many students entering their first math course through developmental education. The goal of the new co-requisite model, mandated to start in Fall 2018, is to accelerate the time to completion of college-level math by allowing students to take a developmental or non-course based option (NCBO) alongside a college-level math course.

Prior to the introduction of the co-requisite model, most students who needed developmental math started in the more traditional sequential model where completion of a developmental math course was required prior to enrolling in a college level math course. Thus, these students may have needed two or more terms to complete a college level math course while students using the co-requisite model had the opportunity to complete a college level math course in one term.

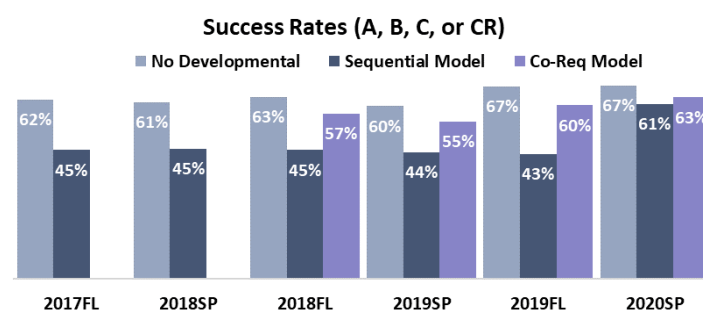
### **College Algebra**

Considered the STEM pathway, College Algebra (MATH-1314) is a freshman level math course with the most stringent entry requirements based on the Texas Success Initiative (TSI) Assessment.

For Fall 2018, Spring 2019, Fall 2019, and Spring 2020, the success rate in College Algebra for students taking the course for the first time without prior developmental/NCBO math courses was about 64%. However, the success rate for students who took College Algebra for the first time after taking developmental/NCBO math through the sequential model was 47%.

While students enrolled in College Algebra for the first time through the co-requisite model had a success rate lower than students without a prior developmental/NCBO math

course (59%), they outperformed students who used the sequential model by about 12 percentage points.



Most significantly, over six in ten students who did not require developmental math completed College Algebra on their first attempt – within one term. Somewhat similarly, almost six in ten students who needed developmental math and enrolled in a co-requisite also completed College Algebra within one term instead of two or more typically required under the sequential model.

In summary, success rates for students using the co-requisite model appear promising, and future research will be conducted to further investigate the co-requisite model.

#### **Fall 2018, Spring 2019, Fall 2019, Spring 2020 Sequential vs. Co-Requisite Success Comparison for Other Math Courses**

- Math for Business & Social Science (MATH-1324): the success rate for sequential model was about 10 percentage points lower than the success rate for co-requisite model
- Quantitative Reasoning (MATH-1332): the success rate for the sequential model was about 3 percentage points lower than the success rate for the co-requisite model.
- Statistics (MATH-1342): the success rate for the sequential model was about 2.5 percentage points lower than the success rate for the co-requisite model.

Source: Student Enrollment Data and HB 2223 file

# Long-Term Success of Dual Credit Students

Holly Stovall

Dual credit students are one of the fastest growing TCC student populations increasing about 85% from about 3,700 students (Fall 2010) to 6,900 (Fall 2019) over the last ten years. One benefit of dual credit is early exposure to college courses. Creating this college culture and starting a higher education pathway hopefully helps foster long-term success in college and beyond.

For the most recent cohorts of first time in college (FTIC) students, approximately 10% had dual credit experience at TCC. On average, those FTIC students entered their first fall term in college after high school with about 3 to 4 dual credit courses (about 10 to 11 hours).

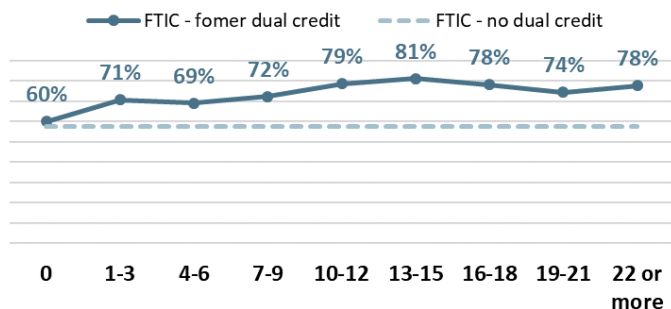


About 10% of TCC FTIC students were former TCC dual credit students

## Enrollment in Higher Education after Dual Credit

Overall, about 73% of FTIC students with former dual credit experience returned to TCC or a 4-year institution the fall following their FTIC term. Those FTIC students entering with more dual credit hours had higher retention rates.

Fall-to-Fall Retention to TCC or 4-Year Institution after FTIC Term based on Dual Credit Hours

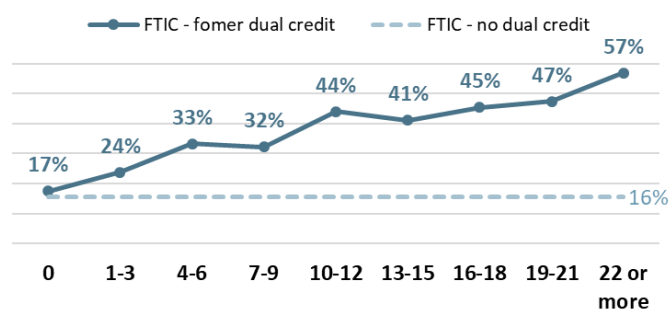


Almost 80% of FTIC students who were former dual credit students with 10 or more hours were retained, and almost 70% of FTIC students who were former dual credit students with fewer than 10 hours were retained. These rates were over 10 percentage points higher than the fall-to-fall retention rate of FTIC students with no dual credit experience (almost 60%).

