

# **TDSB Pandemic Recovery Plan 2021-22: System Views of Student Learning March 2020 to June 2021**

Research and Development Department



## Research Contributors

### Primary authors/researchers

David Cameron  
Stefanie De Jesus  
Amie Presley  
Samuel Zheng

### Contributing authors/researchers

Bryce Archer  
Tammy Denike  
Pascal Huang  
Mandeep Gabhi  
Aakriti Kapoor  
Tanitia Munroe  
George Tam

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Authors are listed alphabetically.

## Socio-Economic Status

### 2020 Learning Opportunities Index (LOI) Clusters and Students' Ethno-Racial Background

Panel	Ethno-Racial Background	2020 Learning Opportunities Index (LOI) Clusters (Virtual School Students Mapped to Home School)		
		Low SES	Middle SES	High SES
Elementary	Black	24%	10%	4%
	East Asian	5%	19%	18%
	Indigenous	1%	1%	0%
	Latin American	2%	1%	2%
	Middle Eastern	7%	6%	4%
	Mixed	6%	7%	11%
	South Asian	40%	32%	12%
	Southeast Asian	6%	4%	2%
	White	5%	15%	42%
	Other	5%	4%	5%
Secondary	Black	27%	10%	5%
	East Asian	6%	17%	17%
	Indigenous	1%	0%	0%
	Latin American	4%	2%	2%
	Middle Eastern	6%	6%	6%
	Mixed	7%	7%	10%
	South Asian	27%	35%	8%
	Southeast Asian	11%	6%	4%
	White	8%	16%	46%
	Other	3%	2%	2%

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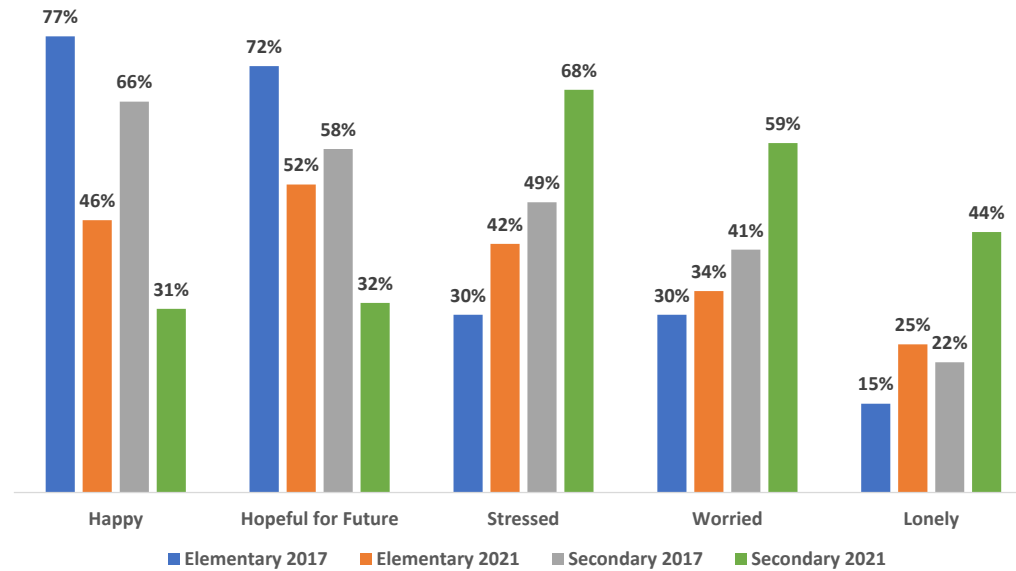
The table above describes the sample of 34,946 students who participated in the student check-in survey conducted at the end of January 2021. The sample is broken into three major clusters based on a school's Learning Opportunities Index (see <https://www.tdsb.on.ca/research/Research/Learning-Opportunities-Index>) for the participating students' home schools. The three clusters in this instance serve to estimate participating students' demographic circumstances, or Social and Economic Status (SES). The table also shows the percentage of students by race for each of the three clusters of schools from which the participating students attend.

The table shows disproportionately *high* percentages of Black and South Asian students and disproportionately *low* percentages of White students in the low SES cluster of schools. While the opposite is the case for the high SES cluster of schools in which there are disproportionately *low* percentages of Black and South Asian students and disproportionately *high* percentages of White students in the high SES cluster of schools.

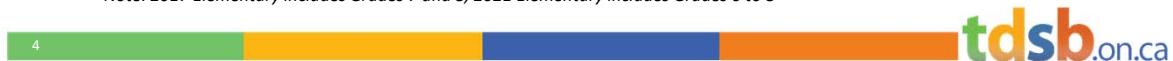
Each cluster of schools is well represented in the survey with 6,026 students participating in the check-in survey from the low SES cluster of schools, 14,910 students participating from the middle SES cluster of schools, and 14,010 students from the high SES cluster of schools.

