IR CORNER

December 2022 Issue 5

Data-Informed Decisions

Leveraging the Power of Data

Towards 50,000 Students:
Investigating the pandemic enrollment decline and signs of recovery

Retaining Students
A look at the Fall 2021 Cohort – A Historic High

TARRANT COUNTY COLLEGE
OFFICE OF INSTITUTIONAL RESEARCH

Data-Informed Decisions

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You've got a gut feeling about that?! Well, why not see if the data align with your intuition. You might be right, and your expertise alongside data provides a more solidified foundation for evidence-based decision-making. However, your initial thought might be unsupported by data, and you gain important insights through the process by trying to better understand why results from the data seem counterintuitive.

With the multitude of standard data reports, dashboards, and executive summaries of survey results, there are data readily available on IR's website that could likely be used to inform decision-making. If you can't find it, then let us know. If these sources cannot fulfill your data needs and questions remain, we can create customized data reports as long as the appropriate data are in our data sources.

In this issue, there are several articles that may help recruitment, retention, and completion efforts. An analysis of enrollment trends provides important information about which subgroups have not recovered from the enrollment decline during the pandemic. Predictive modeling and a deeper dive aimed at measuring the impact of the T3 program shed light on the historically high retention rate of the Fall 2021 FTIC degree-seeking cohort. Metrics including the first-year credit hours completed rate and credit hours accumulated help define progress towards completion. Lastly, 8-week courses are compared to 16-week courses, and the students' educational journey through TCC is investigated.

While you may have heard the phrase "let the data speak for themselves", we might edit and say "let the data help you speak for your decisions". We hope you enjoy this issue!

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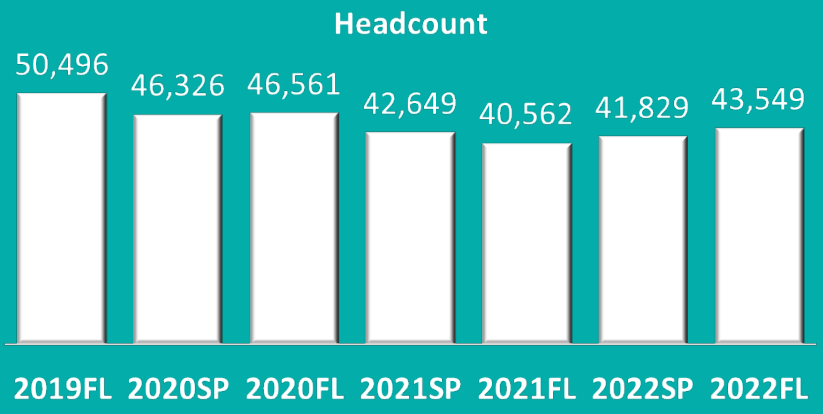
*"Data that sit unused are no different from data that were never collected in the first place."**

**Attributed to Doug Fisher*

CONTENTS



Onward & Upward



By Fall 2022, TCC had recovered about 32% from its lowest post-pandemic headcount of 40,562 to its goal of 50,000.

Towards 50,000

The fall-to-fall retention rate markedly increased by about ten percentage points to 61% for the 2021FL degree-seeking FTIC cohort – a historical high.

Retaining Students

(Degree-seeking FTIC) Compared to non-T3 students, the fall-to-spring retention rate for T3 students was about 3.5 percentage points higher and the fall-to-fall retention rate was about 8.5 percentage points higher.

Tarrant To & Through

**Read this series of articles in IR Corner articles*

Towards 50,000

Investigating the pandemic enrollment decline and signs of recovery

In *Springing Forward*, an article in this journal's last issue, the increase in enrollment from Fall 2021 to Spring 2022 from 40,562 to 41,829 was identified as a sign that the 20% enrollment decline between 2019FL and 2021FL caused by the pandemic may have begun to recover. Sure enough, Fall 2022, while still well under pre-pandemic levels, has continued the enrollment growth that began in Spring.

Figure 1. Recovery of Fall Headcount

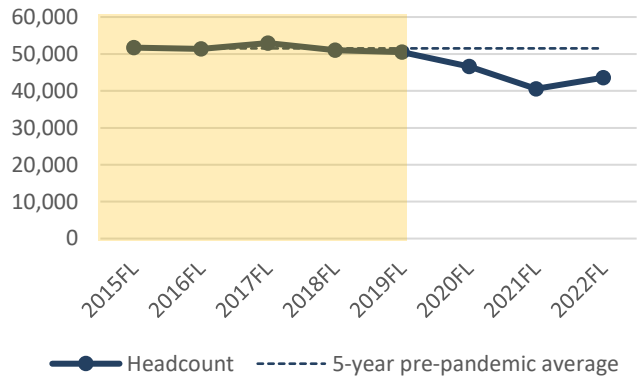


Figure 1. Headcounts declined significantly in 2020FL and have remained under the 5-year, pre-pandemic average (shown as a dotted line). Pre-pandemic headcounts from Fall 2015 to Fall 2019 (in the yellow region) averaged around 51,000.

The Big Drop

Although enrollment dropped dramatically in 2020FL, the first full term to be affected by the pandemic, the largest drop in enrollment was observed in 2021FL. Census-day headcounts had declined from about 50,500 in 2019FL to about 46,500 in 2020FL to about 40,500 in 2021FL. Most of this decline has been due to a decline in new students entering TCC in 2020FL and 2021FL.

- **New-to-TCC** students are defined as students entering TCC for the first time including FTIC, first-term dual credit ECHS student, first-term transfer-in, etc.
- **Continuing/Returning** students are defined as all other students, including those who are continuing at TCC or returning to TCC.

Percent Change in New-to-TCC and Continuing/Returning Students		
Term	New-to-TCC	Continuing/Returning
2020FL	-19.3%	-3.2%
2021FL	-8.4%	-14.4%
2022FL	23.7%	1.5%

Between 2019FL and 2020FL, the number of new TCC students decreased by about 19.3% from 14,444 to 11,661. The number of continuing students during this time did not change drastically. However, as some of the continuing/returning students left by 2021FL, a smaller group of new students in 2020FL meant these leaving students were not replaced. Thus, the number of continuing/returning students declined by 14.4% between 2020FL and 2021FL. Combined with a continued decline in new students (another 8.4% decrease), the decline in continuing students contributed a majority of 2021FL's decrease in headcount to around 40,500 students.

Figure 2. Change in Headcount (2018FL to 2022FL)

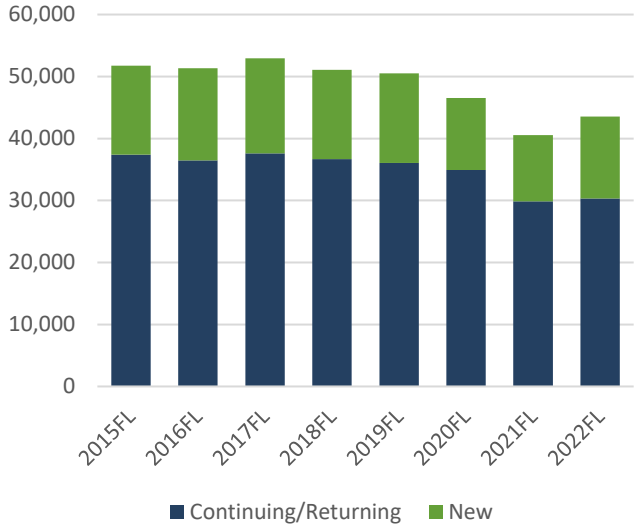


Figure 2. New-to-TCC student headcount (shown in green) substantially decreased in 2020FL, while the headcount of continuing/returning students (shown in navy blue) remained near its 5-year, pre-pandemic average. However, as continuing/returning students left, fewer were replaced by new-to-TCC 2020FL students. Thus, the count of continuing students saw its greatest decline in 2021FL.

Recovering Enrollment

The recent increase in new-to-TCC students in 2022FL contributed the most to the overall growth at TCC between 2021FL and 2022FL. First-Time-in-College (FTIC) students are students who begin their first college experience at TCC, thus they are a part of the new-to-TCC group. These students make up FTIC cohorts, which are used to calculate important institutional metrics such as completion and retention rates. Pre-pandemic, the FTIC cohort averaged about 7,800 students. After a decrease to a low of 5,228 during the pandemic, the FTIC cohort regained about 49% of its loss in 2022FL.

Figure 3. Recovery of First Time in College (FTIC) Students

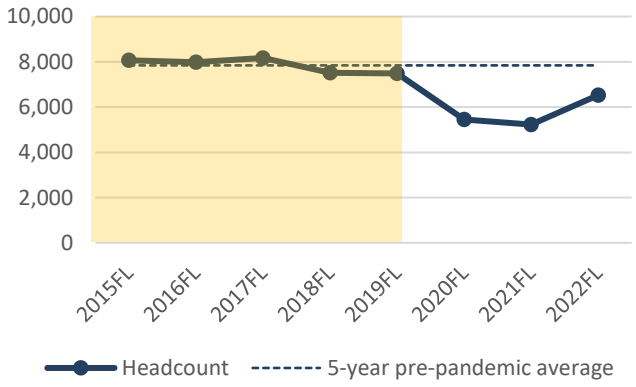


Figure 3. First-Time-in-College (FTIC) headcount (shown in navy blue) substantially decreased in 2020FL and continued to decrease to its lowest point, 5,228 students, in 2021FL. However, the 2022FL cohort has grown to 6,520 students approaching the 5-year, pre-pandemic average (shown as a dotted line) of 7,842 students.

- Both full-time and part-time enrollment recovered in 2022FL as shown in Figure 4. However, part-time's recovery, about 15% recovered of its loss from its pre-pandemic average, was slightly slower than full-time's recovery, about 40% recovered of its loss from its pre-pandemic average.

- Part of the recovering enrollment has been due to increased online enrollment. In 2022FL, the headcount at TCC Connect (CN) campus reached its highest point yet at 14,763 students. Enrollment at all other campuses has yet to recover their loss in headcount since the 2019FL.

