

Student Achievement: Focus on Grade 10 Credit Accumulation

As part of the *Annual Student Achievement Report (ASAR)*, the OCDSB releases credit accumulation rates for students completing grades 9, 10, and 11. In addition to overall credit accumulation rates, this data is disaggregated for specific groups of students including English Language Learners (ELL), students who identify as Indigenous (INDG), students with special education needs (SPED) and students residing in lower-income neighbourhoods (SES). This is the first year that credit accumulation data has been analyzed using District-level identity data collected during the 2019-2020 school year. Reporting this data in alignment with the requirements under the *Anti-Racism Act* and accompanying *Data Standards* allows for a deeper analysis of additional groups of students based on self-identified Indigenous identity, race, gender identity, and disability as reported in the *Valuing Voices – Identity Matters! Student Survey*. The disaggregation of credit accumulation data in this way allows us to focus our examination of the data through an equity lens, assisting in the identification of patterns and trends that may indicate racial inequity. Ultimately, this serves as a basis for discussions with the broader community to develop strategies to eliminate systemic barriers and biases that may be contributing to inequitable outcomes for students.

Why Credit Accumulation

Credit accumulation has served as a key indicator of the Ministry of Education's Student Success/Learning to 18 initiative since its inception in 2003. A student is deemed to be "on track" to graduate with their peers within five years of commencing secondary school if they have accumulated at least: eight (8) credits by the end of grade 9, 16 credits by the end of grade 10, and 23 credits by the end of grade 11. A minimum of 30 credits is required for graduation from grade 12. The ASAR has historically included an overview of credit accumulation over a 3- or 5-year period in an effort to help identify emerging trends of student achievement over time. Where there are fewer than 10 students, data have been suppressed to protect the privacy of individuals; this practice is consistent with EQAO reporting guidelines.

The focus of this report is on grade 10 credit accumulation rates only. Data is presented in the following ways to allow for some comparability of results to previous years and to support the transition to align reporting with the *Data Standards*. Specifically:

- a) Year-over-year trends of grade 10 credit accumulation rates for the most recent five (5) cohorts of grade 10 students, and the disaggregation of 2019-2020 data by gender, for English language learners, students identified with special education needs, those residing in lower income neighbourhoods, and those who self-identify as. The reporting of this data is based on Trillium information and most closely resembles what has been reported in the ASAR in recent years.

- b) Grade 10 credit accumulation data from 2017-2018, 2018-2019, and 2019-2020 was pooled to overcome challenges related to suppression of identity categories from the *Valuing Voices* survey where there were fewer than 10 students. Given that this information is based on a subset of the student population, additional analyses were undertaken using the full comparative population of students (Trillium) to provide additional context.

What we know

Research conducted in the Ontario context has shown that students who do not attain 16 credits by the end of grade 10 are at increased risk of dropping out of school and less likely to graduate with their peers (King et al., 2005; Zegarac & Franz, 2007). More recent studies have reported that students from minoritized racial groups, students with special education needs, and gender diverse students accumulate fewer required credits compared with their peers or experience lower rates of graduation. Clandfield (2014), for example, found that students with Local IEP were falling behind in credit accumulation (7 credits by Grade 9) compared to all TDSB students, and that the cohort graduation rate was found to be lower for students with behavioral and learning disabilities. Another study conducted by the TDSB (2017) found variation in graduation rates across different racial groups. Specifically, students identifying as East Asian, South Asian, and Southeast Asian (96%, 92%, and 90% respectively) exhibiting the highest graduation rates, and those identifying as Latin American, Black, or Mixed exhibiting the lowest (76%, 77%, and 84% respectively). This study also found that heterosexual students were more likely to graduate (88%) compared to LGBTQ2S+ (78%). Using data provided by the TDSB, a study undertaken by York University (2017) found five-year cohort graduation rates of 69% for students who identified as Black, compared to 84% of those identifying as White. Black students were also twice as likely as their White peers to drop out of high school before graduating or returning for an additional year. Analyses of OCDSB data has consistently shown grade 10 credit accumulation rates to be lower for some groups of students, most notably students who self-identify as Indigenous, students with special education needs, ELLs, and students residing in lower income neighbourhoods, putting them at an increased risk of leaving school before they graduate or not graduating with their peers (ASAR, 2019). During the consultation sessions held in June 2019, we also heard from students, parents, and community members that systemic barriers make progress to graduation difficult for minoritized students.

In the United States., the National Center for Education Statistics (NCES, 2017) found that graduation rates for students with disabilities to be much lower (67%) compared to all students (85%). Similarly, lower graduation rates were also reported for American Indian/Alaska Native (72%), Hispanic (80%) and Black (78%) students compared to White (89%). The U.S. National Education Association (NEA, 2009) has also reported that intense bullying and harassment of gender diverse students in high school led to declining academic performance and increased truancy and dropouts.

It is important to note that while methodologies may differ across studies and regions, the trends are fairly consistent. That is, some groups of students do face barriers as they progress towards graduation. As a system, it is our responsibility to ensure that the practices and systems in place are not contributing to this inequity.

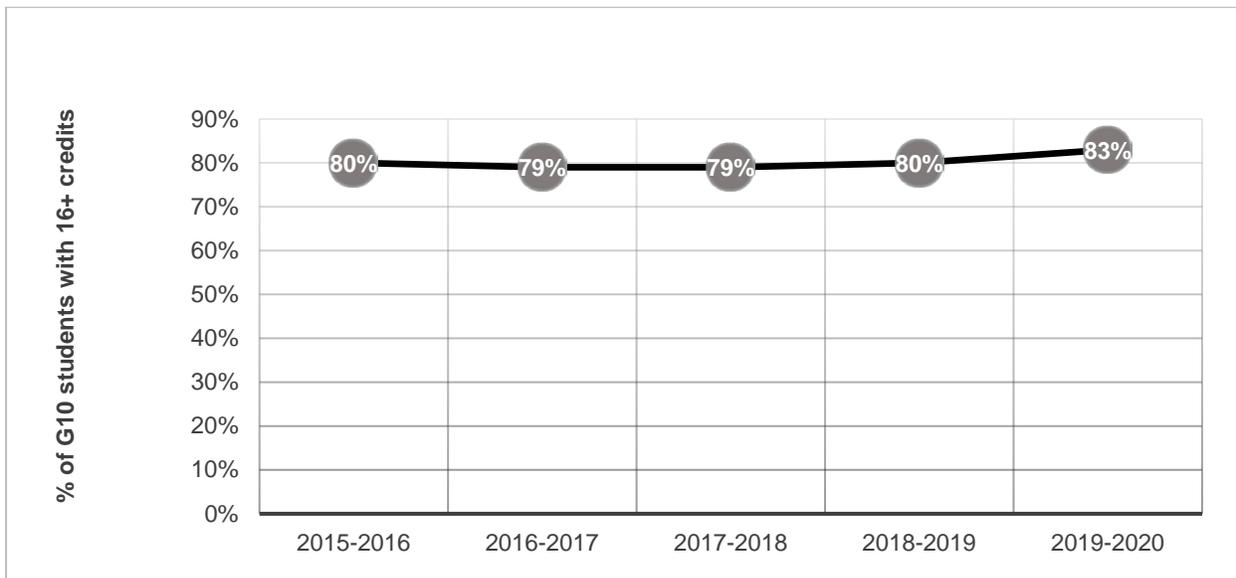
Key Findings: Overall Results in Grade 10 Credit Accumulation

This section of the report provides an overview of credit accumulation rates for the full population of grade 10 students over a five-year period, and for specific groups of students (i.e., students who self-identified as Indigenous, those with special education needs (excluding gifted), students residing in lower-income neighbourhoods, and English language learners) in 2019-2020¹.