## Mental Health

### Students' Well-being Before and During the Pandemic (Responded "All the Time/Often")



Note: 2017 Elementary includes Grades 7 and 8, 2021 Elementary includes Grades 6 to 8



This figure compares students' reported feelings associated with their well-being in relation to happiness, stress, worry, and hope before the pandemic struck to their reported feelings almost a year into the pandemic. When comparing these two very different moments for elementary and secondary school students, the full impact of the pandemic emerges. Student happiness for secondary students has declined 35 percentage points. Worry and stress have increased by huge margins and hope has fallen at a similar rate as happiness. Comments such as the following were common:

*"Absolutely hate it. Have never felt this demotivated, and really miss seeing my friends each day, even when we had a bit of in person time a couple months ago. I've never done this badly at school, and never cared this little about how bad I'm doing. School doesn't feel like school, it just all feels like homework, which I absolutely hate."*

- Participating student

When school opens in person to everyone this September, bringing students back into a positive learning experience may be paramount for frustrated students. Areas like belonging, relationships, and general joy for learning might allow opportunities for students expressing this level of frustration to re-engage.

## Mental Health

### Elementary Students Who Responded “All the Time/Often”

	2017 Census	Demographic Breakdown		
		Low SES	Middle SES	High SES
Happy	77%	52%	50%	54%
Hopeful for the future	72%	49%	45%	46%
Bored	N/A	59%	57%	57%
Stressed	30%	40%	42%	44%
Nervous or Worried	30%	32%	34%	36%
Lonely	15%	25%	26%	26%

*Note: 2017 Elementary includes Grades 7 and 8, 2021 Elementary includes Grades 6 to 8*

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In looking at elementary school students (Grades 6-8) on items that self report on areas such as happiness, stress, interest, and hope, there is not a significant difference in the proportions for students coming from low, middle, or high SES backgrounds during the pandemic. However, straight across all groups these proportions have changed vastly when compared to all TDSB students before the pandemic. There has been a very large percentage point decrease in reported happiness and a similarly large percentage point increase in areas like stress, anxiety, and loneliness.

## Mental Health

### Secondary Students Who Responded “All the Time/Often”

	2017 Census	Demographic Breakdown		
		Low SES	Middle SES	High SES
Happy	66%	33%	32%	31%
Hopeful for the future	58%	36%	31%	28%
Bored	N/A	67%	65%	67%
Stressed	49%	64%	67%	71%
Nervous or Worried	41%	52%	57%	62%
Lonely	22%	39%	43%	47%

## Home Learning Environment

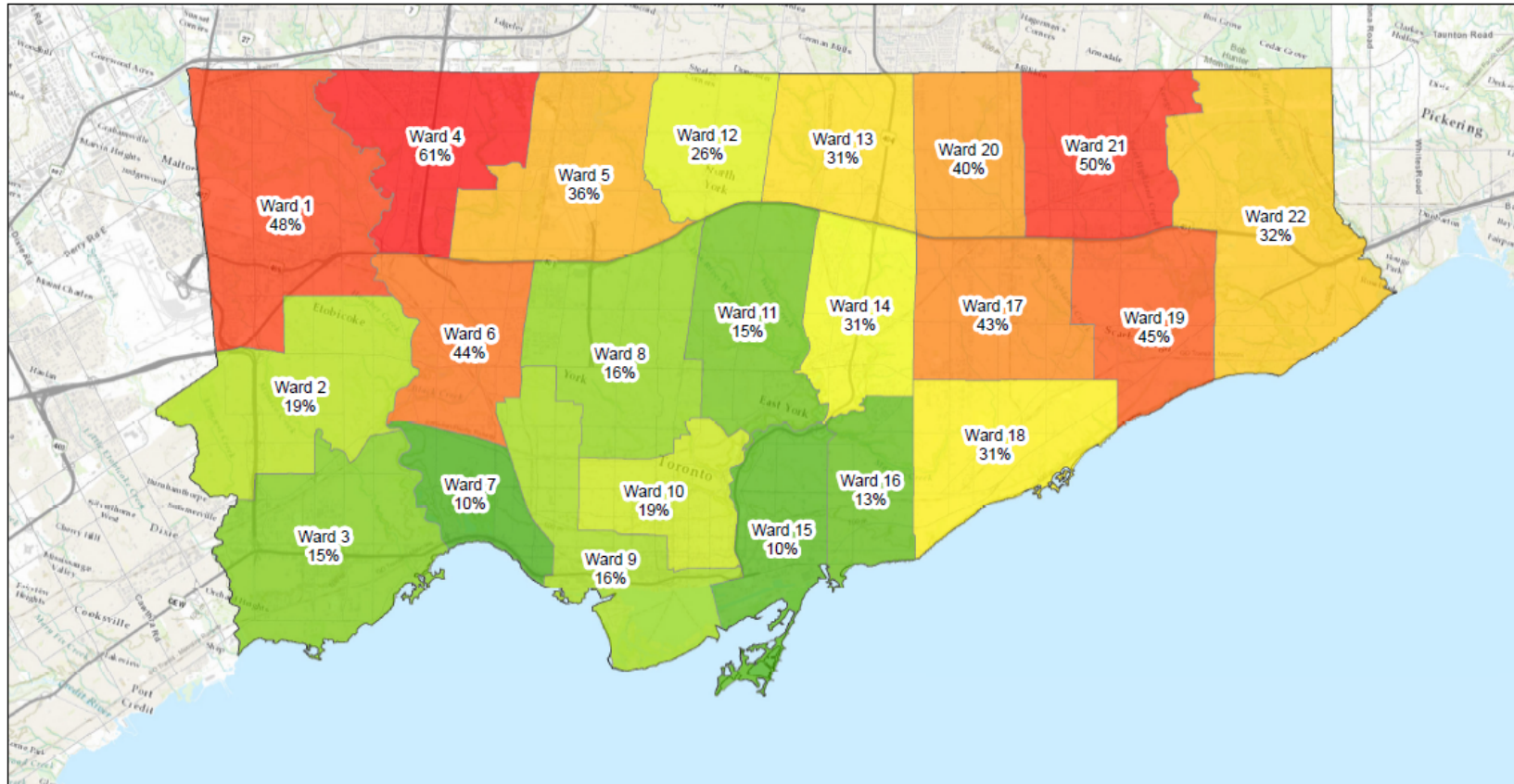
### Challenges with Completing Schoolwork at Home