## Graduation from Higher Education after Dual Credit

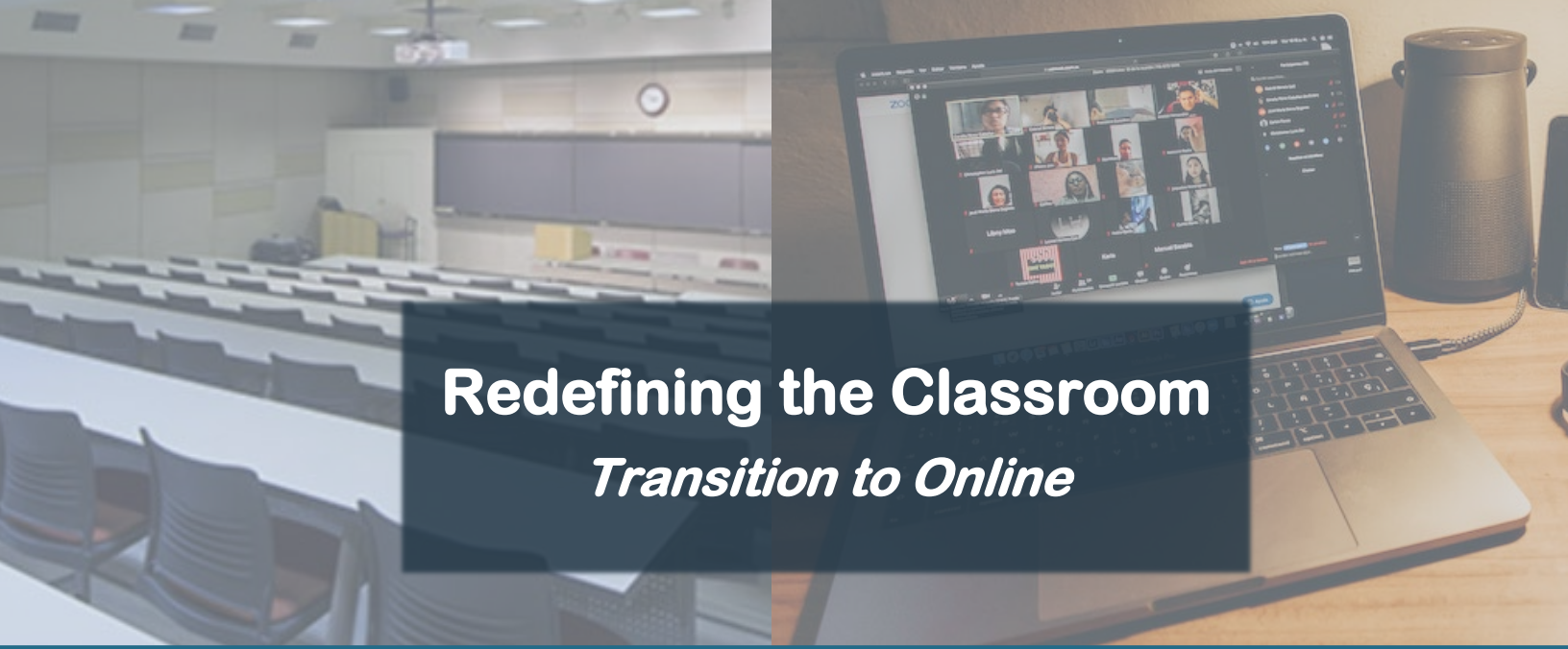
The 4-year graduation rate from TCC or a 4-year institution markedly increased as the number of dual credit hours earned increased. The 4-year graduation rate for FTIC students who were former dual credit students with 10 or more hours was about 45% compared to the graduation rate for FTIC students who were former dual credit with fewer than 10 hours which was almost 30% - both rates almost 15% or more above the rate of FTIC student with no dual credit experience.

4-Year Graduation from TCC or 4-Year Institution after FTIC Term by Dual Credit Hours



In sum, both short-term and long-term outcomes were much higher for students with dual credit experience. Moreover, outcomes improved when more dual credit hours were earned.

Source: ODR, ST Gender and/or Ethnicity by Program, IR GPA  
The most recent cohorts included 2015FL to 2019FL fall FTIC students. Graduation included 2012FL to 2016FL fall FTIC students.



# Redefining the Classroom

## *Transition to Online*

### *The Precipice for Change in Delivery of Instruction*

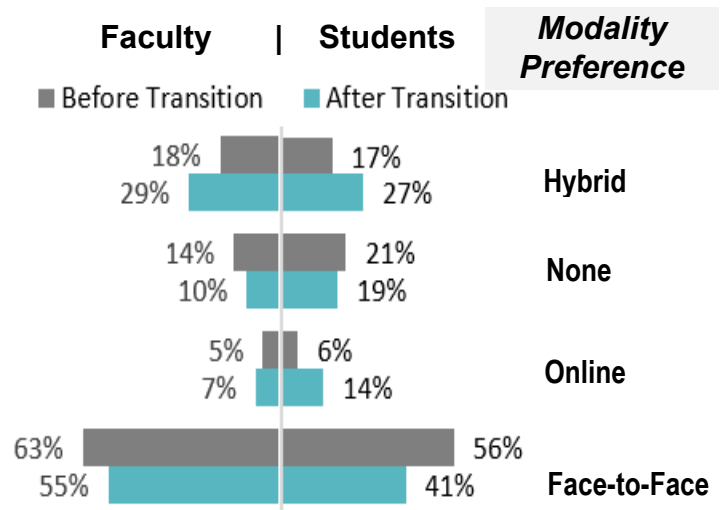
In decades to come, March 2020 may be remembered as the instant when higher ed and the delivery of education was forever changed due to a global pandemic. As students and faculty prepared for the second half of the spring semester after Spring Break, the “world” said everything would move to completely online instruction...within about a week. Although online education has steadily increased since the early 2000s, the abrupt transition to emergency remote teaching with rapid implementation of wide-spread online communication/collaboration platforms (e.g. MS Teams, Zoom, etc.) and development of online resources created the foundation to more easily offer a multitude of instructional delivery options in the future.

### *Initial Thoughts on Transition*

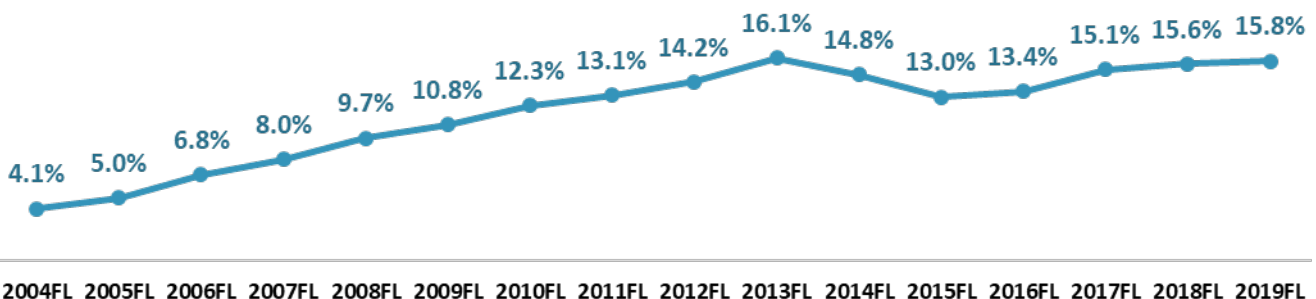
Although dual credit/early collegiate high school (ECHS) students are a unique subset of all TCC students their attitudes may represent the perspective of our future students as this population continues to grow. In May 2020, almost 1,000 dual credit/

ECHS students and about 120 dual credit/ECHS faculty responded to a survey reflecting on the rapid transition to online-only (remote teaching) due to COVID-19.