Overall Grade 10 Credit Accumulation Rates

Figure 1 shows annual grade 10 credit accumulation rates for each of the past five years. Rates have remained relatively stable over this time period, ranging from a low of 79% in 2017-2018 to a high of 83% in 2019-2020 (cohort sizes are approximately 5,500 students in any given year). District rates have been comparable to provincial rates over this time period. Table 1 provides additional information.

Figure 1. Grade 10 Credit Accumulation Trends



¹ The source of data for this section is the Trillium Student Information System.

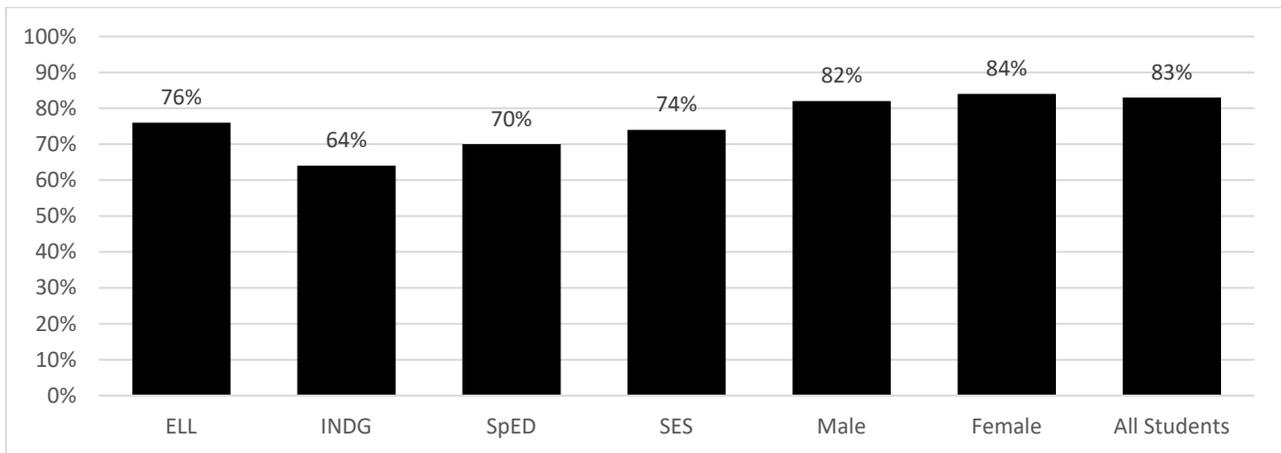
Table 1: Distribution of Grade 10 Students across each of Three Cohorts

Cohort	Grade 10 Enrollment (N)	Grade 10 Students with 16+ credits (N)	Grade 10 Students with 16+ credits (%)
2017-2018	5,376	4,234	79%
2018-2019	5,495	4,389	80%
2019-2020	5,601	4,657	83%
Combined 3 Cohorts	16,472	13,280	81%

Grade 10 Credit Accumulation Rates for Specific Groups of Students.

When disaggregated for specific groups of students, the lowest grade 10 credit accumulation rates in 2019-2020 were found for those who self-identified as Indigenous (First Nations, Inuit and Métis; 67 of 104), those with special education needs (excluding gifted; 1,316 of 1,688), students residing in lower-income neighbourhoods (1,004 of 1,366), and English language learners (926 of 1,215) (see Figure 2). Credit accumulation rates for males (2,297 of 2,804) and females (2,360 of 2,796) were similar. Although the rates themselves have fluctuated over time, these trends have persisted.

Figure 2: 2019-2020 Grade 10 Credit Accumulation Rates for Specific Groups of Students



Through a New Lens: Measuring Equity

The analysis of credit accumulation data continues to be guided by the *Anti-Racism Act* (2017), *Data Standards for the Identification and Monitoring of Systemic Racism* (2018), and the QuantCrit Framework (Gilborn et al., 2018). Through the collection of identity data and application of the Standards, we have the ability to shine a light on aspects of identity that have not been available to us in the past, and to examine issues of equity in educational outcomes for students in a new way. Specifically, *disproportionality* and *disparity* indices help us to quantify the difference in student achievement and through the application of thresholds, interpret meaning:

- **Disproportionality** is a measure of a group's overrepresentation or underrepresentation in a program, service, or function, relative to their representation in the reference population. In the case of this report, it answers the question: *Which groups of students are over/underrepresented in the group of students who are on track to graduate within 5 years of starting high school?*
- **Disparity** is a measure of group differences in outcomes, and answers the question: *Which groups of students have a lower/greater likelihood of being on track to graduate within 5 years of starting high school?*²

Each of these indices offers unique insight into measuring equity. As a result, both are reported where suppression thresholds have been met and reliable estimates can be produced.

To honour the voices of all survey participants for whom we have grade 10 credit accumulation, disproportionality and disparity calculations reflect inclusive groups. This means that if a student selected more than one response option for the same question, they are reflected in each response category for that item. For disparity calculations, groups have been compared to “all other” students in the case of race and gender identity, or to a group of students who do not identify as Indigenous or as having a disability³.

Grade 10 Credit Accumulation by Student Demographics

This section of the report examines grade 10 credit accumulation for different groups of students based on student demographics captured in Trillium, and on four dimensions of identity (Indigenous identity, race, gender identity, and disability) for the subset of students who participated in the *Valuing Voices* Survey conducted in 2019-2020.

² Depending on the nature of the analysis, another specific group serves as a benchmark group against which comparisons are made and disparity is measured.

³ Additional information can be found in the Technical Considerations section of this document.