		Low SES	Middle SES	High SES
I have to help with household chores and responsibilities	Elementary	30%	27%	22%
	Secondary	40%	39%	34%
I need to care for other family members	Elementary	14%	12%	8%
	Secondary	19%	18%	12%
I don't have a quiet work space at home	Elementary	17%	15%	11%
	Secondary	21%	20%	16%
I get distracted with social media and/or television	Elementary	30%	32%	34%
	Secondary	39%	45%	52%
I don't feel motivated	Elementary	34%	39%	42%
	Secondary	52%	59%	65%

In reporting challenges for completing work during the pandemic, students from the low SES background are significantly more likely to report that domestic responsibilities and finding space to do school work were inhibiting their ability to complete work while students from high SES backgrounds were more likely to discuss distractions coming from social media and feelings of lack of motivation as inhibiting their ability to complete school work.

## Home Learning Environment

### Parents/Guardians Who Worry About Food Insecurity “Often or Sometimes” by Ward



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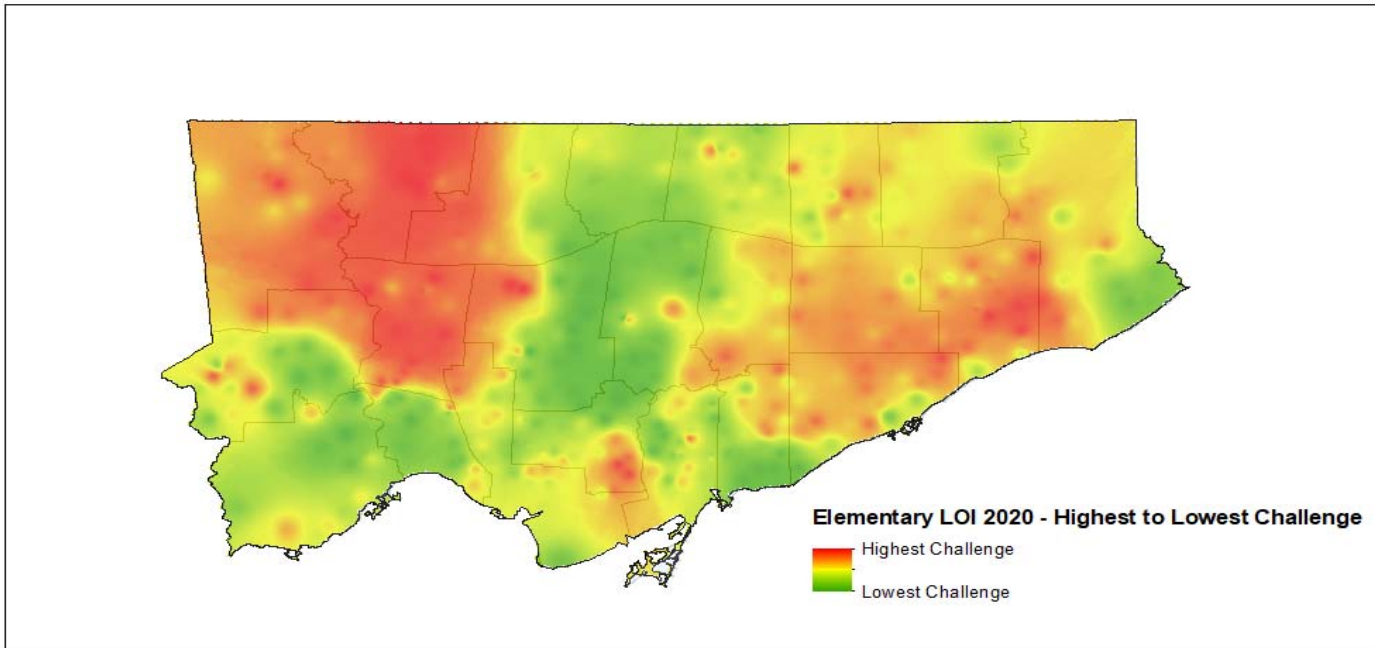
High proportions of food scarcity (above 40% - orange/red shades) of parents who participated in the survey were reported in a number of wards across the city. These areas align with postal code areas of students who come from low SES backgrounds as detailed in the subsequent slide.