For both students and faculty, about 30% changed modality preference from before online-only transition and after transition. Overall preference shifted towards hybrid and online.



### Percent of Online Course Enrollments at TCC



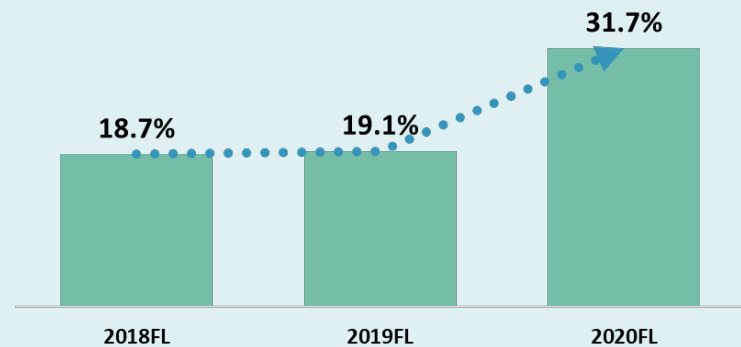


# Campus Location – Not a Major Factor in Course Choice in 2020?

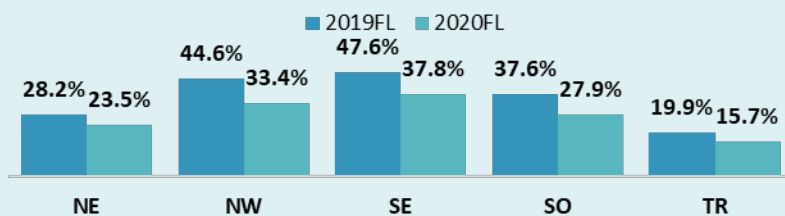
With roughly 95% of courses offered online in Fall 2020, the location of campus may have had less influence when students were selecting a course. Factors such as commute times and proximity to home or work were no longer barriers.

- The percentage of students attending multiple campuses increased from almost 20% in 2018FL and 2019FL to over 30% in 2020FL.
- The top 5 zip codes at each campus accounted for lower percentage of the campus's student population in 2020FL. Differences from 2019FL to 2020FL ranged from about 5 to 10 percentage points. (Note: The percentage of the student body accounted for by the campus's top 5 zip codes was similar for 2018FL and 2019FL.)

Percent of Student Attending Multiple Campuses



Percent of Students from Top 5 Zip Codes for Campus



**Connection between Preparedness & Difficulty of the Transition:** About 25% of student respondents found the transition to online-only very difficult or somewhat difficult. Of the respondents who felt completely or somewhat unprepared for the transition, almost 50% found the transition very difficult or somewhat difficult, whereas of those who felt completely or somewhat prepared for the transition, only 10% found the transition very difficult to somewhat difficult.

## Moving Beyond the Pandemic

In Fall 2020, about 3,700 students (about 8% of the student population) provided insights about their preferred teaching method moving forward.

About 40% stated they preferred taking all online courses, with almost two-thirds of them wanting asynchronous learning. Top reasons for preferring online included:

- *I like the flexibility of online (79.4%)*
- *I like online classes (65.2%)*
- *Online classes allow me to be with and/or take care of my family members (61.6%)*
- *Online is preferred for my work schedule (59.5%)*



## Lasting Impact

The infrastructure created or solidified during the transition to online likely established permanent online options for the future. Thus, there may be no returning to the pre-pandemic educational environment since most now have experience in an online setting. For some, preference in modality may have shifted to online or hybrid as a result of recent events while others may be eager to return to face-to-face classes, more convinced that it is the right mode for them. Regardless, the key implication from recent data is that students may have higher expectations for flexibility and choice in course delivery.

Source: ST Student Enrollment Data, Transition to Online-only Survey, 2020FL SFU Delivery Preference Survey

\*In Percent of Online Course Enrollments at TCC graphic, online instruction was defined as instructional method CD1.



# Educating our Future Nurses

## *TCC's Nursing Students: Success Before, During, and Beyond TCC*

Holly Stovall & Liz Northern



As one of the primary providers of patient care, nurses are vital to the health of our nation, and the demand for these care givers is growing. According the US Bureau of Labor Statistics, employment for registered nurses is projected to grow 7% from 2019 to 2029, due in part to an aging population.<sup>[1]</sup> Not only has an impending nursing shortage been suggested, but the profession is also upskilling.<sup>[2]</sup>

### **AT TCC**

Serving to educate the future nurses of our community, Tarrant County College's Nursing Program (RN) offers students entry into a healthcare pathway. For the past five academic years (2015-2016 to 2019-2020), about 700 to 800 students per year took an RNSG course, which included both 1<sup>st</sup> and 2<sup>nd</sup> year nursing students. The success rate (A, B, C, CR) in nursing courses was almost 95%.<sup>[3]</sup> During this same time, about 250 to 300 nursing students graduated each year with their Associate Degree in Nursing (RN).<sup>[4]</sup> Moreover, the most recent success rates on the nursing licensure exam averaged almost 90%.<sup>[5]</sup>

### **PRIOR TO TCC**

Of the Nursing graduates from TCC through 2019FL, about one in three graduates had earned a degree or certificate prior to their Nursing degree from TCC.<sup>[6]</sup> These students with prior credentials have additional knowledge and experience to add to the Nursing degree, making them possibly more marketable for future employment.<sup>[6]</sup>

#### **Demographics**

When comparing by age, about 75% of all Nursing graduates are over the age of 25 at graduation. However, closer to 80% of Nursing graduates with a prior credential are over the age of 25, likely due to the time spent obtaining their prior credential.<sup>[6]</sup>

Correspondingly, about one in four Nursing graduates is under the age of 25, while about one in five of Nursing graduates with a prior credential is under the age of 25.<sup>[6]</sup>

When comparing by ethnicity, the percentage of Hispanic Latino Nursing graduates with a prior credential was about four percentage points higher than Hispanic Latino graduates without a prior credential. The percentage of White Nursing graduates without a prior credential was about five to six percentage points higher than White students with a prior credential.<sup>[6]</sup>

#### **Prior Degree Type**

When examining prior credentials by institution level, about half of the prior credentials attained were associate degrees from two-year institutions. The average time between the prior associate degree and the TCC Nursing degree was just under four years. Furthermore, a little over a quarter of the prior degrees were bachelor's degrees, with roughly eleven years between the prior degree and the TCC Nursing degree.<sup>[6]</sup>

#### **Prior Institution**

Roughly half of the prior degrees or certificates earned by TCC Nursing graduates were completed at TCC. The average time between the prior degree or certificate from TCC and the Nursing degree was about three years.