Figure 4. Recovery of Full-time (FT) and Part-time (PT) Students

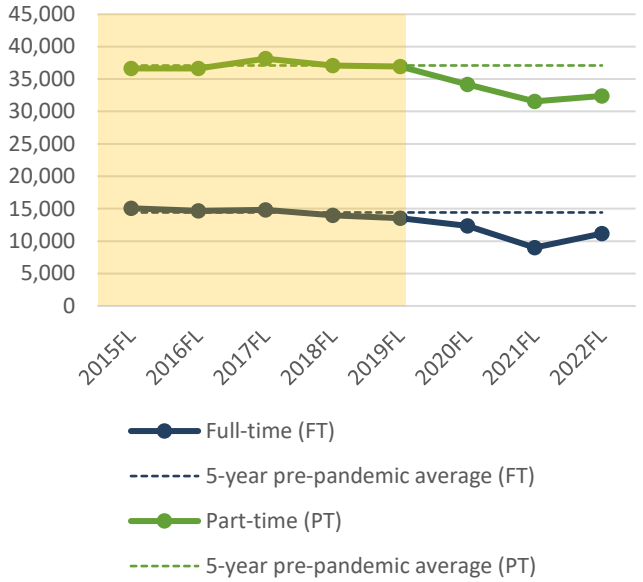


Figure 4. Full-time (FT) headcount (shown in navy blue) decreased in 2020FL and experienced a sharper decrease reaching its lowest point, 9,005 students, in 2021FL. FT student headcount has recovered in 2022FL to 11,158 students approaching the 5-year, pre-pandemic average (shown as a navy blue dotted line) of 14,421 students. Part-time (PT) headcount (shown in green) also decreased over 2020FL and 2021FL. PT headcount has also recovered in 2022FL, albeit at a slower rate.

Figure 5. Campus Headcounts

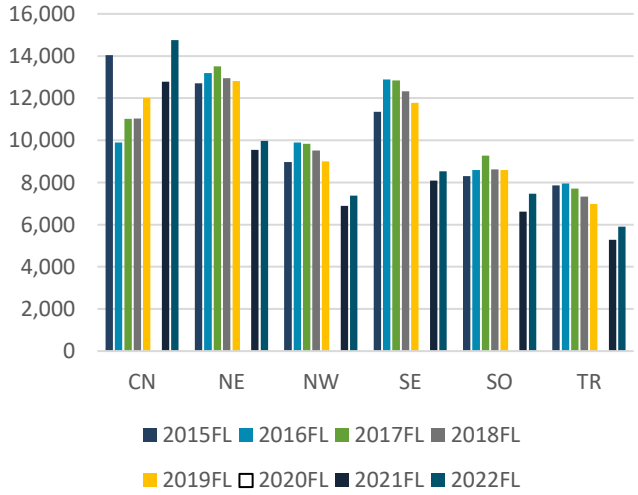
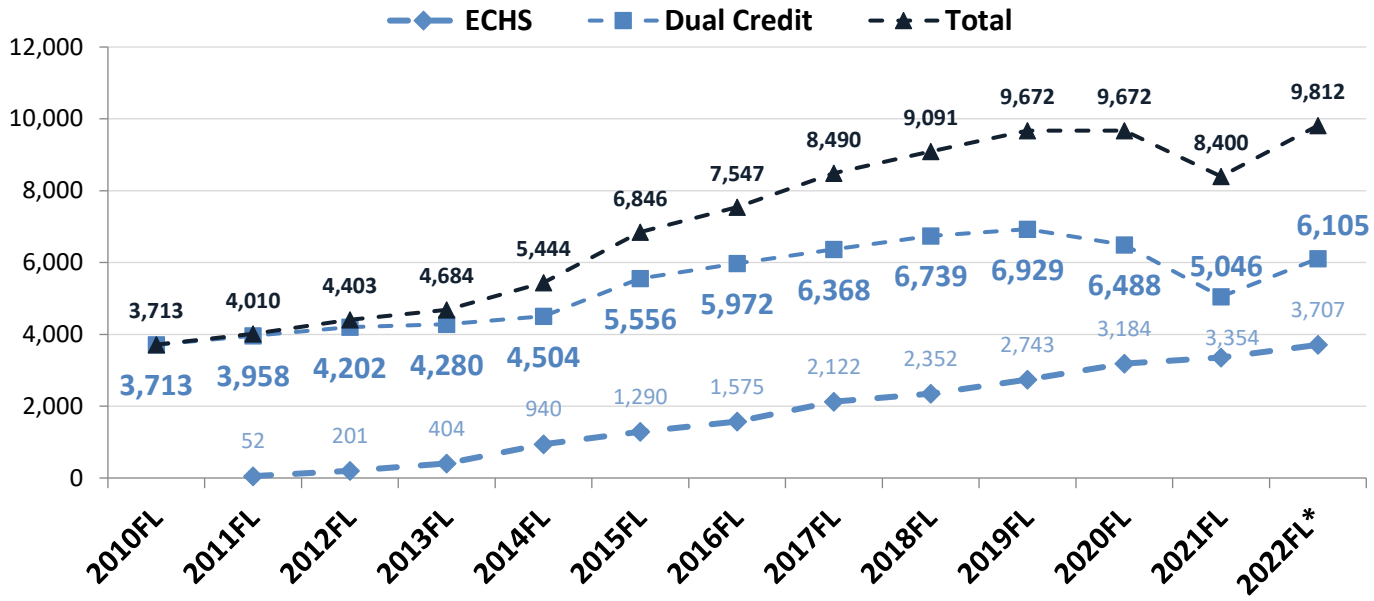


Figure 5. TCC Connect (CN) campus has steadily increased in headcount over time. However, all other campuses decreased substantially in headcount between 2019FL and 2021FL. 2022FL saw some recovery in headcount at other campuses. Note 2020FL data is not shown since almost all classes were taught online that term.

Figure 6. Dual Credit (DC) and Early College High School (ECHS) Headcounts



***Note 2022FL is based on Census Day data.**

Figure 6. Dual credit (DC) headcount (shown as squares) decreased during the pandemic but rebounded in 2022FL at 6,105 students just under its peak of 6,929 students in 2019FL. Early College High School (ECHS) headcount (shown as diamonds) continued to grow throughout the pandemic.

Dual Credit (DC) and Early College High School (ECHS)

Two other major groups that have recovered much of their enrollment are dual credit and ECHS students. These students contribute to both new-to-TCC and continuing/returning groups. After dropping from its peak in 2019FL of 6,929 students, the dual credit headcount reached a low of 5,046 students in 2021FL. However, much of that loss, about 56%, was recovered in 2022FL with a headcount of 6,105 students.

Overall, high school enrollment, a combination of dual credit (DC) and early college high school (ECHS) enrollment, surpassed all previous years in 2022FL with a headcount of 9,812 students. This increase was due in part to the steady growth of ECHS enrollments, as more early college high schools and P-TECHs are added.

Conclusion

One metric which TCC aims to achieve in the coming years is to reach a headcount of 50,000 students. In Fall 2022, TCC had already recovered about 32% from its lowest post-pandemic headcount of 40,562 to its goal of 50,000. While the increase in new-to-TCC students is a promising sign for recovery, sustained efforts to continue to recruit new students and retain students currently enrolled at TCC must be ensured. This upcoming Spring 2023 will continue to inform how TCC recovers and whether the higher online enrollment is a lingering effect of the pandemic or a more permanent shift in modality preference.

Sources: Statistical Handbooks; ST Student Enrollment & Demographics; DC and ECHS Flipbooks (Census Day)

Data-Informed or Data-Driven …

Are they different?

Holly Stovall & Elizabeth Northern

While few would likely support making decisions based on a whim, we should ask what does evidence-based decision-making really mean? At the extreme, one could rely solely on data to drive the decision; however, there are certain dangers in this approach.

Data Quality:

In cases where data are lower quality, they can lead to misinformed decisions. For example, say data were collected through a machine that only works half of the time. If there were important patterns happening when the machines were down, significant information that would potentially change a decision is being missed.

User and Model Bias:

While the data are neutral, there's always some judgment employed by their users who decided what factors were considered when analyzing the data and what variables were put into the data model. Moreover, the models built could be less predictive and inaccurate over time.

Subject-Matter Expertise:

You can't automate logical-discernment and integrating various pieces of salient information to create a more holistic picture, so reliance solely on data negates expertise. Subject-matter experts can better put data in context by understanding data limitations based on their "inside knowledge" and pulling together their various sources for corroboration.

A Decision Must Be Made:

In the absence of complete data and even when data are ambiguous, a decision still needs to be made; thus, relying on data exclusively could prove problematic from a pragmatic standpoint.

In sum, using data to inform decisions is an effort to balance the information garnered through data and the experience and expertise of the decision-makers. Knowing that data are an important component but not the only component in the decision-making process, we must ensure that data quality is well-monitored and enhanced when possible and that metrics are continuously tracked; otherwise, their strength diminishes, and their use becomes less frequent.

Retaining Students

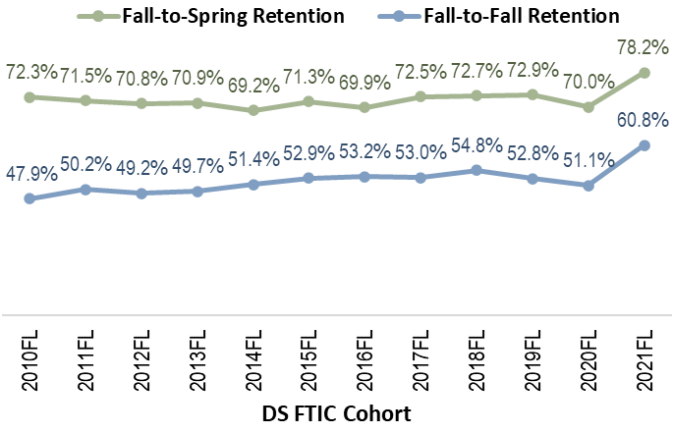
A look at the Fall 2021 Cohort – A Historic High

While some might be concerned that the use of the phrase "a historic high" is hyperbolic, its use seems warranted when describing a ten percentage point increase in fall-to-fall retention for the degree-seeking first time in college (DS FTIC) cohort.

Increase in Retention

The fall-to-spring retention rate was fairly stable for the 2017 to 2019 Fall DS FTIC cohorts. After a three percentage points decrease to 70.0% for the Fall 2020 DS FTIC cohort, the rate increased about eight percentage points to 78% for the Fall 2021 DS FTIC cohort.

The fall-to-fall retention rate decreased for the Fall 2020 DS FTIC cohort and then markedly increased by about ten percentage points to 61% for the Fall 2021 FTIC cohort.



Cohort Demographics

When seeing the unprecedented increase in retention, one might first hypothesize that the demographic make-up of the Fall 2021 DS FTIC cohort differed markedly from prior cohorts. While the cohort size decreased from about 5,000 students in Fall 2017 to about 3,000 students in Fall 2021, the Fall 2021 cohort did not differ substantially from the previous four cohorts in terms of gender, race, or age.