Results for this section of the report are based on three years of pooled data (2017-2018, 2018-2019, and 2019-2020) in order to maximize reporting for as many aspects of identity as possible. The total number of students in the merged grade 10 credit accumulation data file was 16,472, 9,654 (59%) of whom also participated in the Valuing Voices student survey. This pooled data set was more heavily comprised of students who completed grade 10 in 2019-2020 (39%), followed by students who completed grade 10 in 2018-2019 (35%), and in 2017-2018 (27%). Data for the full population is presented first, followed by a spotlight on the Valuing Voices data. Additional information, including tables containing numbers, percentages, disproportionality and disparity indices for the Valuing Voices data can be found in the technical considerations at the end of this document.

Measuring Equity: Overview of Findings

For many years, students, parents, and community partners have raised concerns that racialized students, students of diverse gender identities, and students with disabilities face barriers to graduation. As a key indicator as to whether or not students are at risk of dropping out of school before graduating or not on track to graduate with their peers, examination of grade 10 credit accumulation data provides an opportunity to intervene and support these students as they progress through their schooling.

The data supports these concerns and indicates that some students are at an elevated risk of not graduating within five (5) years of starting secondary school. The figure on the following page displays disproportionality indices for each group of students examined, indicating which groups are overrepresented (values greater than 1.0) and underrepresented (values less than 1.0) in the group of students who are on track to graduate within five years of starting high school⁴.

While thresholds have not yet been established for the OCDSB, the likelihood of producing disproportionality and disparity values that are precisely 1.0 is extremely small. For purposes of this report, staff have interpreted the data from the viewpoint of an absolute value of 1.0, but would invite the reader to consider alternate interpretations of the information. For example, if a threshold were to be established such that any value between 0.90 and 1.10 were deemed to indicate equal likelihood that a student will earn 16 or more credits by the end of grade 10, how does that alter the interpretation or narrative?

Finally, it is important to note that while trends are similar across data sources, and *Valuing Voices* results tend to mirror those of the overall student population, values do vary.

⁴ In this case, full population refers to: (i) students for whom we have grade 10 credit accumulation data (2017-2018, 2018-2019, and 2019-2020) for the Trillium demographics; and (ii) students for whom we have grade 10 credit accumulation data for the three years under investigation and Valuing Voices data.

Overview of Disproportionality Indices for Grade 10 Credit Accumulation For Three Combined Cohorts (2017-18, 2018-19, 2019-20) by Reporting Group and Data Source

Compared to all students in the same cohort(s), how likely is it a student from THIS group will be "on track" to graduate (i.e., will have earned 16 or more credits) at the end of Grade 10?

Legend:	 < 1.0 Underrepresentation (Less likely to have earned at least 16 credits)	 1.0 Parity (Equal likelihood of having earned at least 16 credits)	 1.0 < Overrepresentation (Greater likelihood of having earned at least 16 credits)
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All Students (Trillium)	Indigenous Status	Race			Gender Identity				Disability			English Language Learners
	0.71	East Asian	South Asian	White	Two-Spirit	Another	Girl or Woman	Mobility	Blind or Low Vision	Deaf or Hard of Hearing	Speech Impairment	0.87
Valuing Voices (Subset)	Does not identify as Indigenous	1.01	1.06	1.03	1.05	1.03	1.02	1.14	1.07	1.07	1.05	0.82
	Inuit	0.85	1.02	1.00	0.99	0.98	0.96	1.04	1.04	1.04	1.03	0.82
	First Nation	0.74	1.02	1.00	0.99	0.98	0.96	1.04	1.04	1.04	1.03	0.82
	Métis	0.85	1.06	1.03	1.05	1.03	1.02	1.14	1.07	1.07	1.05	0.82
	Another	1.02	1.06	1.03	1.05	1.03	1.02	1.14	1.07	1.07	1.05	0.82
	Middle Eastern	0.89	1.06	1.03	1.05	1.03	1.02	1.14	1.07	1.07	1.05	0.82
	Black	0.88	1.06	1.03	1.05	1.03	1.02	1.14	1.07	1.07	1.05	0.82
	Indigenous Race	0.85	1.06	1.03	1.05	1.03	1.02	1.14	1.07	1.07	1.05	0.82
	Trans Boy or Man	0.95	1.06	1.03	1.05	1.03	1.02	1.14	1.07	1.07	1.05	0.82
	Gender Non-Conforming	0.91	1.06	1.03	1.05	1.03	1.02	1.14	1.07	1.07	1.05	0.82
Learning	0.95	1.06	1.03	1.05	1.03	1.02	1.14	1.07	1.07	1.05	0.82	
Developmental	1.00	1.06	1.03	1.05	1.03	1.02	1.14	1.07	1.07	1.05	0.82	
Autism Spectrum Disorder	0.87	1.06	1.03	1.05	1.03	1.02	1.14	1.07	1.07	1.05	0.82	
Chronic Pain	1.04	1.06	1.03	1.05	1.03	1.02	1.14	1.07	1.07	1.05	0.82	
Physical	1.04	1.06	1.03	1.05	1.03	1.02	1.14	1.07	1.07	1.05	0.82	
Another	1.04	1.06	1.03	1.05	1.03	1.02	1.14	1.07	1.07	1.05	0.82	
Mental Health	0.94	1.06	1.03	1.05	1.03	1.02	1.14	1.07	1.07	1.05	0.82	
Undisclosed	0.79	1.06	1.03	1.05	1.03	1.02	1.14	1.07	1.07	1.05	0.82	
Autism Spectrum Disorder	0.87	1.06	1.03	1.05	1.03	1.02	1.14	1.07	1.07	1.05	0.82	
Trans Girl or Woman	0.83	1.06	1.03	1.05	1.03	1.02	1.14	1.07	1.07	1.05	0.82	
Not Sure	0.84	1.06	1.03	1.05	1.03	1.02	1.14	1.07	1.07	1.05	0.82	
Gender Fluid	0.88	1.06	1.03	1.05	1.03	1.02	1.14	1.07	1.07	1.05	0.82	
Does not identify as having a disability	1.03	1.06	1.03	1.05	1.03	1.02	1.14	1.07	1.07	1.05	0.82	

****Note:** To provide some indication of overall trends in District-level outcomes for gender identities other than Boy/Man and Girl/Woman consistently across identity-based reports, as they are frequently subject to suppression due to small student counts, a 'Gender Diverse' group was fashioned that includes all other response options (listed above), with the exception of 'Not Sure'.

English Language Learners

Students identified at ESL or ELD STEPS 1 through 6 in the Trillium Student Information System are considered to be ELL; all other students are not. Valuing Voices data for first language spoken has not yet been analyzed.

Based on three years of pooled data from Trillium, approximately 20% of the OCDSB grade 10 student population was identified as an English language learner (3,325 of 16,472), yet accounted for 17% (2,323) of students who achieved 16 or more credits. The overall grade 10 credit accumulation rate for ELLs was 70% compared to 83% for non-ELLs, reflecting an underrepresentation of ELLs in the grade 10 credit accumulation data⁵, and a lower likelihood of graduating within 5 years.