**Further discovery:** what steps could assist or possibly recruit more TCC students to explore this idea of an additional credential at TCC?

About 9% of prior degrees were attained at UTA, UNT, and Texas A&M. For these students, the average time between their prior degree and the TCC Nursing degree was about 10 years.<sup>[6]</sup>

# 33%

Earned a prior degree before RN

# 90%

Passed Nursing Licensure Exam

# 20%

Earned BSN within four years of RN earned at TCC

# 66%

Of the RN to BSN graduates earned BSN from UTA

## BEYOND TCC

Since hospitals now prefer a bachelor's degree, four-year schools have created programs to help nurses with an associate degree continue their nursing education and earn a Bachelor of Science in Nursing (BSN). Approximately one-third of RNs who graduated from TCC between 2010-2011 and 2017-2018 enrolled in a BSN program at a four-year school within two years of their graduation from TCC.<sup>[6]</sup>

Overall, within four years from their graduation from TCC, about 20% of TCC nurses earned their BSN degree.<sup>[5]</sup> The top schools for TCC's RN to BSN graduates included the University of Texas at Arlington (UTA), Tarleton State, Texas Tech, and Texas Woman's University (TWU). These schools accounted for about 85% of graduates with UTA accounting for about 66% of the graduates.<sup>[5]</sup>

Within eight years of their graduation from TCC, there were a few nurses who had earned a Master of Science in Nursing. Future research, such as a longer longitudinal study, might provide more insight on graduates earning a master's degree as nurses may choose to gain years of experience prior to pursuing this degree.<sup>[5]</sup>

In sum, TCC's Nursing Program has been an important step for many pursuing a nursing career as about one in five TCC nursing graduates made the transition from RN to BSN. With the substantial increase in demand for nurses, TCC stands poised to continue to provide the education needed for the next generation of nurses.

### Sources:

[1] <https://www.bls.gov/ooh/healthcare/registered-nurses.htm#tab-6>

[2] <https://www.jporganchase.com/corporate/Corporate-Responsibility/document/335911-jpmc-gap-dallas-aw5-online-2.pdf>

[3] TCC file: ST Student Enrollment Data

[4] TCC file: DA Degrees

[5] <http://www.txhighereddata.org/reports/performance/ctclbb/licensure.cfm>

[6] National Student Clearing house file (CIP 51.3801 was used to identify nursing enrollments and graduates



## Analysis of Social Profiles; 227 TCC Nursing Alumni represented (Graduation Years 2015-2019)

# 64%

Report employment within one year of graduation

# 59%

Employed in their field of study within a year of graduation

# 55%

Currently working in field of study



### Alumni Place of Residence:

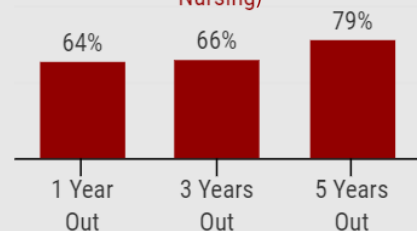
96% in Texas

60% in Dallas-Fort Worth-Arlington

### Top Employers

- Texas Health Resources
- JPS Health Network

### Career Outcomes (in Health Care including Nursing)



Source: Burning Glass (CIP 51.3801)

# Supporting Academic Success: *Supplemental Instruction at TCC*

Holly Stovall, Robert Lorick & Liz Northern

For over four years, students have been supported by TCC's supplemental instruction (SI), a free academic enrichment program aimed at helping students succeed in historically difficult courses. Led by students who had prior success in the course, current students participate in peer-assisted study sessions.

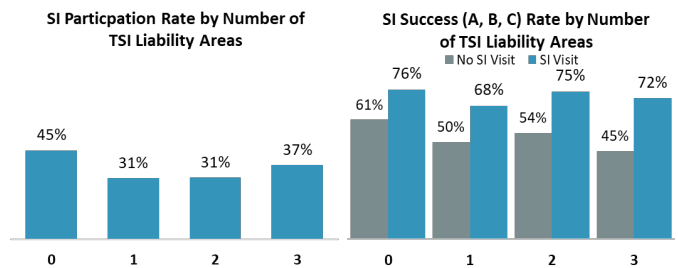
In SI-supported sections, students who utilized SI had a success rate about 15 percentage points higher than students who did not use SI. However, students who participated in SI immediately distinguish themselves from the non-participants as having factors contributing to their choice to seek academic support that may also be associated with higher success. Thus, the question arises as to whether students who might gain the most from additional academic support are the ones who use and potentially benefit from SI.

## Factors Contributing to Success

Multiple factors likely contribute to a student's academic success. While some factors such as motivation and determination are latent and difficult to gauge, other factors such as academic preparedness and prior academic success are more easily measured.

### Academic Preparedness

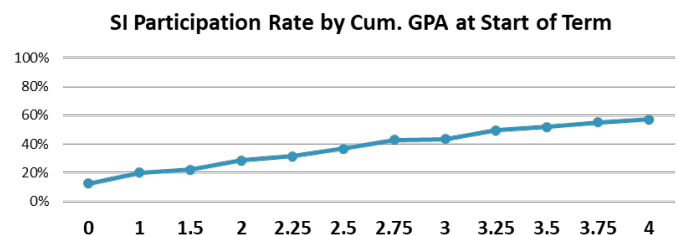
The number of liability areas as determined by the Texas Success Initiative (TSI) assessment is one indicator of academic preparedness. Students can be liable in up to three areas – reading, writing, and math. The SI participation rate for students liable in one or two areas was about 14 percentage points lower than students who were not TSI liable. However, the participation rate for students liable in all three areas was only about 8 percentage points lower than students who were not TSI liable.



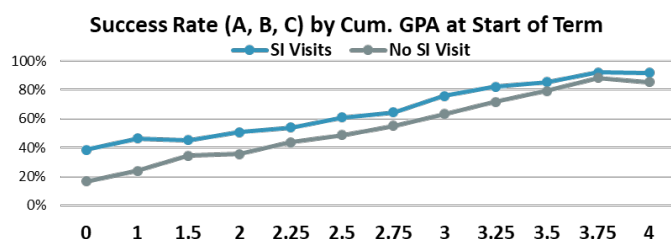
Moreover, the gap in success rates between SI participants and non-SI participants widened as the number of liabilities increased. SI participants who were not TSI liable outperformed comparable non-participants by about 15 percentage points; whereas, SI participants who were liable in all three areas outperformed comparable non-SI participants by 27 percentage points.