- The percentage of students who entered TSI liable was about 3 to 5 percentage points higher for the Fall 2021 cohort with about 74% of this cohort entering TSI liable.
- The Fall 2021 cohort had a much higher percentage of part-time students. In prior cohorts, roughly 55% of students were part-time in their first term compared to about 64% for the Fall 2021 cohort.
- The percentage of students who were former dual credit/ECHS students was higher for the Fall 2019 to Fall 2021 cohorts with roughly 10% of the cohorts being former dual credit/ECHS students.

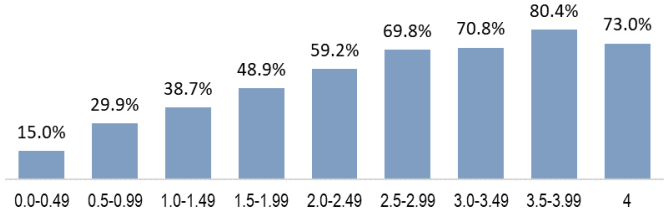
First-Term Performance

After investigating the demographics of the cohorts, one might next hypothesize that the Fall 2021 DS FTIC cohort had higher success in their first fall term. Overall, the Fall 2021 cohort had a higher average and median Fall GPA. For this cohort, 50% had 3.0 term GPA or higher, and 25% had 3.5 term GPA of higher. This cohort also outperformed prior cohorts in terms of their Spring GPA (second-term GPA).

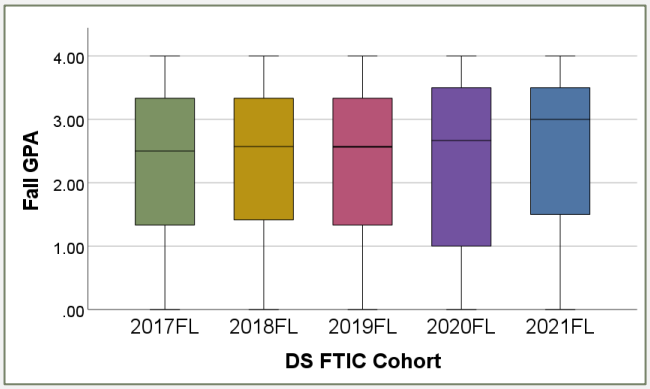
Correlation between First-Term GPA & Retention

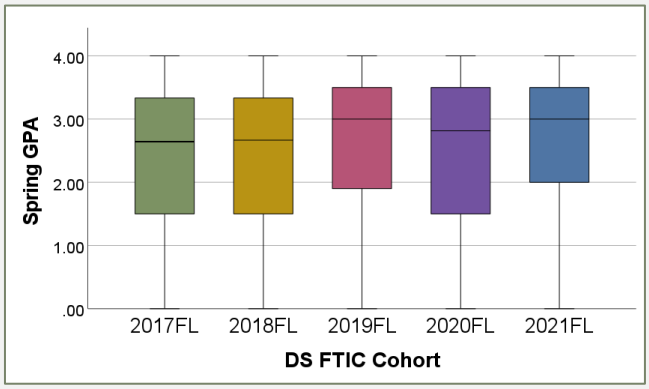
Overall, the retention rate tended to increase as Fall GPA increased (2017 to 2020 Fall DS FTIC cohorts). This increase was most substantial for those with GPAs below 3.0. For example, the retention rate doubled from 15% for students with Fall GPAs from 0 to 0.49 to 30% for students with Fall GPAs from .5 to 0.99.

Fall-to-Fall Retention by Fall GPA Group - 2017 to 2020 Fall DS FTIC Cohorts



DS FTIC Cohort	Fall GPAs 25th Percentile	Median	75th Percentile	Mean	Std. Deviation	Spring GPAs 25th Percentile	Median	75th Percentile	Mean	Std. Deviation
2017FL	1.3	2.5	3.3	2.3	1.3	1.5	2.6	3.3	2.3	1.3
2018FL	1.4	2.6	3.3	2.3	1.3	1.5	2.7	3.3	2.4	1.2
2019FL	1.3	2.6	3.3	2.3	1.3	1.9	3.0	3.5	2.5	1.3
2020FL	1.0	2.7	3.5	2.2	1.4	1.5	2.8	3.5	2.4	1.3
2021FL	1.5	3.0	3.5	2.5	1.3	2.0	3.0	3.5	2.6	1.2



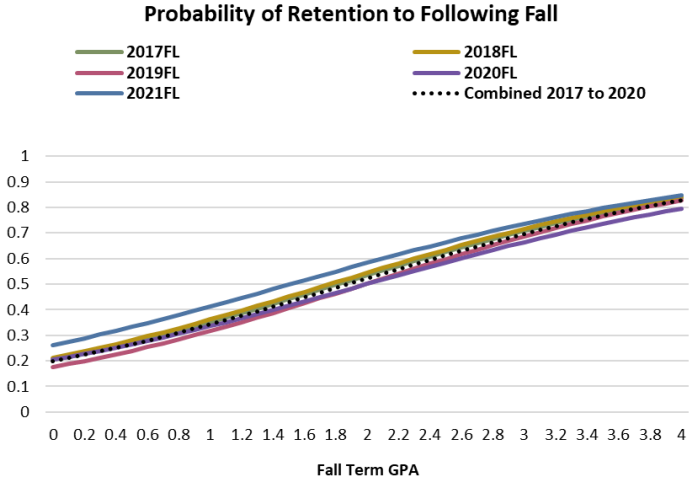


Predicting the Fall-to-Fall Retention of the Fall 2021 Cohort

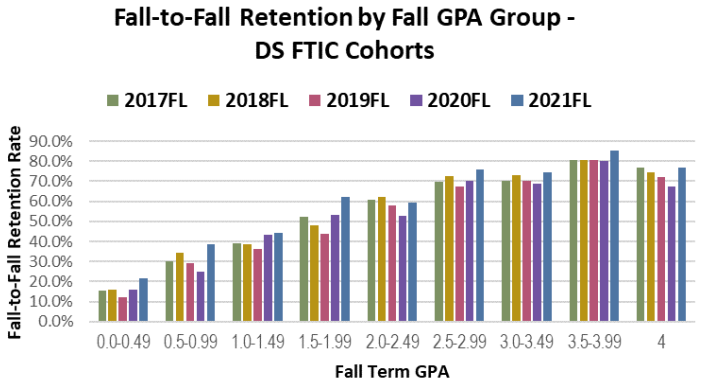
Since there was a fairly strong relationship between fall term GPA and fall-to-fall retention and the Fall 2021 DS FTIC cohort had a higher average fall term GPA, one would expect that their fall-to-fall retention rate would be higher. Using the 2017 to 2020 Fall DS FTIC cohorts, a logistic regression model was created to predict the probability of being retained to the following fall based on a student's first-term Fall GPA.

$$P(retention\ to\ fall) = \frac{1}{1 + e^{-(\beta_0 + \beta_1 Fall\ GPA)}}$$

Based on this model, the Fall 2021 DS FTIC cohort was predicted to have a fall-to-fall retention rate near 56%, which is substantially lower than their actual rate of 61%. Thus, each cohort was modeled separately to investigate potential changes in the relationship between GPA and retention.



Note that the students from the Fall 2021 cohort who had lower GPAs were retained at a much higher rate than expected based on the original combined model. For example, typically roughly 50% or fewer students who had a Fall GPA between 1.5 and 1.99 were retained; however, for the Fall 2021 cohort over 60% of students within this GPA range were retained to the following fall.



Conclusion

In sum, while it was likely expected that the Fall 2021 DS FTIC cohort's fall-to-fall retention rate might be about 5 percentage points higher based on better first-term performance compared to previous cohorts, this cohort outpaced the prediction in part due to students with lower GPAs returning at much better rates. Future research should be conducted to further investigate potential factors that may have contributed to this improved retention rate among students who did not have as much academic success during their first term.

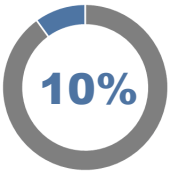
Source: ODR, Enrollment by Term

Tarrant To & Through (T3)

A Partnership to Support Student Success

Tarrant To & Through (T3) is a local partnership between ISDs, colleges, employers, and organizations that aims to ensure more Tarrant County students earn a post-secondary credential and are prepared to successfully enter the workforce. Efforts include graduating students from high school who are college, career, and military ready, helping students enroll in a postsecondary pathway, and promoting persistence and graduation. Juniors and seniors from ISD partners become T3 students by signing a pledge which is a commitment to pursue education after high school. These students then have access to support and resources from the T3 program.[1]

In Fall 2021, approximately 280 out of the 2,800 degree-seeking first time in college students (DS-FTIC) were T3 students.