Figure 3. Distribution of English Language Learners (2018-2020)

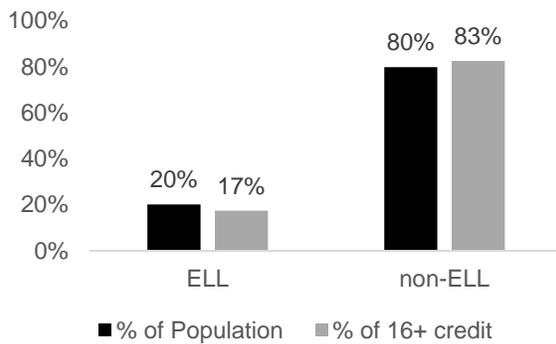
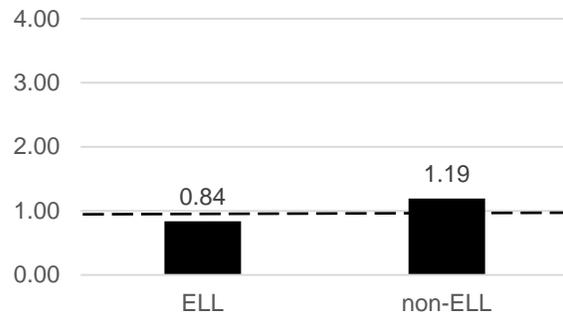


Figure 4. Disparity Ratio: Relative Likelihood of Achieving 16 or more Credits vs. All Other Students



⁵ The expected credit accumulation achievement rate (i.e., disproportionality rate) is “1”. A disproportionality ratio of “1” reflects a perfect representation (i.e., having equal chance of achieving required credits) in the credit accumulation data based on the relative size of a specific group of students in the overall population.

Students Residing in Lower-income Neighbourhoods (LowSES)

Student postal codes from Trillium were matched to 2018 Taxfiler data from Statistics Canada. Postal code groupings where the % of families with school-aged children living below the Low-Income Measure was higher than for the City of Ottawa as a whole, were classified as residing in a lower income neighbourhood.

Based on Trillium data, approximately 28% of OCDSB grade 10 students lived in lower-income neighbourhoods (Low-SES; 4,073 of 14293), yet accounted for 25% (2,768) of students who achieved 16 or more credits. Just over two-thirds (68%) of all low-SES grade 10 students earned at least 16 credits by the end of their grade 10 year, compared to 81% of other students. This reflects an underrepresentation of students from lower SES backgrounds in the grade 10 credit accumulation data⁶, and a lower likelihood of being on track to graduate with their peers.

Figure 5. Distribution of LowSES Learners (2018-2020)

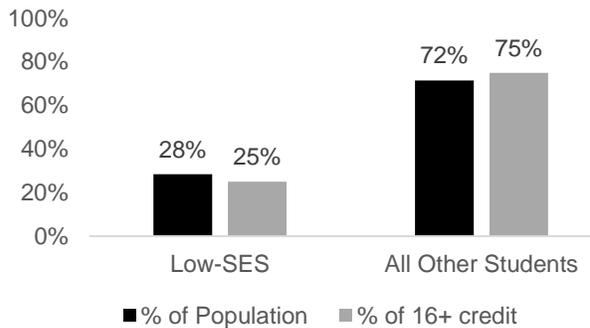
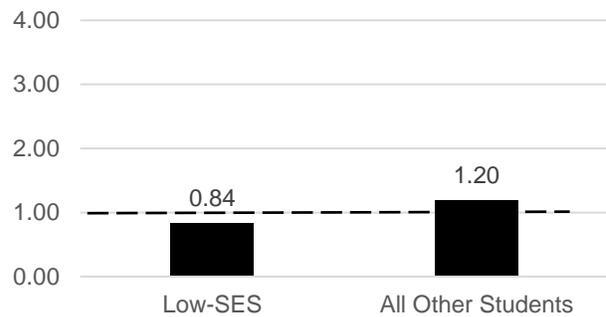


Figure 6. Disparity Ratio: Relative Likelihood of Achieving 16 or more Credits vs. All Other Students



⁶ The expected credit accumulation achievement rate (i.e., disproportionality rate) is “1”. A disproportionality ratio of

“1” reflects a perfect representation (i.e., having equal chance of achieving required credits) in the credit accumulation data based on the relative size of a specific group of students in the overall population.

Gender Identity

The Trillium Student Information System currently only allows for the reporting of gender as a binary construct. For reporting on additional gender identities, please refer to the Spotlight on Valuing Voices at the end of this section and on pg. 20.

The distribution of males and females in the OCDSB grade 10 student population (Trillium) was relatively even (male students=8,266; female students=8,205), with credit accumulation rates of 79% and 83%, respectively. Male students accounted for 49% (6,494) of those who achieved 16 or more credits compared to 51% of female students (6,786). This reflects a slight underrepresentation of male students in the grade 10 credit accumulation data, and lower likelihood of achieving 16 or more credits compared to female students.

Figure 7. Distribution of Students by Gender (2018-2020)

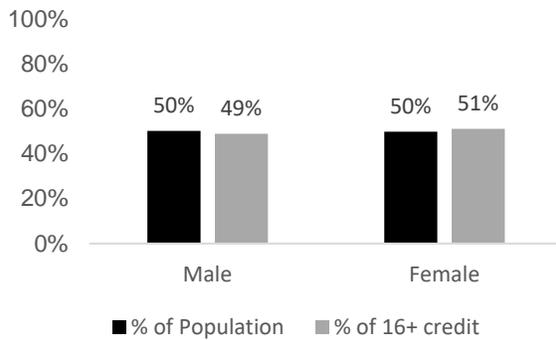
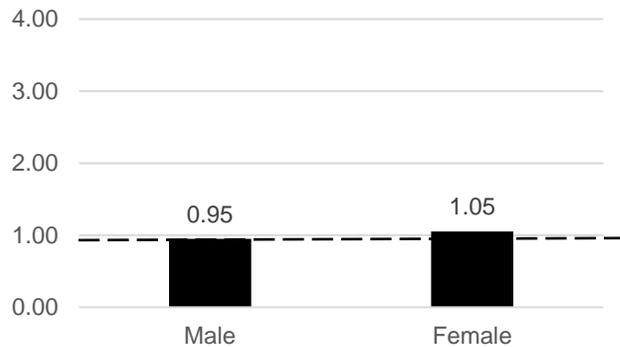


Figure 8. Disparity Ratio: Relative Likelihood of Achieving 16 or more Credits vs. All Other Students



Spotlight on Valuing Voices: Gender Identity

The following highlights are based on 8,057 students who responded to the gender identity question and who had earned a minimum of 16 credits by the end of their grade 10 year (2018-2020) (additional details can be found on pg. 20):

- 👉 Students who identified as **trans girl/woman, not sure, gender fluid, non-binary, and gender non-conforming** were underrepresented in the group of students who were on track to graduate within five years of starting high school (disproportionality rates ranging from 0.83 to 0.91, respectively).
- 👉 Trends for students who identified as Boy/Man or Girl/Woman were similar to those for the District as a whole.