### Prior Success

Cumulative GPA at the start of a term provides a measure of previous academic success.<sup>[a]</sup> Students who started the term with a lower GPA (less than 1.5) had a participation rate under 25% while the participation rate for students who started the term with a higher GPA (3.5 to 4) was over 50%.<sup>[b]</sup>



Although the students who started the term with a lower GPA had much lower SI participation rates, the difference in success rates between SI participants and non-SI participants was highest among these students. SI participants who started with a lower GPA outperformed non-SI participants with similar GPAs by approximately 20 percentage points. However, SI participants who started with a middle GPA (1.5 to 3.49) outperformed non-SI participants with similar GPAs by approximately 10 percentage points. The difference in success rates for students who started the term with a higher GPA was roughly 5 percentage points.



In sum, students who started the term with a GPA less than 1.5 and participated in SI had a success rate that was similar to students who started the term with a GPA between 2.25 to 2.49 and did not participate in SI.

## Predicting Success

A simple model using starting cumulative GPA and whether or not the student visited SI was a fair predictor of success.

$$\log \frac{\pi}{1-\pi} = \beta_0 + \beta_1 \text{VisitedSI} + \beta_2 \text{GPA}$$

Based on this model controlling for starting GPA, the odds of success for students who used SI was almost 1.7 times the odds of success for students who did not use SI.

*(Note: More sophisticated models using total visits and number of TSI liability areas were built but did not lead to a marked improvement in predictive ability. None could be classified as strong predictive models.)*

## Conclusion

The difference between the success rates for SI participants and non-SI participants was higher for both academically underprepared students and students who had less prior academic success. As students self-select whether to attend SI, results cannot prove a direct cause-and-effect relationship (i.e. SI caused higher grades). However, these data suggest the possibility that SI may foster success more among students who might be in need of academic support.

## Summary of SI: Fall 2015 to Spring 2019

- The number of students using SI increased approximately 30% from about 1,500 students in Fall 2015 to about 2,000 in Spring 2019.
- The average number of visits per student was about 7.

|        | SI Supported Sections | Total Students utilizing SI from SI supported Sections | Total Visits to SI from SI Supported Sections |
|--------|-----------------------|--|---|
| 2015FL | 124                   | 1,561  | 10,451  |
| 2016SP | 128                   | 1,553  | 10,965  |
| 2016FL | 149                   | 1,567  | 10,326  |
| 2017SP | 186                   | 1,726  | 12,239  |
| 2017FL | 204                   | 2,062  | 14,805  |
| 2018SP | 173                   | 1,712  | 12,435  |
| 2018FL | 179                   | 1,731  | 13,607  |
| 2019SP | 196                   | 2,055  | 14,489  |

Source: ST Student Enrollment Data, Tutor Trac, and SI provided files

[a] Spring students must have attended the prior fall term, and fall students must have attended prior spring or summer term.

[b] Missing and 0 GPAs excluded.



# High Success in Wintermester

## Are students from 4-year schools returning to TCC?

Holly Stovall & Martin Salgado-Flores

As the vast majority of students are taking time off from college during their winter break, about 1,600 students, on average, spent December completing courses during wintermester 2017, 2018, and 2019. The success rate for wintermester averaged almost 90%, which was about 15 percentage points higher than the success rate of spring, non-wintermester students.

So why is the success rate in wintermester so much higher?

### Prior Attendance at 4-Year School

One hypothesis is that students who attend 4-year schools return to TCC during wintermester, and their experience might contribute to higher success.

*Over 20% of wintermester students attended a 4-year school the prior fall.*

Data show students from 4-year schools returned in wintermester and comprised a larger portion of the term population. While about 5% of spring, non-wintermester students attended a 4-year school the prior fall, over 20% of wintermester students attended a 4-year school the prior fall.

### Success in Wintermester

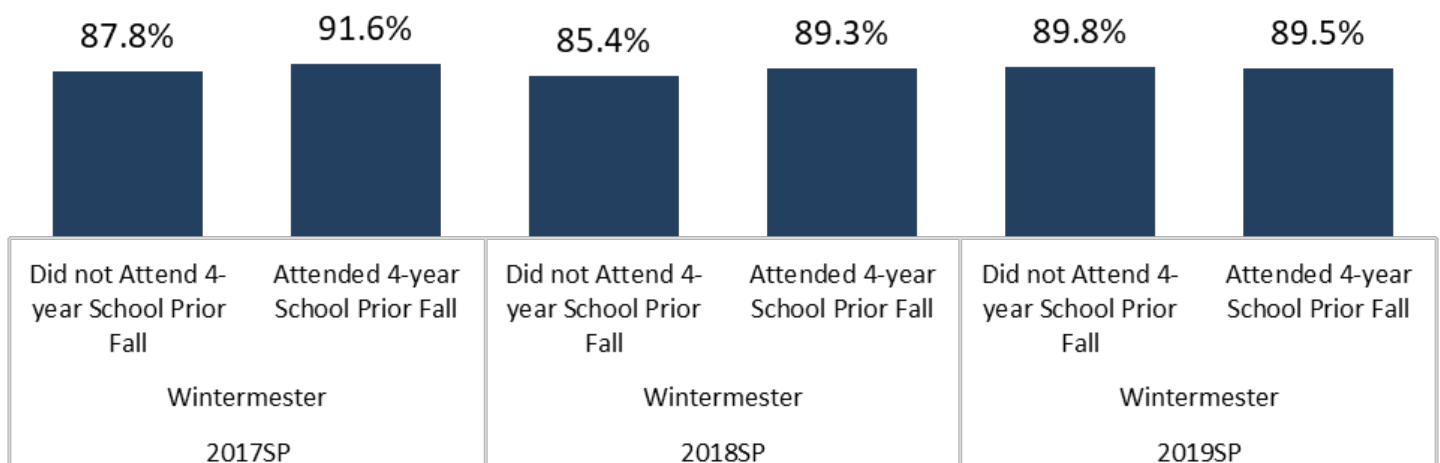
Both the percentage of students who attended a 4-year school the prior fall and success rates were higher in wintermester. However, the success rate of wintermester students who did not attend a 4-year school the prior fall was not substantially lower than the success rate of wintermester students who attended a 4-year school the prior fall.

*Wintermester students who attended a 4-year school the prior fall and those who did not attend a 4-year school the prior fall had high success in wintermester.*

The success rate of wintermester students who had not attended a 4-year school the prior fall (~88%) was about two percentage points lower than the success rate of wintermester students who had attended a 4-year school the prior fall (~90%).