About 10% of the Fall 2021 DS-FTIC cohort were T3 students

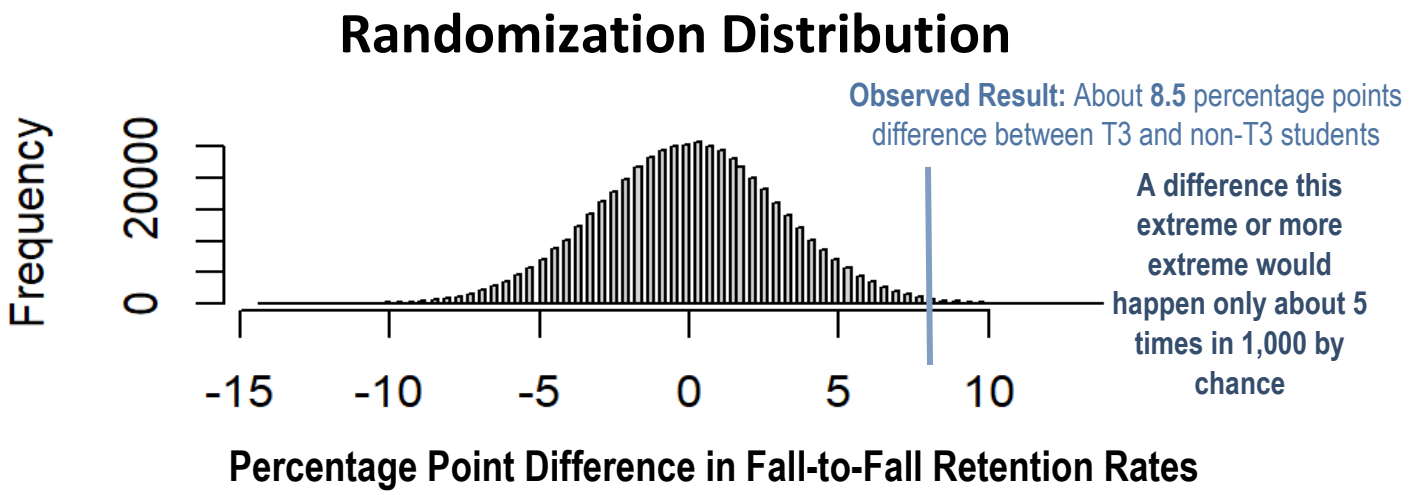
Cohort Demographics

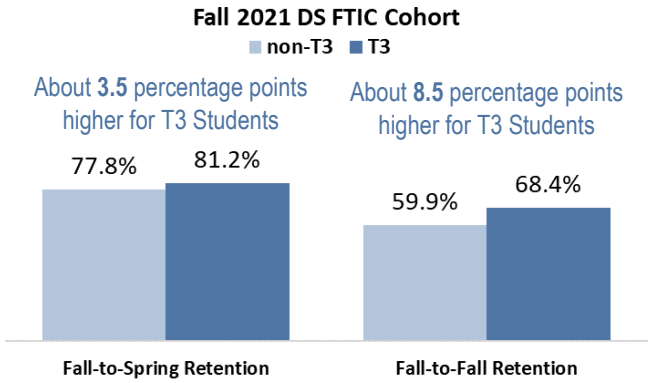
For the Fall 2021 DS-FTIC cohort, the gender distribution for T3 students did not differ substantially from non-T3 students with about 57% of the T3 students being female. The full-time status of T3 students did not differ from non-T3 students with about 63% of T3 students being part-time. The ethnicity distribution for T3 students was markedly different. Hispanic/Latinos comprised about three-fourths of T3 students compared to about 40% of non-T3 students.

First-Term Success & Retention

Although the first-term success rate (A, B, C, CR) for T3 students (68%) was about three percentage points lower than non-T3 students (71%), their fall-to-spring retention and fall-to-fall retention rates were much higher than non-T3 students.

Compared to non-T3 students, the fall-to-spring retention rate for T3 students was about 3.5 percentage points higher and the fall-to-fall retention rate was about 8.5 percentage points higher.





Findings from research and data presented in the *Retaining Students* article showed that students with lower GPAs were retained at higher rates than expected. Thus, there is a connection with that result and the result that the T3 group had lower success their first-term/lower first-term GPA but a high retention rate.

By Chance?

One of the biggest challenges in social science research is definitively measuring impact. If a group of students were randomly assigned to Group A or Group B such that A and B were arbitrary labels because Group A and Group B were not treated differently, differences between group performance can still occur simply by chance. However, there are bounds on how large the difference can reasonably be expected to be by chance.

While the T3 group and non-T3 group are not arbitrary groups because T3 students are guided by the program and its resources, one can conduct a thought experiment where random assignment is considered to gauge the size of differences that could be occur by chance. The randomization distribution of the difference between the fall-to-fall retention rate of the T3 group and the fall to fall-to-fall retention rate of the non-T3 group was simulated by randomly dividing the group of 2,800 DS FTIC students into two groups – A) the T3 group with 280 and B) the non-T3 group with 2,520 – 500,000 times. Each time, the difference in retention rates was calculated; thus, the 500,000 simulated differences represented the randomization distribution.

If the T3 and non-T3 were randomly assigned groups and the groups were not treated differently, then a difference in retention rates of 8.5 percentage points or greater would happen only about 5 times in 1,000 by chance. This result indicates that the difference between retention of the T3 group (comparison group) and the non-T3 group (control group) is well beyond what could be expected under normal variation.

Thus, there is stronger evidence to support that T3 has a marked impact on retention. Future research should be conducted to investigate, where possible, what components of the T3 program seem to be most strongly correlated with retention.

Source: ODR, Student Demographics, T3 Data Report

[1] https://t3partnership.org/

Progress Towards Completion

Credit Hours Completed in First Year

As Tarrant County College focuses on increasing and maintaining momentum for recruitment, retention, and completion, our understanding of students' first-year course completion will help inform efforts to ensure students make academic progress. The credit hour completion rate and the total amount of credit hours accumulated are important metrics that provide insight regarding first-year progress.

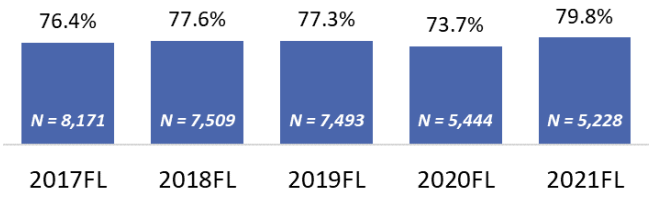
In this article, the fall first time in college (FTIC) cohorts from 2017 to 2021 are combined to investigate factors that might correlate with first-year success using these two metrics.

Note: Developmental coursework was excluded.

Credit Hour Completion Rate

The credit hour completion rate is the ratio of credit hours completed (A, B, C, CR, D grades) to credit hours attempted. On average, FTIC students attempted about 17 credit hours in their first year and completed about 13 credit hours. In other words, FTIC students completed roughly three-fourths of their credit hours attempted in their first year, on average. The credit hour completion rate reached a five year high (79.8%) for the 2021 Fall FTIC cohort.

Credit Hour Completion Rate in First Year - 2017 to 2021 FTIC Fall Cohorts



By Academic Preparedness and Prior Experience

FTIC students who entered academically prepared and FTIC students who had prior experience as a dual credit (DC) or ECHS student had higher credit hour completion rates.

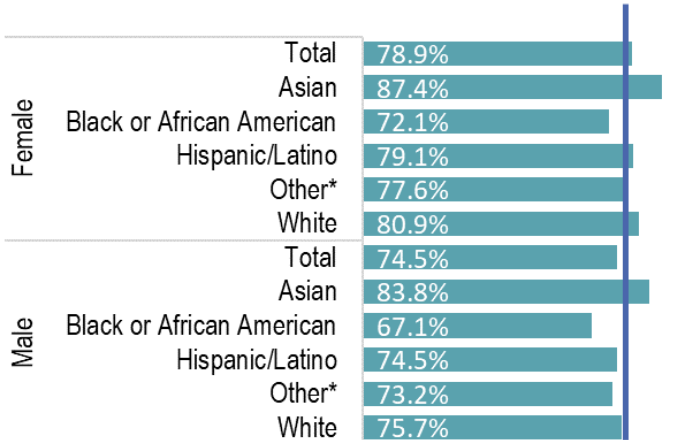
Credit Completion Rates:

- FTIC students who entered TSI met (82.0%) outperformed FTIC students who entered TSI liable (72.6%) by about 9 percentage points.
- FTIC students who were former DC/ECHS students (83.1%) outperformed FTIC students who were not (75.7%) by about 7 percentage points.

By Gender and Ethnicity

The credit hour completion rates differed by gender and ethnicity. For example, Black/African American males performed about 10 percentage points lower than the average while Asian females performed about 10 percentage points above the average. This difference in the credit hour completion rate in addition to a difference in credit hours attempted resulted in Asian females earning about 7 more credit hours, on average, in their first year than Black/African American males. In other words, Asian females were about 2 classes ahead of Black/African American males based on first-year performance.

Credit Hour Completion Rate in First Year - 2017 to 2021 FTIC Fall Cohorts

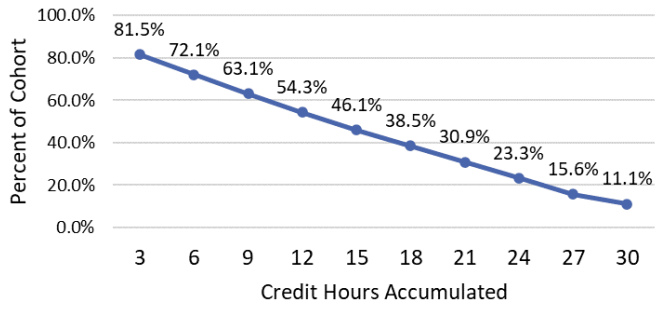


Credit Hours Accumulated

Credit hours accumulated is the number of credit hours earned by the end of the student's first year (A, B, C, CR, D grades). The average number of credit hours accumulated increased from 12.2 for the 2017 Fall FTIC cohort to 16 for the 2021 Fall FTIC cohort. Two factors contributed to the increase. The credit hour completion rate was higher for the 2021 Fall FTIC cohort, and a larger percentage of this cohort were former DC/ECHS students. (About 9% of the 2017 Fall FTIC cohort were former DC/ECHS students compared to about 16% of the 2021 Fall FTIC cohort.)

Overall, with the fall cohorts combined, FTIC students earned 14.2 hours by the end of their first year. Less than 50% of FTIC students completed 15 or more hours by the end of their first year, and less than 25% completed 24 or more hours their first year. Only about 11% of FTIC completed 30 or more hours in their first year, which would be the number needed for those who were associate degree-seeking to be on track to complete their degree in two years.

Credit Hours Accumulated by End of First Year - 2017 to 2021 FTIC Fall Cohorts

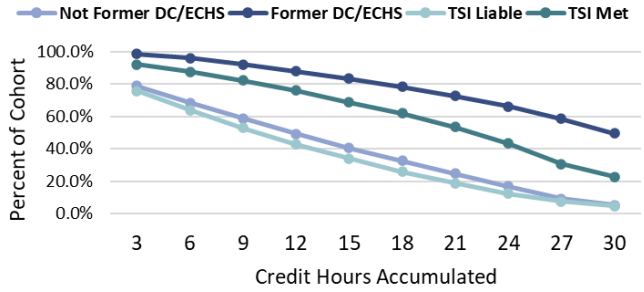


By Academic Preparedness and Prior Experience

FTIC students who entered TSI met progressed much more quickly than those who entered TSI liable. About one-third of FTIC students who entered TSI liable earned 15 or more hours by the end of their first year while about two-thirds of FTIC students who entered TSI met earned 15 hours or more by the end of their first year. Furthermore, about 5% of TSI liable students earned 30 hours or more compared to about 23% of TSI met students.

FTIC students who were former DC/ECHS students progressed more quickly as well. About 83% of FTIC students who were former DC/ECHS students earned 15 or more hours compared to about 41% of FTIC students who were not former DC/ECHS students. Furthermore, almost half of the former DC/ECHS students accumulated 30 or more hours by the end of their first year compared to only 5% for those who were not former DC/ECHS students.

Credit Hours Accumulated by End of First Year - 2017 to 2021 FTIC Fall Cohorts



By Gender and Ethnicity

Mirroring the outcomes in the credit hour completion rates, Asian females had the highest average number of credit hours accumulated (18.0), and Black/African American males had the lowest average (10.0).