# Home Learning Environment



## Learning Opportunities Index, 2020



0 5 10 Km

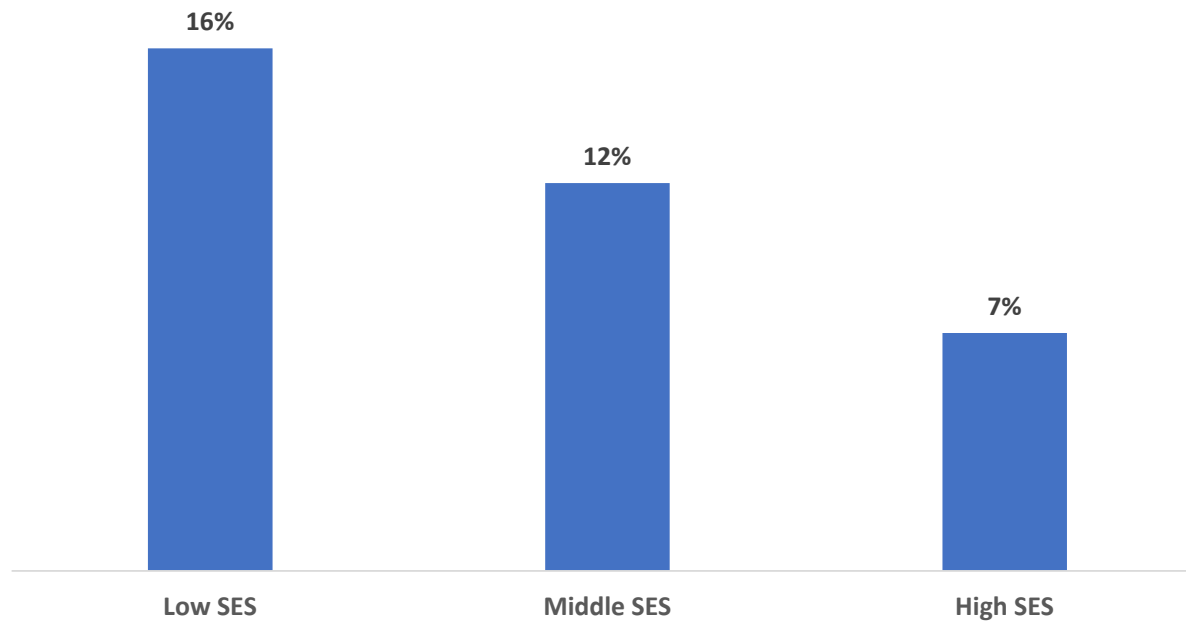
Projection: NAD 1983 UTM Zone 17N  
Date: February 2020

Produced by: Research and Development  
Sources: TDSB; ESRI; DMTI

See comments in the previous slide.