Thus, there are likely other factors outside of prior attendance at 4-year schools such as the short period of intense focus on a single course that may help explain the higher wintermester success rate.

### Success Rates of Wintermester Students



Sources:

[1] TCC file: ST Student Enrollment Data

[2] National Student Clearing house file



In a keynote address, Hadley Wickham, Chief Scientist at RStudio, reflected on tendencies to create complexity in pursuit of optimal design. He suggested that working hard to reach the '*pinnacle of success*' might cause the creation of systems, process, and information, that while perfected, might limit access and usability. Perhaps instead, as Wickham suggested, the goal should be achieve the '*pit of success*' where something is designed so well that the user simply falls into success because there is no other place they have been guided.



# Repeats.

Life's unpredictable events can cause hardships that may hinder a student from completing coursework successfully. The population TCC serves daily has needs and barriers both academically and beyond the classroom, affecting a student's outcome in a course. In such cases, having the opportunity to retake a course is one way a student can attempt to better that course's outcome.

Often coined "grade forgiveness," there is a practice within higher education that allows for a student to repeat a course in order to earn a better grade. The repeated course still remains on the student's transcript, and at TCC, the higher grade is used to calculate the student's grade point average.

## How many repeats?

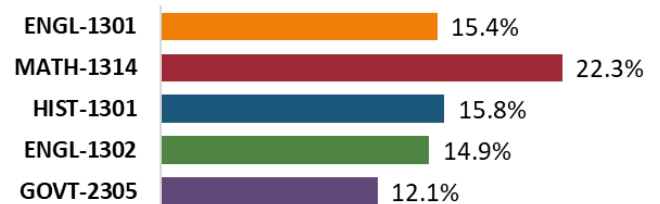
When looking at enrollment data between the spring of 2004 and the summer of 2018, roughly 10% of course enrollments were repeats. A course was considered a "repeat" if the same course had been attempted more than once within the time period examined. Of the repeats, about 65% were the students' only additional attempt of the course beyond their first attempt. *Note that a third attempt rule was established in 2013 to assist in curbing the proliferation of repeated courses.*<sup>[1]</sup>

|  | Course Enrollments | %    |
|--|--------------------|------|
| Total Enrollments                          | 4,282,392          | 100% |
| Never Repeated Enrollments                 | 3,411,784          | 80%  |
| Repeated Enrollments - First Attempt       | 384,653            | 9%   |
| Repeated Enrollments - Subsequent Attempts | 485,955            | 11%  |

## Which classes do students repeat the most?

Courses that were repeated the most often were "Gateway" courses: ENGL-1301, MATH-1314, HIST-1301, ENGL-1302, and GOVT-2305. The repeats from these five courses account for about a quarter of all repeats within the examined time period.<sup>[2]</sup>

Percent of Enrollments that are Repeats



## When do students retake courses?

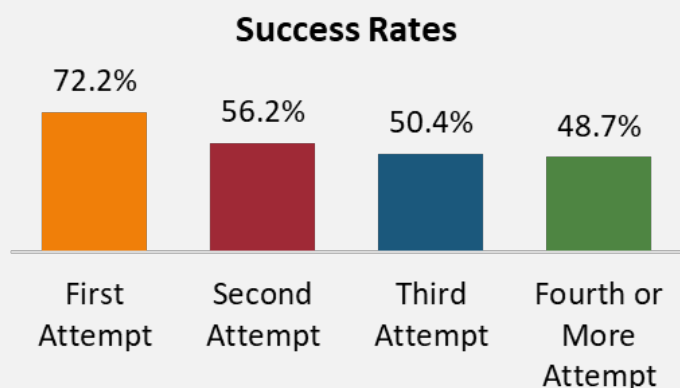
About one quarter of repeats were courses taken within one term of the student's first attempt, and about 60% were repeats within one year of the student's first attempt. For example, a course taken in 2014SU, 2014FL, or 2015SP was counted as a repeat within a year if the student first attempted the course in 2014SP.

## How often do students repeat?

The success rate on students' first attempt was just over 70%. When the first attempt was not successfully completed with an A, B, or C, the course was repeated about one-third of the time.

## SUCCESS RATES

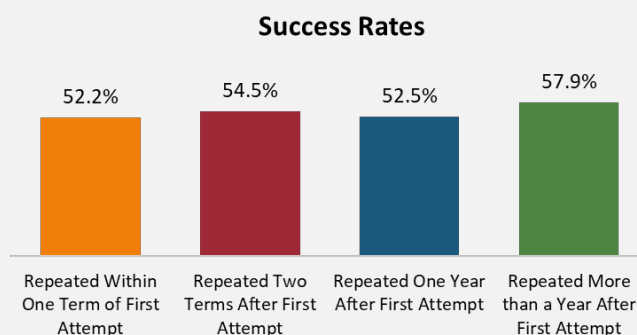
### Is success related to attempt number?



Overall, success rates decreased with additional attempts. The success rate for course enrollments that were second attempts was 56%, whereas, the success rate for third attempts was 50%.

Similarly, across the five gateway courses often repeated, success rates decreased with additional attempts.

### Is success related to how quickly the course was repeated?



Among all repeats, courses repeated more than one year after the student's first attempt had higher success rates.

Similarly, for four of the gateway courses often repeated, success rates were higher when the course was repeated more than one year after the first attempt. However, College Algebra (MATH-1314) was an exception since the success rate was lower when the course was repeated more than a year after the first attempt.

## GRADE REPLACED

### What is the maximum graded earned?

Some students replaced their initial grade with a passing grade. An example: when a student earned a D on their first attempt, they earned an A on a subsequent attempt about 16% of the time. They earned a B on a subsequent attempt about 30% of the time and a C almost 30% of the time.

|                        |   | Maximum Grade Earned |     |     |
|------------------------|---|----------------------|-----|-----|
|                        |   | A                    | B   | C   |
| Grade on First Attempt | D | 16%                  | 30% | 29% |
|                        | F | 14%                  | 22% | 23% |
|                        | W | 20%                  | 25% | 21% |

## Considerations & Future Research

This first review of data on repeats has given an overview of the number of repeats, commonly repeated courses, and possible connections to success. In the next edition of "Repeats," we will explore in more depth the demographics of repeaters and potential predictors of repeats such as academic preparedness.

- ❖ Since the likelihood of success decreases with additional attempts, what tactics can be explored to prevent repeating a course?
- ❖ Students taking a course for a second time should be aware of the implications of needing to retake the course for an additional time.