FTIC STUDENTS FIRST-YEAR OUTCOMES:

		N	Credit Hour Completion Rate	Average Credit Hours Accumulated
	Total	33,845	76.9%	14.2
Female	Total	18,339	78.9%	14.9
Female	Asian	871	87.4%	18.0
Female	Black/African American	3,044	72.1%	11.7
Female	Hispanic/Latino	7,999	79.1%	14.6
Female	Other*	1,244	77.6%	14.6
Female	White	5,181	80.9%	16.6
Male	Total	15,506	74.5%	13.4
Male	Asian	1,015	83.8%	16.6
Male	Black/African American	2,405	67.1%	10.0
Male	Hispanic/Latino	5,933	74.5%	13.0
Male	Other*	1,189	73.2%	13.4
Male	White	4,964	75.7%	14.9

* Other included American Indian/Alaska Native, Hawaiian/Pacific Islander, International, Multi, and Unknown

In a study conducted by the National Student Clearinghouse, similar trends in the credit hour completion rate for FTIC students were observed. For example, Asian females had the highest rate and Black/African American males had the lowest rate.[1]

Source: Enrollment by Term, ODR, Student Demographics

[1] *https://nscresearchcenter.org/wp-content/uploads/PDPInsightsReport.pdf*

TCC, Gen Z is here today, and Gen Alpha is on the way…

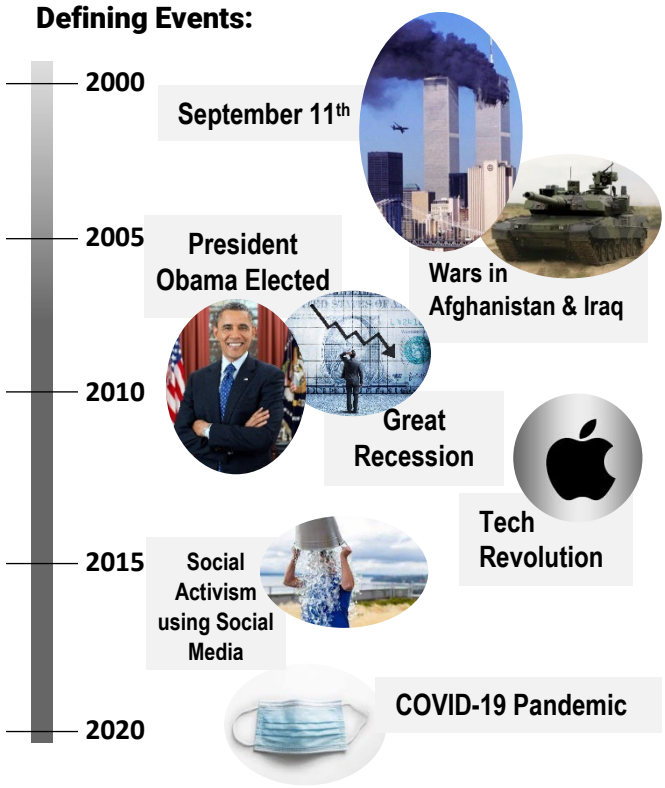
DEFINING A GENERATION

Each generation experiences defining events that help shape them and influence their world view. Generation Z is now the predominant generation at TCC. Understanding their pivotal experiences and distinguishing characteristics may place TCC in a better position to serve these current students.

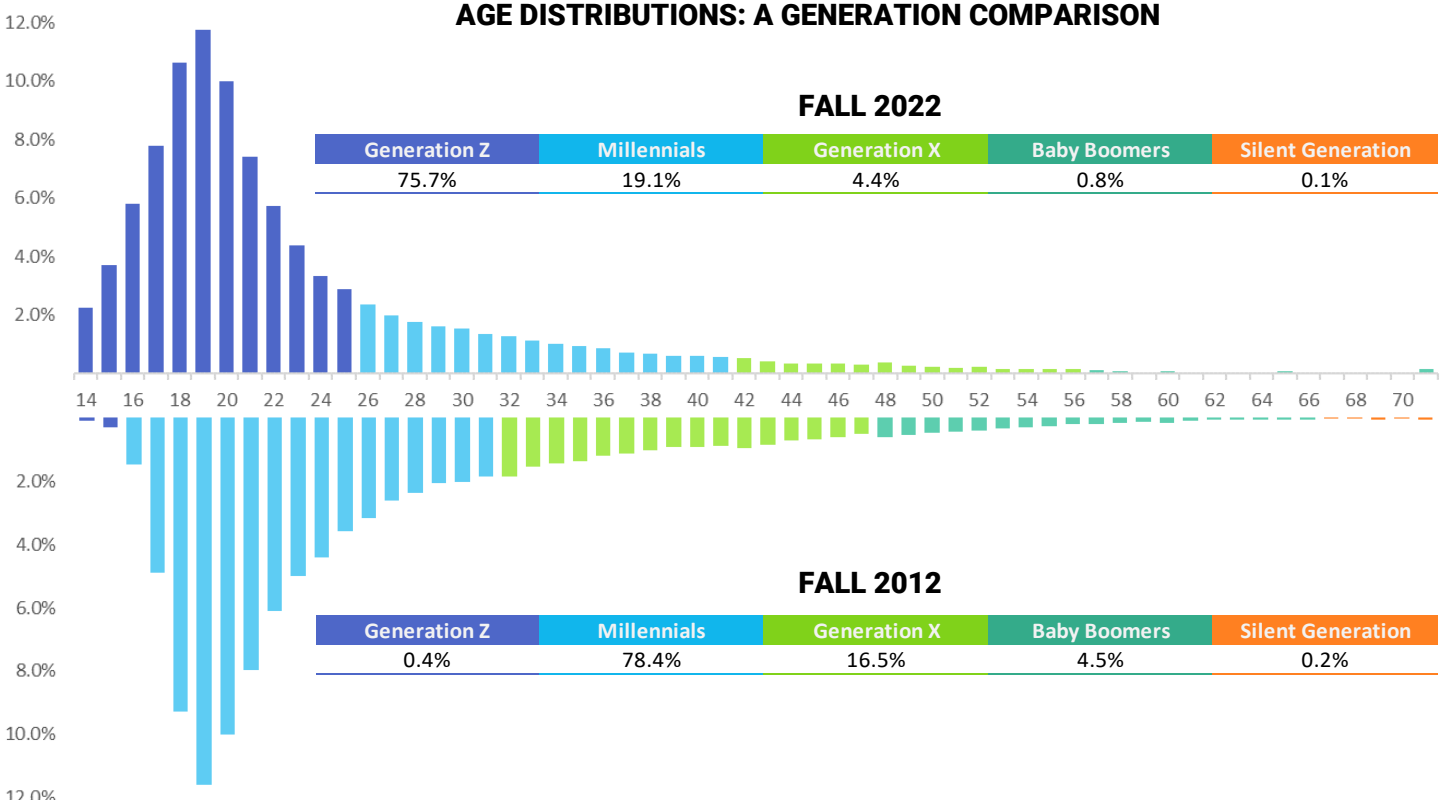
- Silent Generation (1928–1945)
- Baby Boomers (1946–1964)
- Generation X (1965–1980)
- Millennials (1981–1996)
- Generation Z (1997–2012)
- Generation Alpha (2013+)

A NEW GENERATION

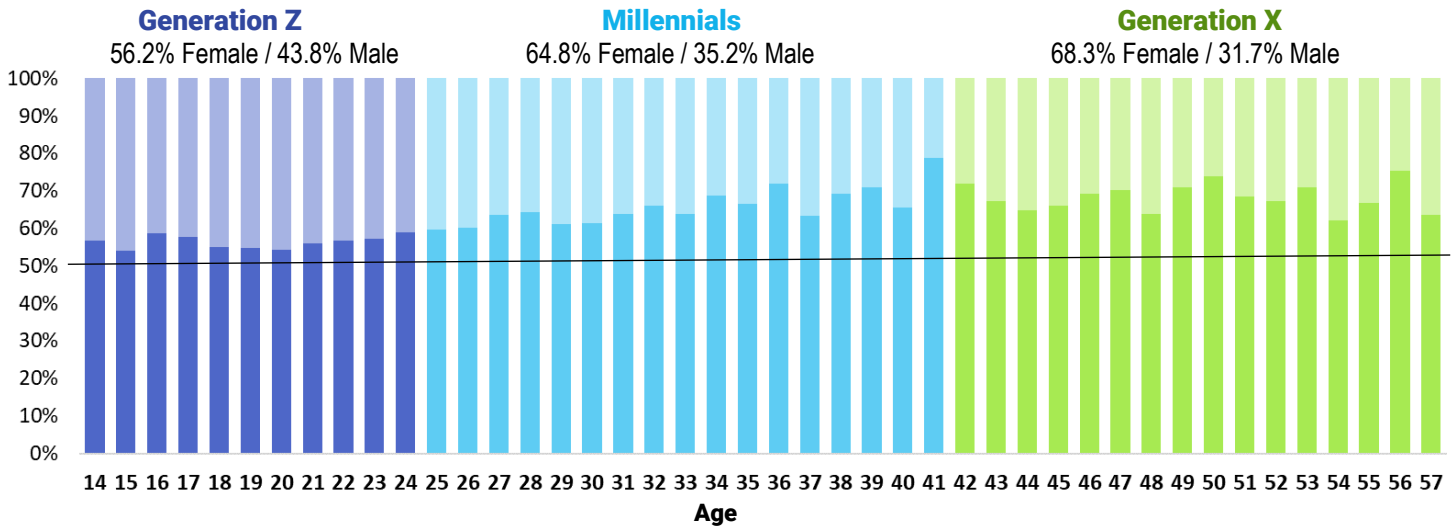
A decade ago, Millennials comprised roughly three-quarters of the student population. However, in Fall 2022, they comprised about one-fifth of the student population. Now, Generation Z comprises about three-quarters of the population. In addition, the percentage of students aged 16 or younger increased ten percentage points from about 2% in Fall 2012 to about 12% in Fall 2022.



AGE DISTRIBUTIONS: A GENERATION COMPARISON



GENDER DISTRIBUTION BY GENERATION – FALL 2022



GENERATION DEMOGRAPHICS – FALL 2022

Gender: The proportion of female students tended to increase as age increased. In Fall 2022, about **56% of Generation Z** students were **female**, whereas about **65% of Millennial** students were **female**. The proportion of female students was even higher among Generation X students (about 68%).