## Home Learning Environment

### Students Who Have to Share Devices at Home



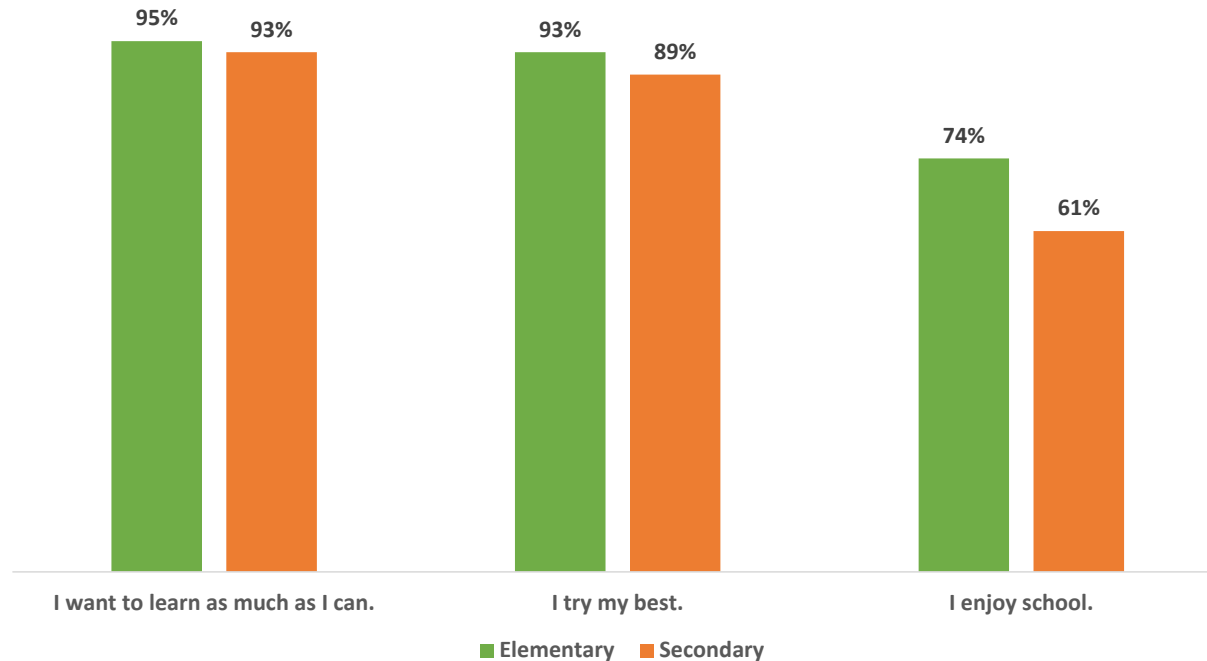
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In line with comments on finding space to work in the earlier slides, students from low SES backgrounds were twice as likely to report having to share a computer device in their virtual school experience than students from high SES backgrounds.

## Student Engagement

### Students' Feelings on School Experience and Effort



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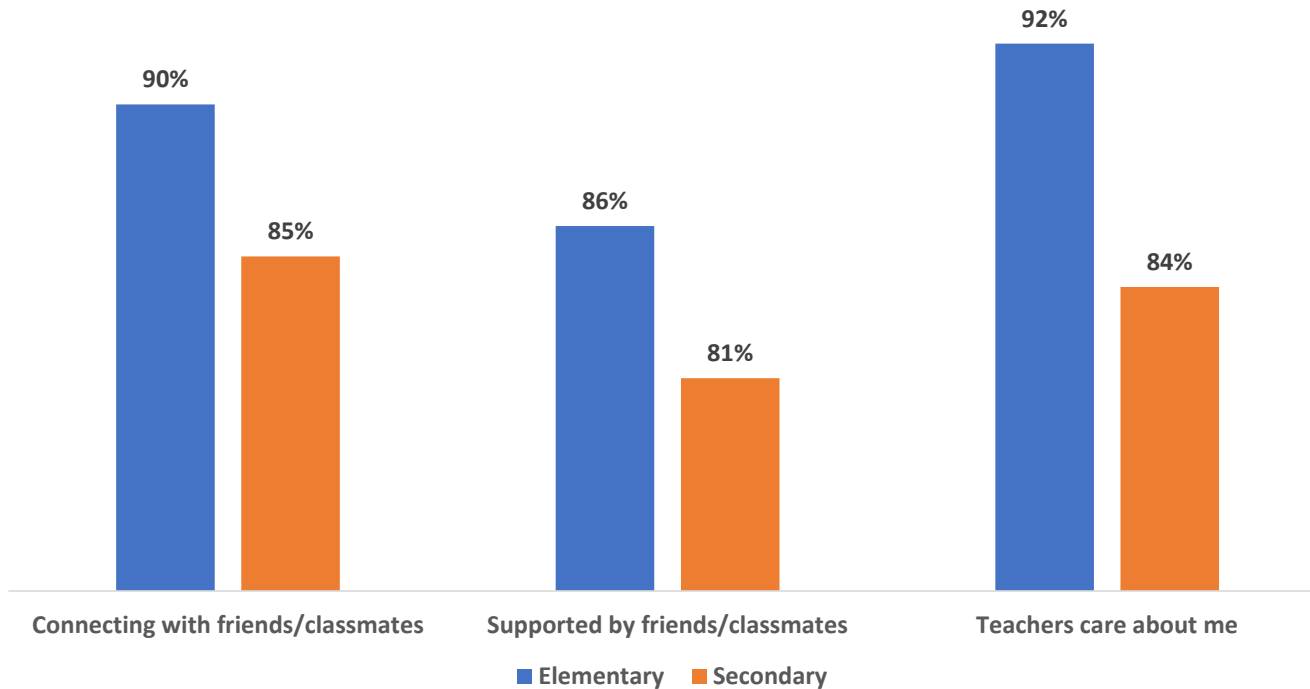
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Despite the challenges and disruptions across the year, almost all students reported an interest in learning and trying as best as they could. Importantly, a majority of participating students also reported enjoying school *all the time or often*. This is counter to a consistently told public narrative that reports concerns of students not participating in school, dropping out, or quitting.<sup>1</sup> While all these are always a concern in education and certainly a critical concern in such a disrupted and difficult situation, the chart represents a counter narrative of students trying and sticking with their schooling experience. It suggests a road to recovery is very possible given consistent education service in the future.