Indigenous Identity

The Trillium Student Information System currently allows for the reporting of Indigenous self-identification from a single community (i.e., First Nation, Métis, or Inuit). Historical reporting has combined these communities into a single group to limit data suppression. For reporting on distinct Indigenous communities, please refer to the Spotlight on Valuing Voices at the end of this section and on pg. 19.

Between 2018 and 2020, 2% of the OCDSB Grade 10 student population self-identified as Indigenous (284 of 16,472), yet accounted for only 1% (163) of students who achieved 16 or more credits. The overall grade 10 credit accumulation rate for this group of students over this time period was 57%, compared to 81% of all others. These results reflect an underrepresentation of Indigenous students in the group of students on track to graduate within five years of starting high school, and a lower likelihood of attaining 16 credits by the end of grade 10.

Figure 9. Distribution of Self-Identified Indigenous Students (2018-2020)

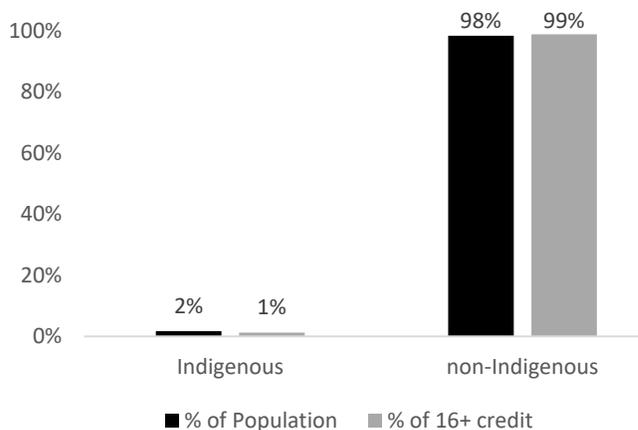
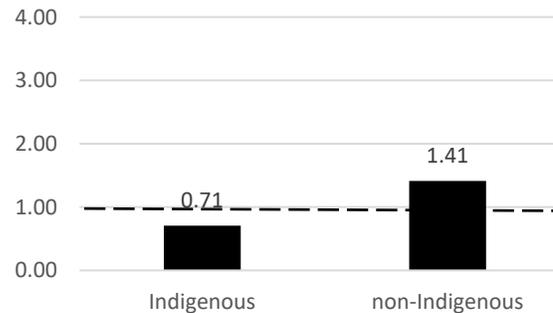


Figure 10. Disparity Ratio: Relative Likelihood of Achieving 16 or more Credits vs. All Other Students



Spotlight on Valuing Voices: Indigenous Self-Identification

The following highlights are based on 8,175 who responded to the Indigenous identity question on the Valuing Voices survey and who had earned a minimum of 16 credits by the end of their grade 10 year (additional details can be found on pg. 19):

-  Students who self-identified as **First Nation, Métis, and/or Inuit** were underrepresented in the group of students who had earned at least 16 credits by the end of grade 10 (disproportionality rates ranging from 0.74 to 0.85, respectively).
-  Trends for the combined group of Indigenous identities were consistent with those observed in the full population of grade 10 students.

Race



Spotlight on Valuing Voices: Race

The following highlights are based on the 8,074 students who responded to the question about race on the survey and who had earned a minimum of 16 credits by the end of their grade 10 year (additional details can be found on pg. 20):

- ☞ Students who identified as **Indigenous, Black, Middle Eastern,** and/or **Latino** were underrepresented in the group of students on track to graduate within five years of starting high school (disproportionality rates ranging from 0.85 to 0.92, respectively). Similarly, they had a lower likelihood of earning 16 credits by the end of grade 10 (disparity rates ranging from 0.85 to 0.88).
- ☞ Students who identified as **East Asian, South Asian,** and **White** were overrepresented in the credit accumulation data (disproportionality rates ranging from 1.06 to 1.03), and had a greater likelihood of being on track to graduate with their peers (disparity rates of 1.07 for all three groups).

Disability



Spotlight on Valuing Voices: Disability

The following highlights are based on the 7,264 students who responded to the disability question and who had earned 16 or more credits by the end of their grade 10 year (additional details can be found on pg. 21):

- ☞ Student who self-identified as having a disability(ies) are underrepresented in the grade 10 credit accumulation data (disproportionality of 0.87), and had a lower likelihood of attaining 16 credits by the end of their grade 10 year (disparity 0.85);
- ☞ Students who identified as having a **disability but chose not to disclose** details, those reporting **addiction** and/or **autism** were most underrepresented (disproportionality rates ranging from 0.71 to 0.78, respectively) and least likely to attain 16 credits by the end of grade 10 amongst the disabilities listed.

Students with Special Education Needs

The Trillium Student Information System captures information for students who have an IEP and for those identified with an exceptionality. Historical reporting has been based on students with an IEP regardless of whether or not they have been through the IPRC process; students with a Gifted exceptionality have been excluded from this group, in alignment with Ministry reporting practices.

Students with special education needs accounted for 22% (3,620 of 16,472) of the OCDSB grade 10 student population between 2017-2018 and 2019-2020, inclusive, yet accounted for only 18% (2,395) of students who were on track to graduate by the end of the grade 10 year. The overall credit accumulation rate for this group of students over this time period was 66%, compared to 85% of students without special education needs. This reflects an underrepresentation of students with special education needs, and a lower likelihood of earning 16 credits by the end of grade 10.

Figure 11. Distribution of Students with Special Education Needs (2018-2020)

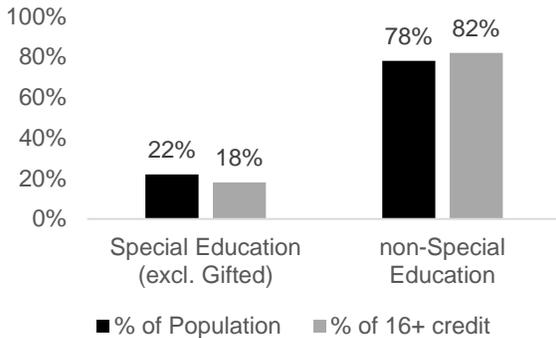
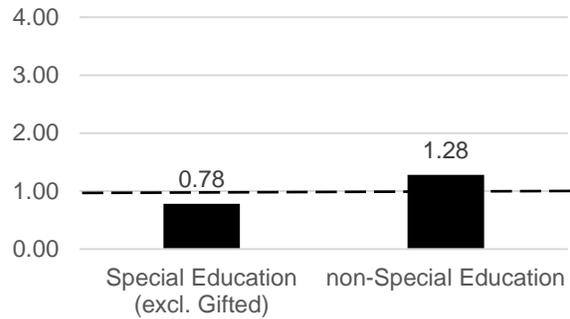