First-Gen: Just under **1 in 4 Generation X** students were first-generation, and just over **1 in 4 Millennial** students were first-generation. **Only 16% of Generation Z** students were **first-generation**.

Online: Excluding dual credit and early collegiate high school students, about **17% of Generation Z** students took **all of their coursework online** compared to **about 1 in 3 students for both Millennials** and **Generation X**.

GEN Z- DEFINING TRAITS

In their book *Gen Z @ Work: How the Next Generation is Transforming the Workplace*, David Stillman, a Gen X dad, and his Gen Z son, Jonah Stillman, defined seven traits for Generation Z and provided the following descriptions based on their research:[1]

1) **Phigital** – blurring of the barriers between the physical and digital worlds

You can send a handwritten note or an email; you can attend in-person or remotely. Generation Z wonders why there is debate about the physical and digital since they see no line between these two worlds. [1]

In a national survey, when asked whether technology was more of a tool or a barrier for connecting with the people who matter to you, 84% of Generation Z saw technology as tool while 16% saw it as a barrier. [1]

Implications for Higher Ed: Generation Z students will likely expect a seamless integration of technology and the flexibility to choose how to interact with it. For example, they may question why a class is defined as face-to-face or online – thinking "just let us pick how we want to attend on any given day". Institutions must consider the logistics of designing these robust systems that incorporate the latest technology but allow adaptability by the student.

2) **Hyper-Custom** – customizing a personal brand

Generation Z has grown up with an unprecedented ability to select and control their preferences which has made "standing-out" instead of trying to "fit-in" the norm. [1]

Implications for Higher Ed: Generation Z will likely desire more control over their choices such as what courses they take as part of their program and when they take courses.

3) **Realistic** – a pragmatic view of the world

Generation Z has a more realistic attitude when considering their careers and advancing in today's world. Jonah Stillman makes an analogy between Millennial's "entertainment" such as escape into the mythical world of *Harry Potter* versus Generation Z's postapocalyptic

worlds such as the *Hunger Games*. "It's not that we see the world as doom and gloom; it's that we believe if you're going to survive or even thrive, you'd better get real about what it's going to take," Stillman says. [1]

In a national survey, 80% of Generation Z felt that they would need a college degree to be successful. [1]

Implications for Higher Ed: Generation Z will likely want institutions to make clear connections between their coursework/programs of study and their future careers (i.e., how does college benefit them).

4) **FOMO** – fear of missing out

Generation Z has always known a world where they are constantly connected with essentially instant access to unlimited information. [1]

Implications for Higher Ed: Institutions must recognize that there is a competition for Generation Z's attention. Within the classroom, designing curriculum and using teaching strategies that encourage student engagement are likely to be paramount for faculty.

A national study showed that 44% of Generation Z check in on social media at least hourly. [1]

5) **Weconomists** – sharing of goods and services using coordinated efforts such as community-based online platforms

Generation Z values a shared economy that is convenient, efficient, and economical – think about Uber and Airbnb as canonical examples. [1]

Implications for Higher Ed: Generation Z will likely be quick to look for ways to leverage resources to complete assignments quickly viewing these efforts as a means of efficiency. For example, a Generation Z team might divide tasks based simply on expertise – person A, "the tech person" only codes, person B, "the writer" only authors the report, and so forth. However, these actions could come at the cost of developing important skill sets.

6) **DIY** – do-it-yourself

With the democratization of information (e.g., YouTube videos) Generation Z is independent and self-reliant. [1]

In a national survey, 71% of Generation Z believed the phrase "if you want it done right, then do it yourself." [1]

Implications for Higher Ed: This DIY trait could make some Generation Z students somewhat resistant to classroom activities such as groupwork that are designed to promote engagement. In addition, the DIY and Weconomists traits could have an interesting interaction. While Generation Z students may want to optimize resources, will they recognize all the academic support resources such as libraries, labs, career advising, etc. that are available? Institutions might consider taking advantage of the FOMO trait to increase awareness of these resources. For example, plan social events to showcase TCC's learning commons or advising offices.

7) **Driven** – motivated to win

Unlike Millennials, Generation Z is more competitive. [1]

In a national survey, 72% of Generation Z said they are competitive with people doing the same job. [1]

Implications for Higher Ed: Since Generation Z students may be more willing to define failure, the key may be to channel their drive. Help students understand lessons learned from any attempt, and let their drive push them towards greater success on their subsequent attempts. Perhaps their competitive drive, guided by Higher Ed, could make Generation Z more resilient and perseverant.

A NEW GENERATION

While the focus may be on Generation Z students today, the leading edge of Generation Alpha is just a few years away from starting middle school and could be TCC dual credit/early collegiate high school students in as little as five years. Gaining insights about their unique attributes will be pivotal, and TCC must be agile in adapting to new needs over the upcoming decade.

GEN α

[1] Stillman, David, and Jonah Stillman. *Gen Z @ Work: How the next Generation Is Transforming the Workplace*. Harper Business, an Imprint of HarperCollinsPublishers, 2017.

Learning Mode

A majority of schools (over 97%) offered **full-time in-person instruction** beginning in January 2022. Some differences were seen by minority status and poverty status: about 92% of majority minority schools and schools in poverty offered full-time in-person instruction beginning in January 2022. By October 2022, over **98% of schools across all types** were offering full-time in-person instruction.

Remote instruction witnessed a dramatic drop from January 2022 through October 2022 with about 40% of all schools offering full-time remote learning options in January and then about 17% offering full-time remote learning options in October 2022. One key difference was seen by schools in poverty: about **26% of schools in poverty** continued to offer remote options in October 2022.

Food & Nutrition

In March 2022 when asked about the **ease or difficulty of operating the USDA School Meal programs** during the school year after the COVID-19 pandemic in comparison to before the COVID-19 pandemic, about **37% of all schools reported having the same amount of ease or difficulty**. By October 2022, this percentage reporting similar ease or difficulty grew by 13 percentage points across all schools, with schools in poverty experiencing a 19 percentage point increase.

Schools with a low minority populations expressed the highest percentage of "Very or Somewhat More Difficulty" of the groups analyzed, with about **36% of low minority schools indicating "Very or Somewhat More Difficulty"** in October 2022 compared to 18% of schools with high minority populations and 18% of schools in poverty.

2022 K-12 School Pulse Panel

Beginning in January 2022, the Institute of Education Sciences through the U.S. Census Bureau began collecting information on the impact of the COVID-19 pandemic from a national sample of elementary, middle, and high schools. Some survey questions were repeatedly administered to observe trends over time. Results noted in this article summarize some of the longitudinal findings from questions related to **learning mode**, **food and nutrition**, **learning recovery**, and **mental health and well-being**.

Learning Recovery

In June 2022, schools were asked to compare the percentage of students behind grade level at the start and the end of the 2021-2022 school year.

When asked about the beginning of the 2021-2022 school year, about **43% of all schools indicated 50% or less of their students** being academically behind. About 55% of schools with majority minority students and about 52% schools in poverty **indicated over 50% of their students** being academically behind.

By the end of the school year, about **60% of all schools indicated 50% or less of their students** being academically behind. About 35% of schools with majority minority students and about 32% schools in poverty **indicated over 50% of their students** being academically behind by the end of the school year.

Mental Health & Well-Being

In April 2022, when asked about the change in the number of students seeking mental health services from the school since the start of the COVID-19 pandemic, **about 70% of all schools experienced an increase** in students utilizing services. Schools in poverty experienced the lowest increase in students utilizing mental health resources, with about 61% indicating an increase.

When asked about the change in the number of staff and faculty members seeking mental health services from the school since the start of the COVID-19 pandemic, **about 29% of all schools indicated an increase** in staff and faculty members using services. Schools in the South Region experienced the lowest increase in staff and faculty members utilizing mental health services, with about 25% indicating an increase.

Source: https://ies.ed.gov/schoolsurvey/spp/

Reframing Course Schedules with 8-week Sessions

One consideration for students when choosing a class section is the amount of time required to complete a given course. Traditionally, college courses are offered in a semester-long, 16-week format; however, some educators propose that students stand to benefit from shorter course lengths.[1] While coursework must be compressed and accelerated when converted from a 16-week format to an 8-week format, proponents say that the shorter period can prevent burnout and increase focus by allowing students to focus on two classes at a time rather than four at a time. This article evaluates TCC students' attitudes and outcomes regarding taking 8-week courses.

History of Course Lengths at TCC

Historically, 16-week course lengths have made up most of the course enrollments in TCC Spring and Fall semesters (**94%** in Spring 2004). However, shifts in attitudes towards availability, favoring a bespoke education, and TCC attempting to accommodate students' busy schedules have all resulted in a growth in the number of enrollments in courses with more varied course lengths. *For example, the percentage of 8-week course enrollments grew from about 1.5% in Spring 2004 to roughly 10% for past 5 years.*

Student Attitudes on 8-Week Classes

"If there were more 8-week course options available, I would take more classes." -TCC Student

In 2021FL, 2022SP, and 2022FL, students responded to the Student Facilities Utilization (SFU) survey; within this survey there were questions regarding student preference between 16-week and 8-week classes. Overall, **46%** of students indicated that they either preferred solely 8-week classes or a combination of 8-week and 16-week classes (N = **5,825**).

- **16%** of students who **worked 40+ hours per week** indicated they preferred only 8-week classes, compared to only **8%** of students who identified as "**solely a student**."
- **16%** of students who **care for dependents for 40+ hours per week** indicated they preferred only 8-week classes, compared to only **9%** of students who **did not care for dependents**.

In addition, students who indicated that they were part-time were asked whether they would switch to full-time status if there were an 8-week section available. Responses to this question indicate that about **one-third** of students who are part-time would switch to full-time status if 8-week classes were available.

Success Rates of 8- and 16-Week Courses

"For me it completely depends on the subject on whether or not I'd do an 8 week or 16-week course…"
-TCC Student

Success rates were evaluated for Spring and Fall semesters from 2015 to 2022. Enrollments were subset to include only those courses with at least one enrollment in both 8- and 16-week formats. Generally, differences in success rates between 8- and 16-week courses were not substantial (within 2 percentage points for most terms, and within about one percentage point for about half of the terms).