<sup>1</sup> Subramanian, S. (2021, June 4). The lost year in education. *Maclean's*. <https://www.macleans.ca/longforms/covid-19-pandemic-disrupted-schooling-impact/>

## Peer and Teacher Relationships

### Making Connections



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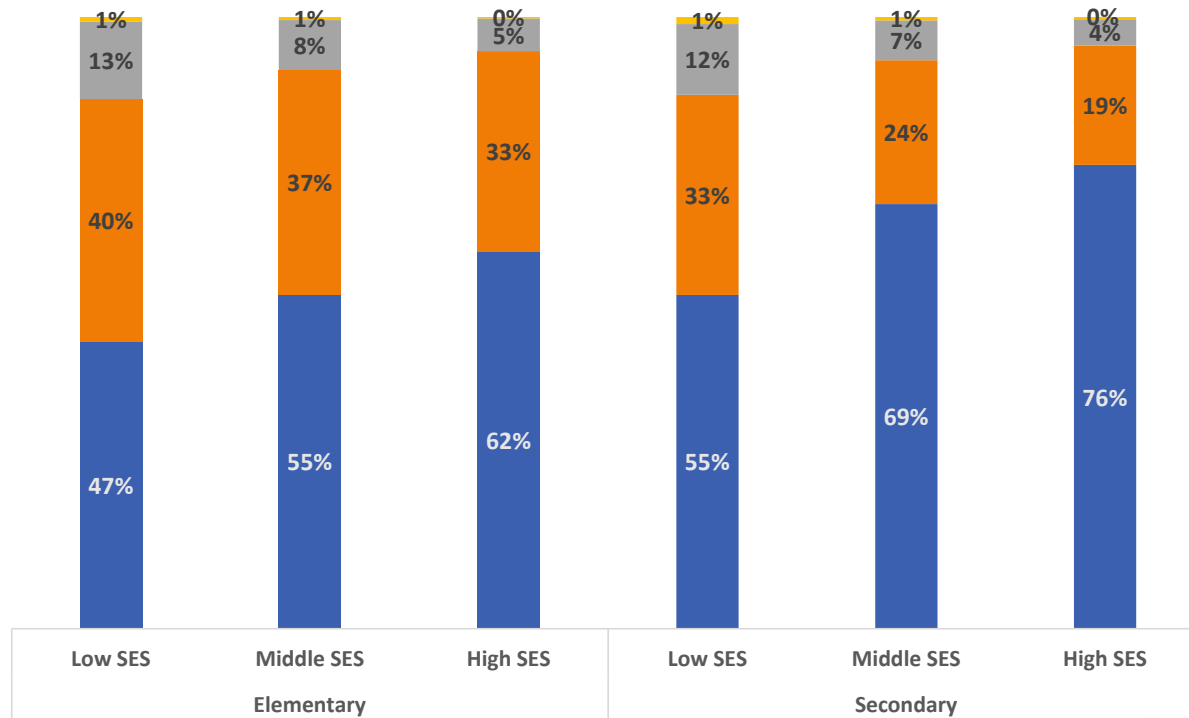
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High proportions of participating students report connecting with friends, supported by friends, and that teachers care about them. The degrees to which this occurred in an environment in which face-to-face experiences were very rare is a tribute to the digital age and a signal that digital learning has become a significant part of the new landscape in public education.