Figure 12. Disparity Ratio: Relative Likelihood of Achieving 16 or more Credits vs. All Other Students



Summary and Next Steps

Grade 10 credit accumulation data has been an important indicator of student success, serving as a proxy for “on-time” graduation (i.e., within five years of starting high school). As part of the Ministry of Education’s Student Success/Learning to 18 initiative, students who do not successfully complete 16 credits by the end of grade 10 are at risk of leaving school prior to graduation and becoming disengaged in learning. Student re-engagement is a key strategy of the initiative and coordinated through the District’s Student Success Lead. Specifically, the OCDSB provides programming support through Student Success Teachers (SSTs) where SSTs provide direct intervention support to students who are behind in credit attainment and at risk of not graduating high school. As part of this program, the OCDSB has received a funding allocation to support secondary schools in hiring occasional teachers to support credit intervention and credit rescue initiatives.

The analysis of grade 10 credit accumulation data in connection with identity based data from 2018-2019 reinforces the fact that a closer attention needs to be paid to progression towards graduation for specific groups of students. Specifically, students most at risk of not earning 16 credits by the end of grade 10 include those who self-identified as:

- First Nation, Métis, and/or Inuit (i.e., Indigenous identity)
- Indigenous, Black, East Asian, and Middle Eastern (i.e., race)
- transgirl, not sure, gender fluid, non binary, non conforming, (i.e., gender identity)
- having a disability, particularly those reporting addiction and autism (i.e., disability)

on the Valuing Voices student survey, as well as students with special education needs, ELLs, students residing in lower income neighbourhoods.

The OCDSB undertakes key initiatives that target narrowing gaps for specific groups of students and removing systemic barriers to their success. As one of these critical initiatives, in January 2020, a professional learning community was built to support eight secondary schools demonstrating the highest percentage of students not achieving 16 credits by the end of grade 10. School teams were established to conduct monthly meetings to collaborate on strategies focusing on specific groups of students to build learning experiences catered to the needs of these students.

Creating Optimal Conditions for Learning

A longitudinal study conducted by Niehaus, Irvin, and Rogelberg (2016) reported that feelings of connectedness and engagement have a significant impact on graduation rates in high schools. Recognizing the importance of engagement and connectedness in promoting students’ graduation success, the OCDSB commits to foster a school culture where students’ sense of belonging is promoted through a strong partnership between students, staff, and community. One initiative recently introduced in the

OCDSB to support this work is the Indigenous and Black Students Graduation coaches program. Although recently implemented, there are early indications that this model is having a positive impact on student success through increased credit accumulation and overall well-being. Through the Continuing Education Department, a Summer Learning Program was made available to support Indigenous students in the attainment of credits this past year. The success of this program has led to an expanded focus to support Black students – this initiative will be implemented in the summer of 2021. Finally, the Student Achievement Through Inquiry (S.A.T.E) project uses factors known to contribute to successful schools to bring children, families and communities together into the educational environment as participants and partners in the learning process, with the school becoming the "Heart of the Community." This particular project involves 14 OCDSB schools (elementary and secondary) and focuses on the following factors: achievement and standards; leadership and management; teaching and learning; innovative curriculum; targeted intervention and support; inclusion; parental engagement; use of data; effective use of pupil's voice; and celebration of cultural diversity.

In addition, both the OCDSB *Strategic Plan 2019-2023* and the *Indigenous, Equity and Human Rights Roadmap* outline some of the key strategies that will be undertaken to promote a stronger sense of belonging and champion high learning expectations for all students in all programs. Some of these include:

- the establishment of targets for all students to increase graduation success in all pathways;
- the release of Annual Equity Report to identify and document progress made in eliminating disparity of outcomes for Indigenous, Black and minoritized students, including 2SLGBTQ+ and students with disabilities in graduation;
- the establishment of an Annual Equity Accountability Report (to be included in the Annual Director's Report) that reports on some of the key accountability measures including credit accumulation and graduation rates, disaggregated by grade, Indigeneity, race, language, disability, sexual orientation, gender identity and expression and socio-economic status.

Data Analysis and Reporting

This year marks the first opportunity to collect and explore reporting of identity-based data using the Ministry's Data Standards. With each report that is generated, and through the discussions with the Technical Advisory Group, we continue to learn and grow through this process and our approach to analysis and reporting. An example of this is the shift from reporting based on exclusive groups (as was the case in the suspension report) to inclusive groups.

Additional analyses will need to be undertaken to explore credit accumulation data for other dimensions of identity collected through the *Valuing Voices* survey (i.e., language,

ethnicity, religion, sexual orientation, and status in Canada). Intersectionality across different aspects of identity also require further investigation. Deeper analyses that incorporate student perceptions as they relate to issues of school safety, engagement, and sense of belonging will also be an important consideration. Such analyses not only contribute to a more holistic understanding of our students' self-perceptions and experiences, but also help tease apart the unique contributions of various underlying factors linked to outcomes, as well as distinguish pathways and underlying root-causes. It is also important to recognize limitations to our understanding, as the *Valuing Voices* survey collected information on students but failed to capture the larger context/environment in which they exist/live (i.e., within circles of family, school, community). The complexity of this work, and our District's positioning as one of the first to pursue it with the IDB data/ leads in Ontario, along with our interest in continuing a dialogue/responding to the interests/needs of our various voices/ stakeholders/ community partners, makes this work ongoing.

It is also important to note that credit accumulation is one indicator of student success. Exploration of achievement data from multiple angles is required to gain insight into the barriers that exist for students. For example, in terms of credit accumulation, understanding which courses pose the greatest challenges for students is best understood through an analysis of pass rates and the percentage of students meeting the provincial standard in specific courses and pathways. Historically, lower pass rates have been observed in applied level courses and in some compulsory level courses at the grade 10 level (e.g., Civics and Careers) – this has been the case at both the District and the provincial level. This topic will be further explored in a spring 2021 report that looks at secondary achievement and streaming.

While Disproportionality and Disparity offer us two ways of *measuring* relative group differences (versus All and versus Another group, respectively), these indices do not indicate whether observed differences are *meaningful*, nor do they tell us what *movement* might be reasonable to expect over time. To better contextualize these indices and make them useful, cut-points referred to as *thresholds* must first be established. As we continue to investigate identity-based data, District-level thresholds will need to be determined in consultation with community partners and other stakeholders in order to identify reasonable targets and monitor progress towards addressing existing inequities. This will form part of the core work in 2019-2020 for the recently established OCDSB Technical Advisory Group: Anti-Racism Data Standards. Once thresholds have been established, monitoring progress towards some of the goals cited in the [Indigenous, Equity and Human Rights Roadmap](#) (2020) will be easier.