Term	8-Week Success Rate	16-Week Success Rate	8-Week minus 16-Week
2015FL	72.4%	71.0%	1.4%
2016SP	74.9%	71.4%	3.6%
2016FL	72.9%	71.8%	1.1%
2017SP	74.3%	72.4%	1.9%
2017FL	71.1%	72.2%	-1.1%
2018SP	72.8%	73.3%	-0.5%
2018FL	73.9%	73.8%	0.1%
2019SP	75.0%	74.3%	0.7%
2019FL	74.0%	74.3%	-0.4%
2020SP	75.3%	74.1%	1.3%
2020FL	70.0%	69.0%	0.9%
2021SP	74.8%	69.6%	5.2%
2021FL	75.0%	76.9%	-2.0%
2022SP	77.9%	76.0%	1.9%

It is possible that performance in 8-week versus 16-week courses is dependent upon the subject area of the course. To explore this idea, success rates in selected courses and subjects with both **8 and 16-week** course formats were compared against each other for each Spring and Fall semester from 2015FL to 2022SP. Notably, the average success rates for **MATH-1314** and **ECON-2301** taken as **16-week** courses were about **4 and 8 percentage points higher** than **8-week success rates**.

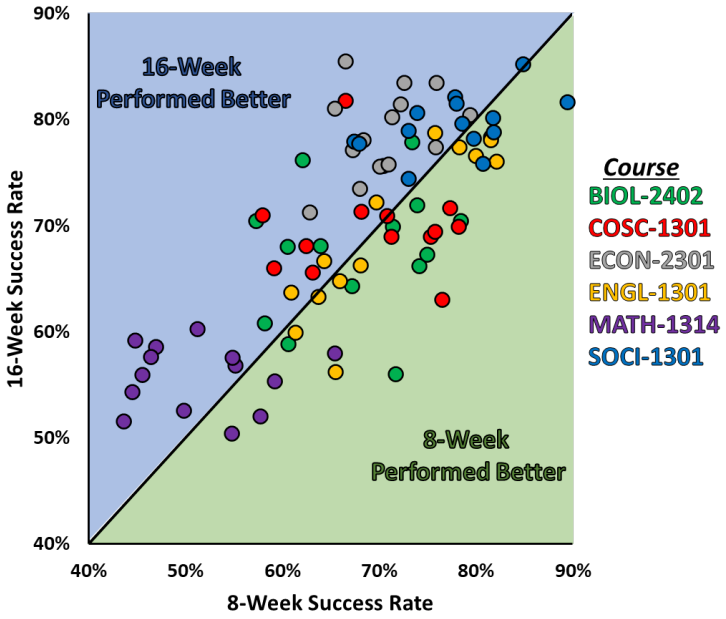


Figure 1: Each point represents student success for the indicated class over a Spring or Fall semester at TCC.

Conclusion

As TCC strives to meet its students where they are, more options for course lengths have been made available. Overall success rates between 8-week and 16-week sections appears to be generally comparable. This result combined with the fact that about 1 in 3 of part time students would flip to full time if given an 8-week schedule represents an opportunity to increase the rate at which students' progress. On the other hand, it appears students benefit from additional time in some courses such as MATH-1314 and ECON-2301. Future research to be considered includes investigating how various student subgroups perform in 8-week versus 16-week courses and examining whether 8-week classes help with student burnout by comparing the retention rates of 8-week and 16-week students. What is evident from this result is that shorter course lengths are not necessarily a "one-size-fits-all" solution for students. However, the survey results indicating that these options are helpful for working students and the comparable success rates suggest that 8-week course lengths may offer the flexibility desired while not hindering performance.

Sources: ST Enrollment & Demographics, SFU Responses, ODR
[1] https://www.ivytech.edu/files/8-Week-Courses-Study-Paper.pdf

OUR STUDENTS' ACADEMIC JOURNEYS

Where does TCC land on our students' educational road maps?

Every student embarks upon their educational journeys with one single class much like a runner starting a race with one single step. Some students begin their journeys at TCC while other students start elsewhere and find their way here. And for others, TCC is a stepping-stone preparing them for or bridging coursework at a four-year institution.

From where do TCC students come and subsequently, to where do they go after their time at TCC? This article explores a high-level analysis of students' academic journeys utilizing National Student Clearinghouse (NSC) data and TCC student enrollment data. About 280,000 students with a first term at TCC between 2010FL and 2022FL were included in the analysis.

BACKGROUND

Student enrollments were categorized into two groups:

1. Enrolled at TCC OR enrolled concurrently at TCC and elsewhere
2. Enrolled only elsewhere

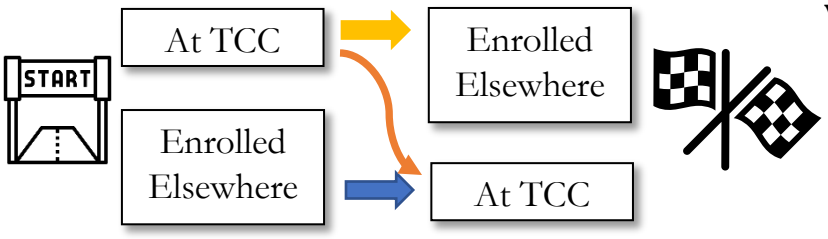
Enrollments and graduation dates were group by Term, defined as:

- Spring: January 1 – May 15
- Summer: May 16 – July 31
- Fall: August 1 – December 31

EXAMPLE

- A student started his educational journey at TCC in 2020SP.
- He then enrolled at both TCC and UTA in 2020SU.
- Lastly, he enrolled only at UTA from 2020FL through 2021SP.

In this analysis, this student's first term of enrollment at TCC was 2020SP. His first term of enrollment outside of TCC while not concurrently enrolled at TCC was 2020FL.



Where do TCC Students Begin Their Educational Journeys?

About **70%** of TCC students started at TCC OR concurrently at TCC and elsewhere.

(Meaning, about 1 in 3 TCC students began their educational journeys outside of TCC.)

NOTE: In this analysis, a student at TCC may have been concurrently enrolled elsewhere. Additionally, this analysis only included the first enrollments at:

1. TCC or concurrently at TCC and another institution, OR
2. Only enrolled at another institution.

Similarly, a student may have earned multiple degrees, and only the first completion was included.

Sources: National Student Clearinghouse and Student Academic Info

JOURNEY AT TCC

About **43% of TCC students** were enrolled at TCC during their entire academic journeys.

- About 10% of these students had graduated at the time of analysis.
- About 40% of students who graduated did so in less than 3 years; about 80% of graduates had completed in less than 5 years.

JOURNEY PRIOR TO TCC

About **31% of TCC students** began their academic journeys outside of TCC.

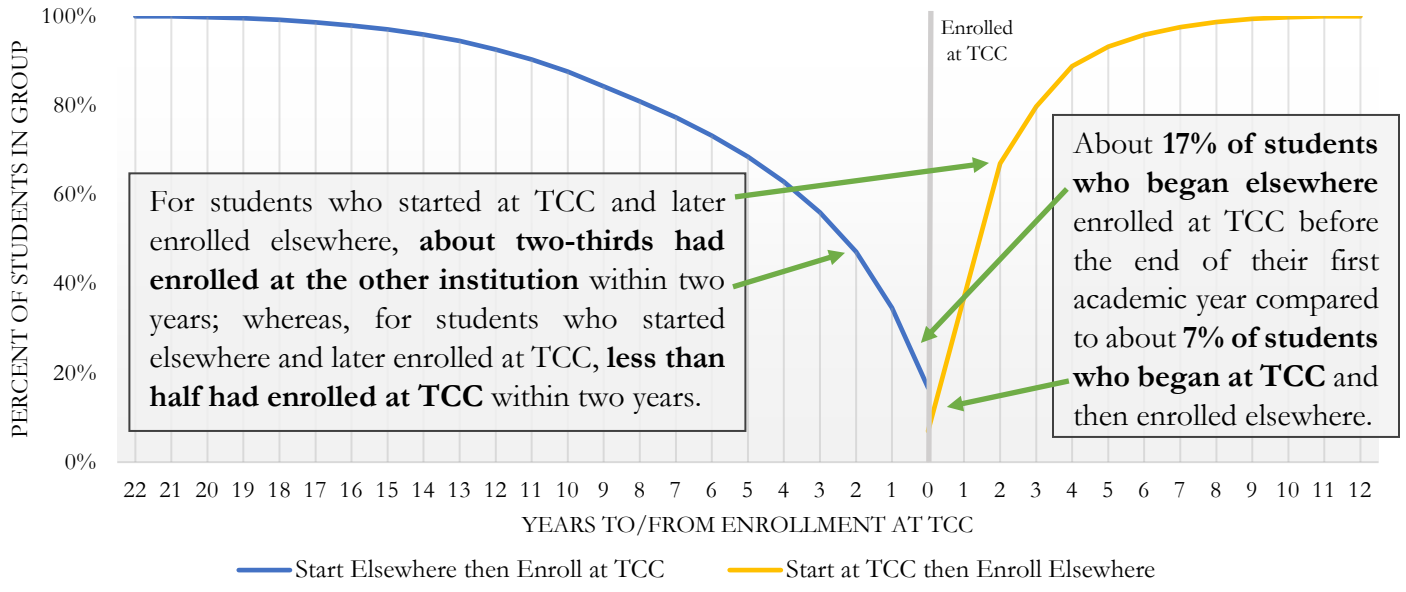
- About 2 in 3 students enrolled at TCC within five years from their first enrollment elsewhere.
- About half of the students starting outside of TCC had graduated at the time of the analysis, with about 80% earning their first completion outside of TCC.
- About 65% of first completions were completed at 4-year schools.

JOURNEY AFTER TCC

About **26% of TCC students** began their academic journeys at TCC and were then enrolled only at another institution.

- About 2 in 3 students who left TCC did so within 2 years.
- About 75% of students who left TCC started at another school in a fall semester.
- About 60% of students who left TCC had graduated at the time of the analysis, with about 40% of these graduates earning their first completion at TCC.
- Over 50% of first completions not at TCC were completed at 4-year schools.

JOURNEY TO OR FROM TCC BY YEAR(S) AFTER FIRST ENROLLMENT



For students who started at TCC and later enrolled elsewhere, **about two-thirds had enrolled at the other institution** within two years; whereas, for students who started elsewhere and later enrolled at TCC, **less than half had enrolled at TCC** within two years.

About **17% of students who began elsewhere** enrolled at TCC before the end of their first academic year compared to about **7% of students who began at TCC** and then enrolled elsewhere.

CONSIDERATIONS

The fluidity with which TCC students move between institutions of higher education during their academic journeys lends to a larger conversation about articulation agreements and bridge programs between TCC and area institutions to best ensure our students progress towards degree completion efficiently.

OUR DUAL CREDIT STUDENTS

Are They Seniors in High School?