## Student Engagement

### Students' Ability to Complete Assignments

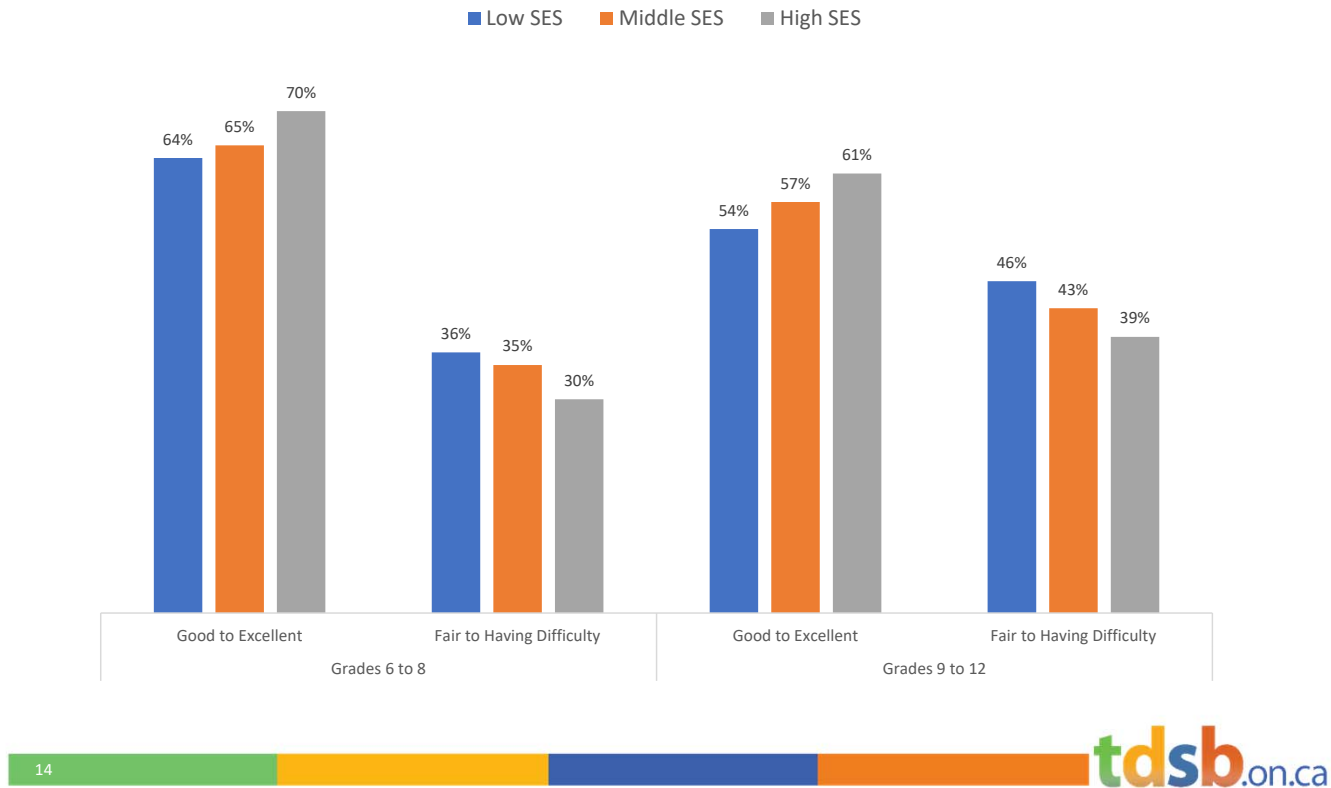
- All of my assignments
- Most of my assignments (more than half)
- Some of my assignments (less than half)
- None of my assignments



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## Student Engagement

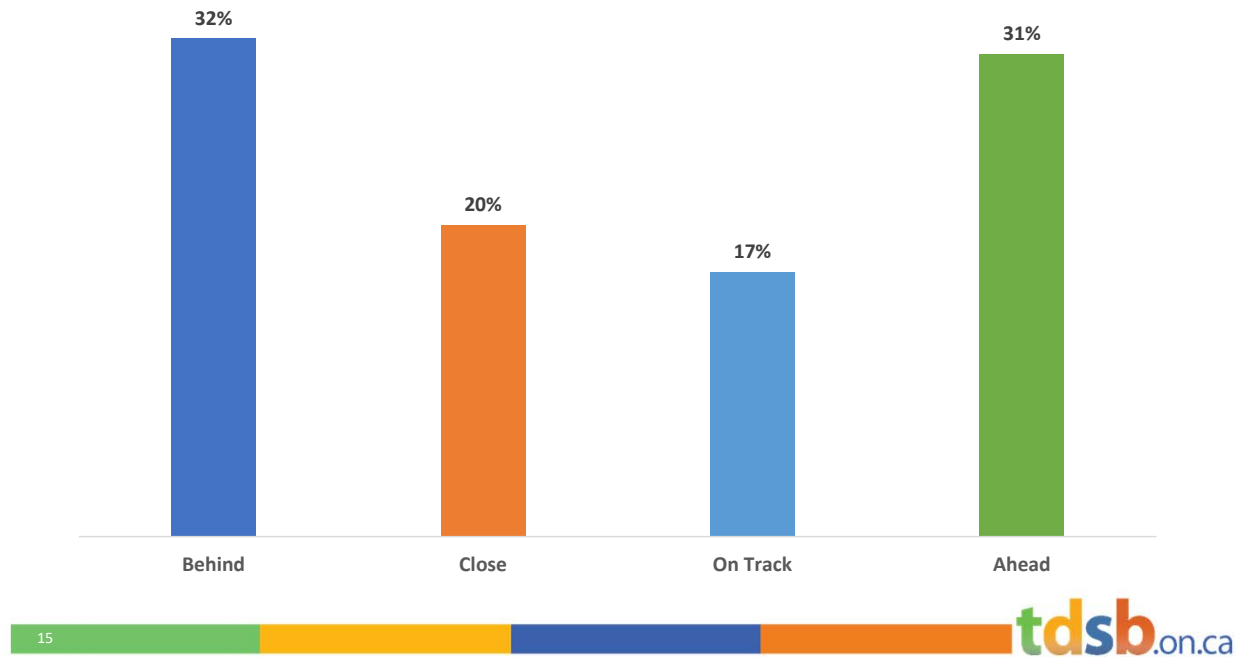
### Students Report on Their Learning Progress