Technical Considerations

This phase of reporting requires the calculation of a racial disproportionality and/or racial disparity index for each unit of analysis (Standard 29). In the case of credit accumulation, both have been calculated where suppression thresholds have been met. Meaningful interpretation of disproportionality and disparity requires the selection of appropriate benchmarks and reference groups, respectively (Standards 30 and 31), as well as the establishment of thresholds (Standard 32) to support monitoring of progress over time. The following sections provide an overview of the considerations that were taken into account.

Units of Analysis. Most survey questions allowed for the selection of multiple responses, honouring the multidimensionality of identity. From an analysis and reporting perspective, this adds complexity. Analysis must be sensitive to commonalities and differences in experience and treatment among persons reporting multiple responses. For example, Standard 27 (Primary Unit of Analysis) of the Data Standards describes the following considerations in terms of multiple race categories:

“In some cases, it may make sense to count persons who report White and some other race according to the other race category selected. In other circumstances, it may be necessary and appropriate to aggregate or construct socially meaningful mixed-race categories. For example, a generic mixed-race category may be appropriate if there are insufficient or small numbers of individuals (fewer than 15) who select multiple race categories. If a generic mixed-race category might obscure significant differences, and sample sizes are sufficient, consider using specific combinations of race categories.”

As a result, three different approaches to assigning respondents to groups were examined to better understand the influence on disparity and disproportionality calculations:

- **exclusive groups** – no overlap across response categories; respondents selecting more than one response option were combined into a “mixed group” option
- **additive groups** – includes exclusive groups for those respondents who selected one response option only, but an additional group was created for each exclusive category that included respondents who selected that category and at least one other response option (e.g., black + white)
- **inclusive groups** – all groups overlap with one another (e.g., the black category includes respondents who selected black either as a single response or in combination with at least one other race category).

Based on the feedback from the Technical Advisory Group (TAG), credit accumulation results are being reported based on inclusive groups. This allows to reflect all voices participated in the Valuing Voices survey.

Combining Cohorts to Reduce Data Suppression. To overcome challenges related to suppression of identity categories with fewer than 10 students, grade 10 credit accumulation data from 2017-2018, 2018-2019, and 2019-2020 were combined. This applies to both the population data and the subset of students who participated in the Valuing Voices student survey. In so doing, it allows us to report on more identity categories than we would otherwise be able to do with a single year of data (i.e., 2019-2020). An additional consideration is the sample size required to produce reliable estimates of disparity and disproportionality (i.e., 10 respondents with a minimum of 16 credits, 30 respondents in each response category for whom we have grade 10 credit accumulation). As an example, the following table provides an overview of the total number of respondents with grade 10 credit accumulation data for self-identified Indigenous identity response options across each of the past three years.

Table 2: The total number of self-identified Indigenous students with G10 credit accumulation data:

	1-year data	2-year data	3-year data
	2018-2019 data Only	+ 2017-2018 data	+ 2019-2020 data
First Nation	43	80	153
Inuit	17 (insufficient)	22 (insufficient)	36
Métis	30	50	85

Benchmarks and Reference Groups. For purposes of this report, calculations of disproportionality use the population of grade 10 students across 3 cohorts (i.e., 2017-2018, 2018-2019, 2019-2020) who participated in the *Valuing Voices – Identity Matters! Student Survey* as a benchmark. After careful consideration, the most appropriate reference group for disparity calculations was deemed to be “all other” relevant respondents (i.e., any respondent not included in the target group for whom we have grade 10 credit accumulation data) yielding more stable comparisons over time.

Calculating Disproportionality and Disparity. Disproportionality is a measure of a specific group’s overrepresentation or underrepresentation in an outcome relative to their representation in the overall population. A disproportionality index (or rate) reflects the likelihood/risk that someone from a specific group will experience a certain outcome, relative to the risk in the entire eligible population. A value of 1.0 reflects no disproportionality. A value greater than 1.0 reflects overrepresentation. A value less than 1.0 reflects underrepresentation.

Disparity is a measure of group differences that compares an outcome for a specific group against that of another (BENCHMARK) group. There are many ways of

measuring disparities, however, the Data Standards describe calculating a disparity index (ratio) which compares the relative risk/rate in a specific group to the risk/rate in a BENCHMARK group. It measures whether a particular outcome is lower, similar, or higher in a specific group relative to a comparison group. A value of 1.0 reflects no disparity between the risk/chance for the specific group and the benchmark group (same risk). A value greater than 1.0 reflects a higher risk/chance for the specific group. A value less than 1.0 reflects a lower risk/chance for the specific group.

Calculations of disproportionality and disparity are significantly impacted by small numbers. A general rule-of-thumb is to have minimum sample size of 10 and a population size of 30, otherwise estimates are not reliable. Consistent with the suspension report, this rule has been applied to the reporting of credit accumulation data.

Interpreting Disproportionality and Disparity. Meaningful interpretation of disproportionality rates and disparity ratios require the establishment of a threshold, which is an established cut-point used to identify meaningful disproportionality and disparity values. District-level thresholds will need to be determined in consultation with community partners and other stakeholders in order to identify targets and monitor progress towards addressing existing inequities/inequalities. This will be a key outcome for the OCDSB Technical Advisory Group: Anti-Racism Data by the end of June 2021.

Tables 3 through 6 below provide details about the subset of students for whom we had grade 10 credit accumulation information across the three cohorts (2017-2018 through 2019-2020) and who participated in the Valuing Voices survey. Information is presented first for all students, then for each response option. In the case of Indigenous identity, dichotomous groupings were created to facilitate disparity calculations.

Table 3: Spotlight on Indigenous Identity

INDIGENOUS IDENTITY	G10, 2017-'18, 2018-'19, 2019-'20 CA data				% in All students	Disproportionality (16+)	Disparity vs. Not INDG
	# Total	# of students with 16+ credits	% of students with 16+ credits	% in 16+			
Grade 10 Credit Accumulation (2018-2020)	9,440	8,175	86.6%	86.6%			
Not_INDG	9,144	7,980	87.3%	97.6%	96.9%	1.01	1.00
INDG	318	211	66.4%	2.6%	3.4%	0.77	0.76
First Nation	194	125	64.4%	1.5%	2.1%	0.74	0.74
Metis	117	86	73.5%	1.1%	1.2%	0.85	0.84
Inuit	57	42	73.7%	0.5%	0.6%	0.85	0.84