Each year, thousands of Tarrant County students begin their higher education journey as students at TCC. Fully implemented by 2015FL, House Bill 505 stated that the Texas Higher Education Coordinating Board (THECB) may not limit the number of dual credit courses or the grade level at which a high school student enrolls in dual credit. As a result, TCC like many colleges across Texas experienced rapid growth in dual credit enrollment. From 2015 to 2021 the annual dual credit/early collegiate high school enrollment increased by 59% at TCC.[1]

This growth meant TCC served a marked percentage of local high school students.

In 2021, for example, ***Tarrant County*** *had almost* ***110,000 high school students****. Approximately* ***1 in 10*** *was enrolled in* ***dual credit/early collegiate high school at TCC.***

With the opportunity to take dual credit at an early age, are students choosing to enroll in their freshman or sophomore year of high school? In this report, dual credit data from 2017 to 2022 (fall terms) are analyzed to determine the high school grade level of dual credit students and whether grade level is associated with course outcomes.

Note: Early collegiate high school students are not considered dual credit students in this report.

ESTIMATING HIGH SCHOOL YEAR

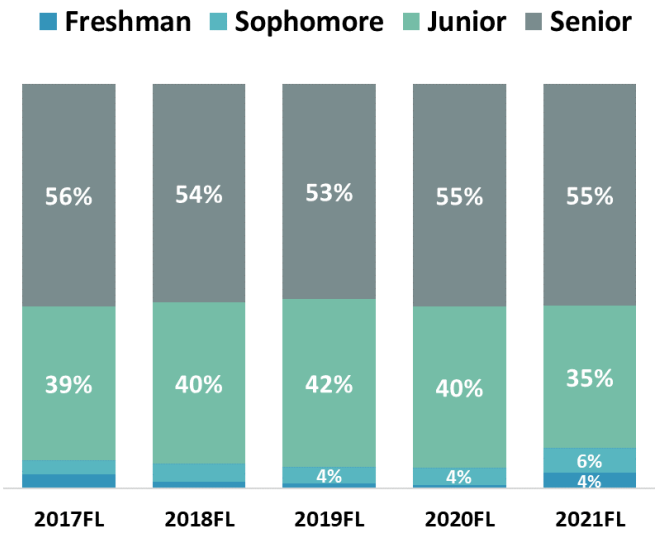
TCC does not collect data regarding high school year classification, so birthdates alongside TEA guidelines were used to approximate high school grade level. For example, dual credit students with a birthday between September 1, 2004, and August 31, 2005, were defined as "Class of 2022". These students were freshmen in Fall 2019 and are seniors in Fall 2022.

	High School Year			
Term	Freshman	Sophomore	Junior	Senior
2017FL	Class of 2021	Class of 2020	Class of 2019	Class of 2018
2018FL	Class of 2022	Class of 2021	Class of 2020	Class of 2019
2019FL	Class of 2023	Class of 2022	Class of 2021	Class of 2020
2020FL	Class of 2024	Class of 2023	Class of 2022	Class of 2021
2021FL	Class of 2025	Class of 2024	Class of 2023	Class of 2022
2022FL	Class of 2026	Class of 2025	Class of 2024	Class of 2023

DUAL CREDIT STUDENTS BY HIGH SCHOOL YEAR

From Fall 2017 to Fall 2020 about 6,000 to 7,000 dual credit students attended TCC. This number decreased to about 5,000 in Fall 2021 and returned to about 6,000 in Fall 2022.

Roughly 55% of the dual credit students were seniors.

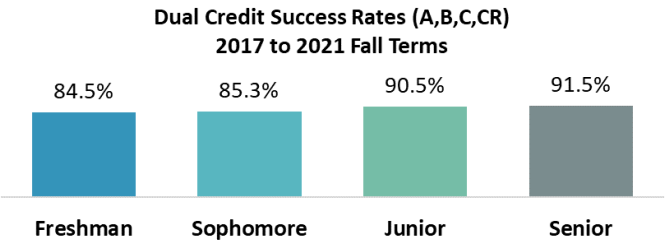


Juniors Returning to Dual Credit for Senior Year

Historically, about two in three junior dual credit students reenrolled in dual credit their senior year. However, Fall 2020 was an anomaly where only 57% of junior dual credit students returned for their senior year in dual credit. This decrease in retention helps explain, in part, the decrease in the number of dual credit students in Fall 2021

SUCCESS RATES

While the success rate for freshmen and sophomore dual credit students was similar (about 85%), it was about five percentage points lower than the success rate for junior and senior dual credit students (over 90%). However, it is important to note that the top courses taken by freshmen were different from other high school years.



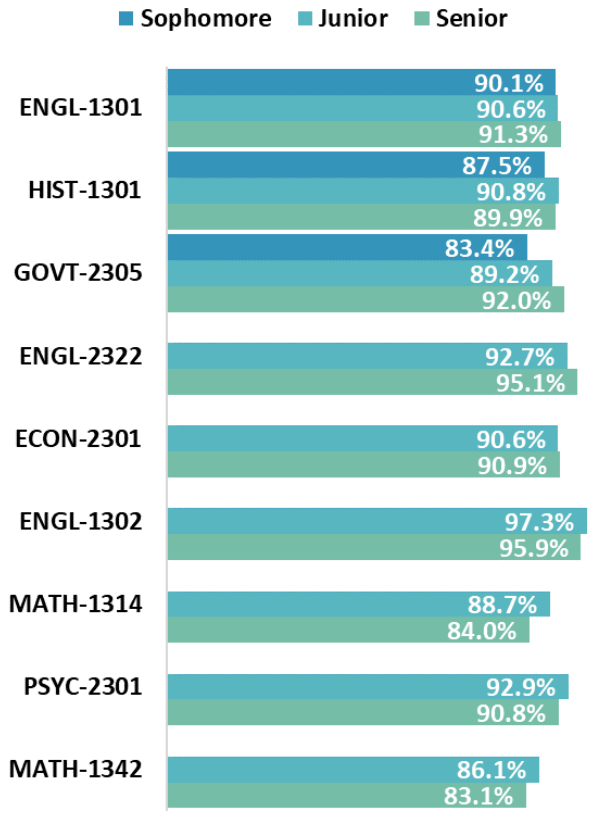
The top course for freshmen was ARTS-1301 which accounted for over one-fifth of their total enrollments; their success rate in this course (90%) was fairly similar to sophomore students but roughly five percentage points lower than junior and senior students.

ENGL-1301 had the largest enrollment among dual credit students followed by HIST-1301 and GOVT-2305. While sophomore dual credit students performed somewhat similarly to junior and senior dual credit students in ENGL-1301 and HIST-1301, they had a lower success rate than juniors and seniors in GOVT -2305.

In some courses such as MATH-1314, junior dual credit students outperformed senior dual credit students while in other courses such as ENGL-2322 and GOVT-2305 seniors outperformed juniors.

* Each fall term, about 5% of students had birthdates that were not in the "Class of" date ranges, so their high school year was not approximated.

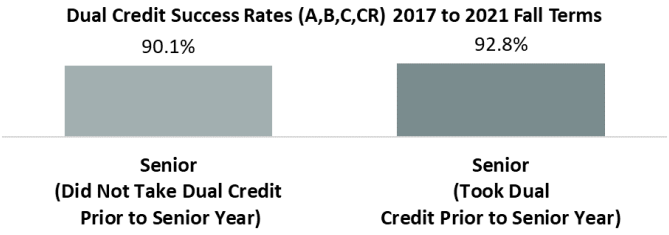
[1] DRS 93956 – THECB and TEA Data



Note: Each of the courses shown above had at least 1,000 dual credit course enrollments. The sophomore success rates were only shown for the top three courses because they had about 30 or fewer enrollments in the other courses shown.

Prior Experience

Seniors who had not taken dual credit courses prior to their senior year (success rate of 90.1%) performed similarly to juniors (success rate of 90.5%) while seniors who had taken dual credit their junior year outperformed them by almost 3 percentage points.



CONCLUSION

In sum, with the substantial increase in dual credit students and early collegiate high school students that is likely to continue, TCC must consider the unique needs of students in high school and even those who are not yet seniors in high school.

MEET SOME OF THE IR TEAM

IR CORNER GOES NATIONAL!

The IR team presented the development, design, and release of TCC's very own stat magazine in Phoenix, Arizona, at the 2022 AIR Forum, a national conference for institutional researchers.

Pictured from left to right: Matt Wolfe, Martin Salgado-Flores, Liz Northern, Holly Stovall

Matt Wolfe

Path to TCC's IR:

- Educational background in agriculture and life sciences

Claim to Fame:

- Giving context to data (Data Request Processing)
- Telling a story with data (IR Corner Magazine)

Fun Facts:

- Most likely to come up with a convoluted solution
- Hobbies: Playing chess, skateboarding to work, making music, writing poetry

Martin Salgado-Flores

Path to TCC's IR:

- Educational background in math

Claim to Fame:

- Making meaning out of data (Data Request Processing)
- Co-Writing, Voicing, & Co-Producing IR's hit video series Data's Anatomy

Fun Facts:

- Most likely to take the advanced, thorough approach
- Hobbies: Reading, fan of national parks

Liz Northern

Path to TCC's IR:

- Educational background in religious studies, math, and higher education

Claim to Fame:

- Keeping the data flowing (IR Data Request System)
- Bringing purpose to the research (IR Corner Magazine)

Fun Facts:

- Most likely to find real problems and/or create potential ones
- Hobbies: Running, spending time with family, eating good food

Holly Stovall

Path to TCC's IR:

- Educational background in math and statistics

Claim to Fame:

- Leading and transforming with data (Promoting the use of data & Partnerships with IR)
- Serving stats for decision-making (Committee Work & Presentations)

Fun Facts:

- Most likely to obsess over a one count discrepancy
- Hobbies: Vacationing in the mountains with family, watching nieces' dance recitals, randomly explaining stats concepts to everyone

CONTACT US

TCC Tarrant County College
SUCCESS WITHIN REACH.

Have you found an article interesting or used some research from IR Corner? Let us know!

Team IR collectively aims to "inspIRe" the innovation and creativity of those around us through the use of meaningful and timely analyses. Indeed, it is our constant hope to best assist with data-informed – or rather, *data-inspired* – decision-making in all that we do at TCC. With being data-inspired comes the necessity of being flexible and open to change as we navigate the transforming needs of higher education, and Team IR is embracing this transformation. But not to worry: our steadfast focus on student and community success will continue to guide us. Join us on our journey, it's an exciting time to be at TCC!

~ Team IR

> "Change is the law of life, and those who look only to the past or present are certain to miss the future."
>
> – John F. Kennedy

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www.tccd.edu/about/research/institutional-intelligence-and-research