[1] TCC 2018-2019 Course Catalog

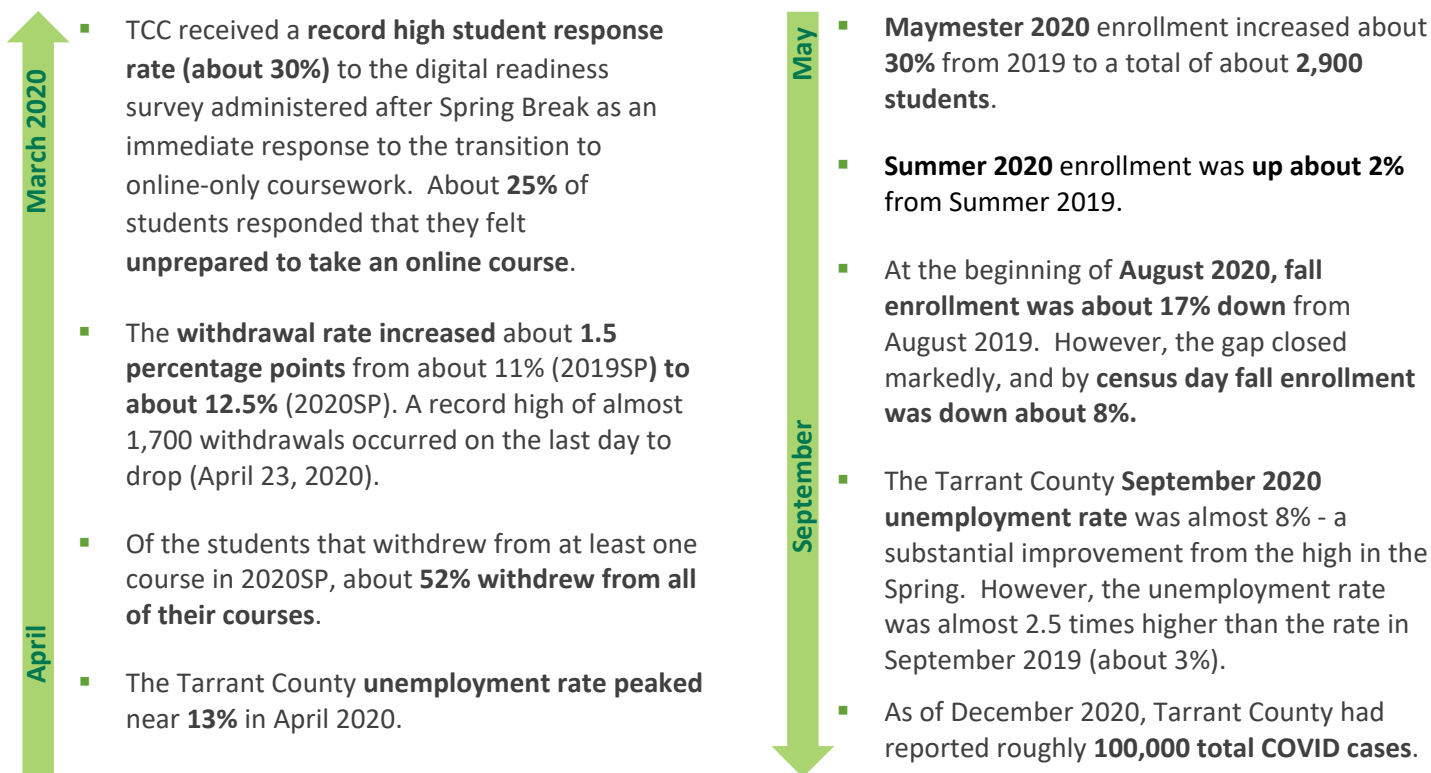
[2] ST Student Enrollment Data (excludes credit type N, audits, labs, and missing grades)

# Enduring a Pandemic

## 2020 in Review

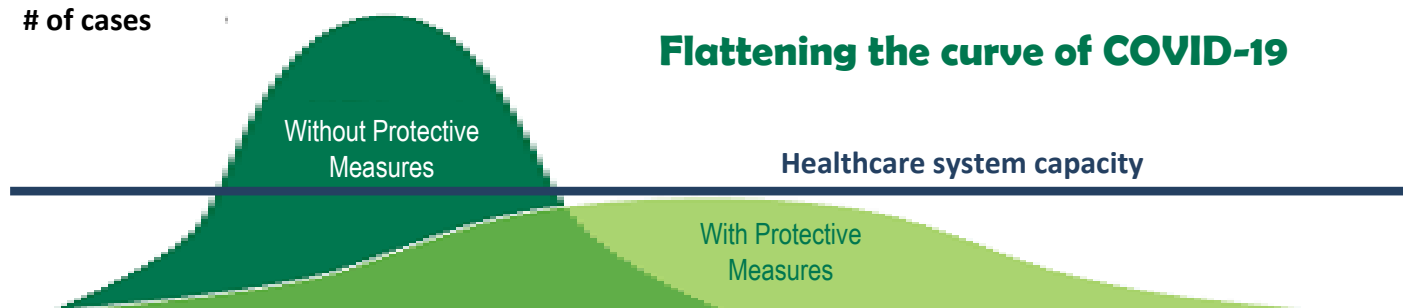
“Flatten the curve”, “Social distancing”, “Stay home, Stay safe” – phases that likely aptly summarize your memories of 2020. The COVID-19 pandemic has undoubtedly caused lasting effects on the Tarrant County community.