Table 4: Spotlight on Race

RACE	G10, 2017-'18, 2018-'19, 2019-'20 CA data				% in All students	Disproportionality (16+)	Disparity vs. All Other
	# Total	# of students with 16+ credits	% of students with 16+ credits	% in 16+			
Grade 10 Credit Accumulation (2018-2020)	9,307	8,074	86.8%				
Black	831	632	76.1%	7.8%	8.9%	0.88	0.87
East Asian	1,101	1,016	92.3%	12.6%	11.8%	1.06	1.07
Indigenous	205	151	73.7%	1.9%	2.2%	0.85	0.85
Latino	258	206	79.8%	2.6%	2.8%	0.92	0.92
Middle Eastern	1,232	955	77.5%	11.8%	13.2%	0.89	0.88
South Asian	826	760	92.0%	9.4%	8.9%	1.06	1.07
South East Asian	374	325	86.9%	4.0%	4.0%	1.00	1.00
White	5,514	4,915	89.1%	60.9%	59.2%	1.03	1.07
Another Race Not Listed	179	158	88.3%	2.0%	1.9%	1.02	1.02

Table 5: Spotlight on Gender Identity

GENDER IDENTITY	G10, 2017-'18, 2018-'19, 2019-'20 CA data				% in All students	Disproportionality (16+)	Disparity vs. All Other
	# Total	# of students with 16+ credits	% of students with 16+ credits	% in 16+			
Grade 10 Credit Accumulation (2018-2020)	9,283	8,057	86.79%				
Boy/Man	4248	3609	85.0%	44.8%	45.8%	0.98	0.96
Gender Fluid	63	48	76.2%	0.6%	0.7%	0.88	0.88
Nonconforming	62	49	79.0%	0.6%	0.7%	0.91	0.91
Girl/Woman	4685	4159	88.8%	51.6%	50.5%	1.02	1.05
Non Binary	93	73	78.5%	0.9%	1.0%	0.90	0.90
Questioning	92	79	85.9%	1.0%	1.0%	0.99	0.99
Transboy	69	57	82.6%	0.7%	0.7%	0.95	0.95
Transgirl	36	26	72.2%	0.3%	0.4%	0.83	0.83
Two Spirit	34	31	91.2%	0.4%	0.4%	1.05	1.05
Another Gender Identity Not Listed	137	123	89.8%	1.5%	1.5%	1.03	1.03
Not Sure	45	33	73.3%	0.4%	0.5%	0.84	0.84

Table 6: Spotlight on Disability

DISABILITY	G10, 2017-'18, 2018-'19, 2019-'20 CA data				% in All students	Disproportionality (16+)	Disparity vs. No DSBL
	# Total	# of students with 16+ credits	% of students with 16+ credits	% in 16+			
Grade 10 Credit Accumulation (2018- 2020)	8,291	7,264	87.60%				
No Disability	7,432	6,611	89.0%	91%	90%	1.02	1.00
Those Reporting a Disability	859	653	76.0%	9.0%	10.4%	0.87	0.85
Addiction	113	77	68.1%	1.1%	1.4%	0.78	0.77
Autism	128	87	68.0%	1.2%	1.5%	0.78	0.76
Blind	75	63	84.0%	0.9%	0.9%	0.96	0.94
Chronic Pain	87	71	81.6%	1.0%	1.1%	0.93	0.92
Deaf	56	47	83.9%	0.7%	0.7%	0.96	0.94
Developmental	46	36	78.3%	0.5%	0.6%	0.89	0.88
Learning	440	328	74.5%	4.5%	5.3%	0.85	0.84
Mental Health	333	245	73.6%	3.4%	4.0%	0.84	0.83
Mobility	38	34	89.5%	0.5%	0.5%	1.02	1.01
Physical	98	80	81.6%	1.1%	1.2%	0.93	0.92
Speech	63	52	82.5%	0.7%	0.8%	0.94	0.93
Another Disability Not Listed	108	88	81.5%	1.2%	1.3%	0.93	0.92
Undisclosed ⁷	45	28	62.2%	0.4%	0.5%	0.71	0.70

⁷ This includes students who indicated “yes” to having a disability, but did not provide details as to the type.

Key Terms

Definition	What does it mean in <i>this</i> report?
<p>CREDIT ACCUMULATION RATE refers to the proportion of students who earn a designated number of credits within a specific time period. Grade 10 credit accumulation (i.e., attainment of 16 credits by the end of grade 10) is an important indicator as to whether or not a student is on track to graduate within five years of commencing secondary school.</p>	<p>Students who earned at least 16 credits by the end of their grade 10 year (i.e., second year of high school in 2017-2018, 2018-2019, 2019-2020) are represented in the credit accumulation rate. Higher credit accumulation rates indicate a higher occurrence of students who are on track to graduate with their peers.</p>
<p>OUTCOMES can be programs, services, or functions.</p>	<p>In this report, our examination focuses on students who earned a minimum of 16 credits by the end of their grade 10 year, by combining data for 2017-2018, 2018-2019, and 2019-2020.</p>
<p>DISPROPORTIONALITY is a measure of a specific group’s overrepresentation or underrepresentation in an outcome relative to their representation in the overall population.</p>	<p>Disproportionality answers the question: <i>Which groups of students are over/underrepresented in the group of students who are on track to graduate within 5 years of starting high school?</i></p> <p>A value of 1.0 reflects equal representation of earning 16 credits by the end of grade 10 (parity). A value greater than 1.0 reflects overrepresentation, while a value less than 1.0 reflects underrepresentation.</p>
<p>DISPARITY is a measure of group differences that compares an outcome for a specific group against that of <u>another</u> group, which serves as a BENCHMARK. There are many ways of measuring disparities.</p> <p>A DISPARITY RATIO is a proportion comparing the relative risk/rate in a specific group to the risk/rate in a BENCHMARK group. It measures whether a particular outcome is lower, similar, or higher in a specific group relative to a comparison group.</p>	<p>Disparity answers the question: <i>Which groups of students have a lower/greater likelihood of being on track to graduate within 5 years of starting high school?</i></p> <p>A value of 1.0 reflects equal likelihood of earning 16 credits (no disparity) compared to a benchmark group. A value greater than 1.0 reflects greater likelihood of earning 16 credits, while a value less than 1.0 reflects a lower likelihood of earning 16 credits.</p>
<p>A BENCHMARK is a group used as a common reference point against which to measure disparities. Using the same point of reference for all specific group comparisons means the resulting disparities are comparable to each other.</p>	<p>Disparity calculations for the full student population make use of “all other students” as the benchmark group. When reporting on the subset of students who participated in the <i>Valuing Voices</i> survey, “all other students” was used for calculations on race and gender identity, while “does not identify as Indigenous” was used to report on Indigenous identity and “does not identify as having a disability” was used to report on disability.</p>
<p>A THRESHOLD is an established cut-point used to identify meaningful disproportionality and disparity values.</p>	<p>District-level thresholds will need to be determined in consultation with community partners and other stakeholders in order to identify targets and monitor progress towards addressing existing inequities.</p>

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