### BY THE NUMBERS

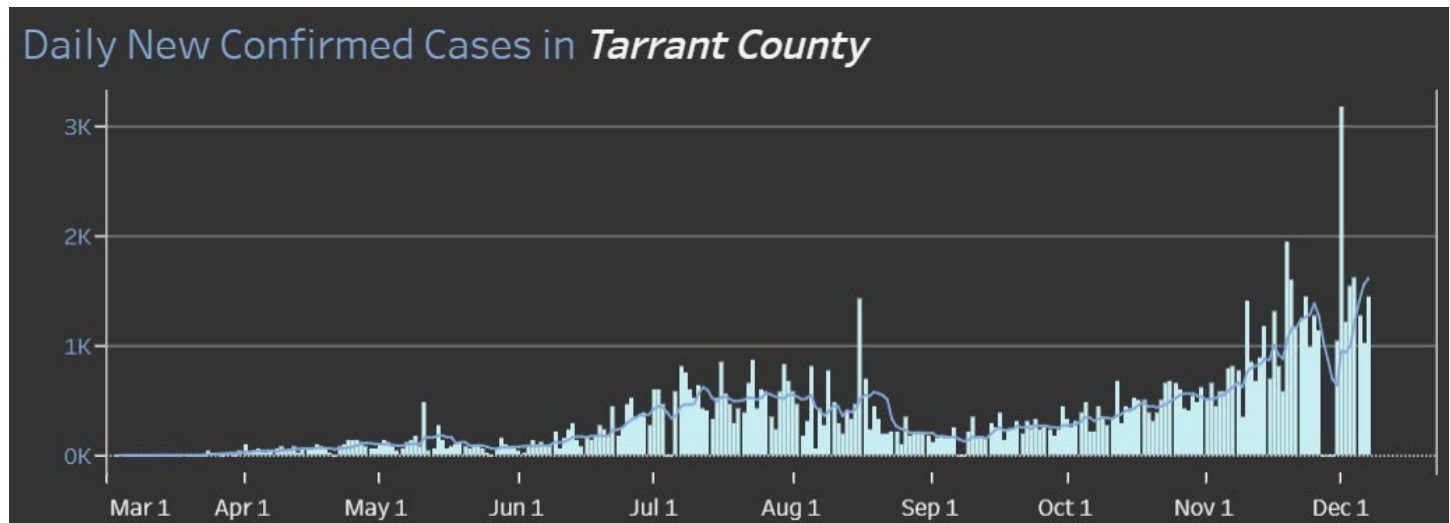


# of cases

### Flattening the curve of COVID-19



## Trends in COVID Cases:

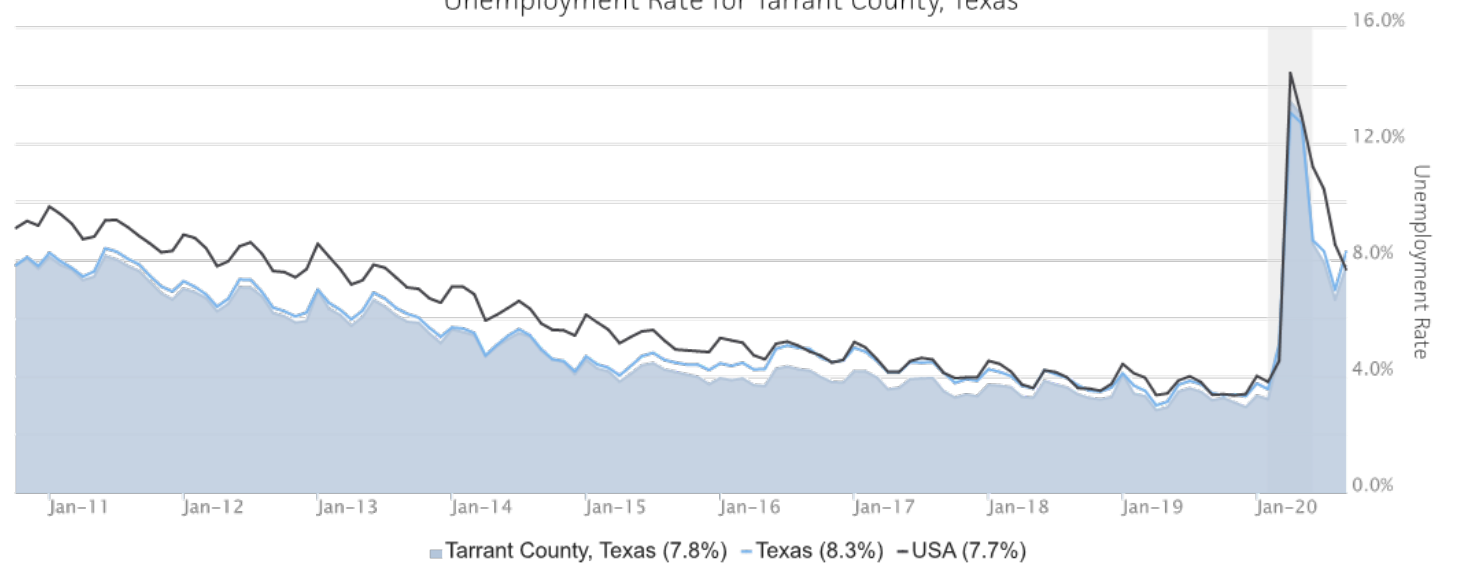


Texas Department of Health and Human Services

<https://tabexternal.dshs.texas.gov/t/THD/views/COVIDExternalQC/COVIDTrends?:isGuestRedirectFromVizportal=y&embed=y>

## Trends in the Unemployment Rate:

Unemployment Rate for Tarrant County, Texas



JobsEQ

Sources: 2020SP Digital Readiness Survey Results, 2020SP Withdrawal Report, 2020 Maymester Report, WebAdvisor, JobsEQ, Texas Department of State Health Services

<https://txdshs.maps.arcgis.com/apps/opsdashboard/index.html#/ed483ecd702b4298ab01e8b9cafc8b83>



# Too Many Surveys?

Robert Lorick

Consider when you eat at a fast food restaurant or go to a retail outlet. All too often the receipt, besides being two feet long, has an incentive to fill out a survey concerning their service. You call a 1-800 number or go to a website. How did you like our service? If you would like to participate in a brief survey please stay on the line... and so on - ad nauseam.

Consider our students, faculty, and staff who are surveyed multiple times every semester. From District, campus, department, and services surveys, everyone wants feedback. While these surveys provide an important forum for students and employees and their opinions are crucial, their time is limited. Thus, administering the right number of surveys and designing the most meaningful questions is critical. Otherwise, survey fatigue sets in.

In the last six years the response rate of surveys sent to faculty and staff has averaged about 25%. The response rate of surveys sent to students has often been under 5%. Some consideration for surveys:

- ✓ Can the question you are trying to answer with your survey be answered with existing data?
- ✓ Has a similar question been asked in a previous survey?
- ✓ Will the survey result in actionable information? If so, how will decision-makers implement strategies?
- ✓ Can the survey be completed in a reasonable amount of time?
- ✓ How will the survey help to promote the College's 3 goals and 8 principals?



# GOT QUESTIONS?

We can help!



TCC Trinity River West Fork 3200



817.515.5900



[www.tccd.edu/about/research/institutional-intelligence-and-research](http://www.tccd.edu/about/research/institutional-intelligence-and-research)

As we reflect on this past year, we're inspired by the ingenuity of TCC faculty and staff and the resilience of our students. Transformation came in the wake of the challenges of 2020. We enter 2021 open to new possibilities, eager for innovation, and excited to continue to support and better serve our TCC community.

Team IR  
ONE IT

*"We do not need magic to change the world, we carry all the power we need inside ourselves already; we have the power to imagine better."*

*-J.K Rowling*