Students from high SES backgrounds are significantly more likely than students from low SES backgrounds (61% compared to 54% in Grades 9-12) to report their progress in learning ranging from good to excellent and less likely to report their progress as fair to having difficulty (39% compared to 46%). However, the majority of students, regardless of SES backgrounds, are reporting their progress as being in a range of good to excellent. As well, higher proportions of students from low SES backgrounds (54%) reported their progress ranging from good to excellent than reported their progress as fair to having difficulty (46%). As mentioned earlier, while the disruptions to education during the pandemic have been very profound, this data shows that students are expressing resilience across the system. These data are a good sign in relation to students being able to successfully rebound from these disruptions to their learning.

## Learning Outcomes

### Grade 1 Students on Track to Meet Grade Level Reading Expectations by June

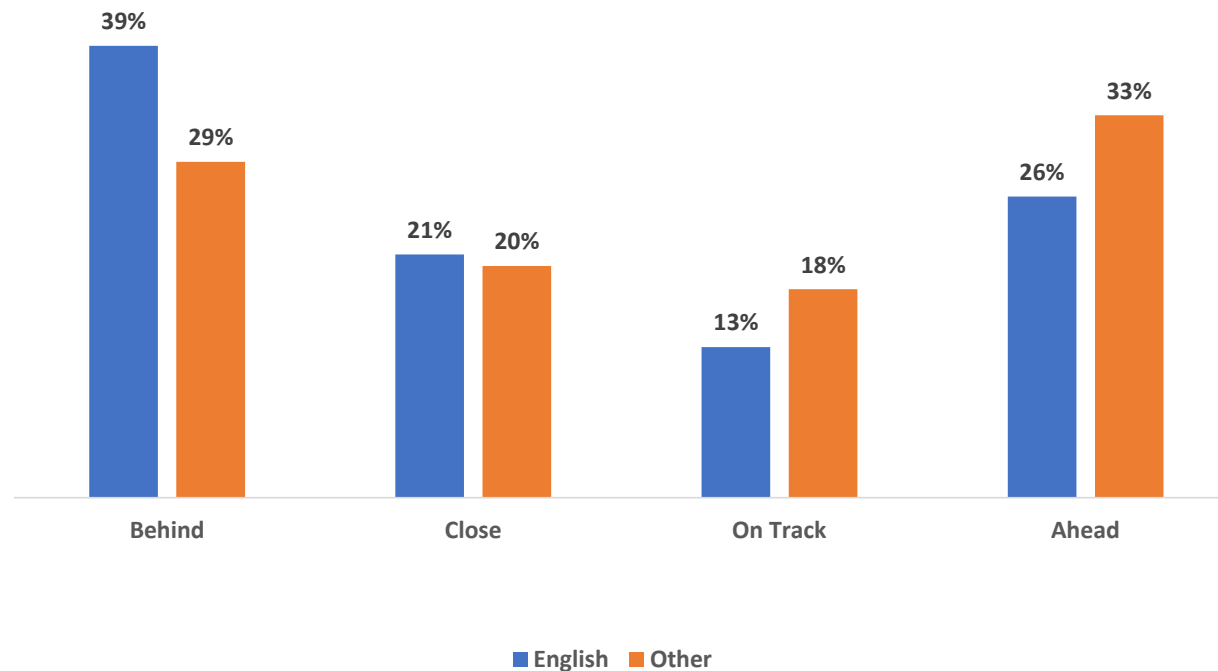


In reviewing student outcome data throughout the pandemic, early literacy has emerged as a concern. The following charts highlight a January 2021 reading assessment given to approximately 30% of Grade 1 students (N=4,491). The data show that almost one-third of the students in the sample are behind meeting their Grade 1 reading level expectations by June of this year. The critical nature of literacy in establishing a foundation for schooling success is well established across a myriad of research<sup>1</sup>. Early literacy supports subsequent successful moments for students in a cascading effect from early elementary right through to secondary school and beyond. While the relationship between early literacy and secondary school success is difficult to establish given the distance between these moments for students, the data does support closer indicators in time. For example, early literacy behaviours in Kindergarten are associated with success in provincial assessments in middle elementary years, and success in middle elementary years is associated with success in intermediate years of schooling, etc. Attending to this area with increased focus could support positive effects across future years of schooling for these Grade 1 students. Equally, success in this January assessment seems also to be associated with SES circumstances as detailed in slide 18.

<sup>1</sup> Mar, Raymond & Djikic, Maja & Oatley, Keith. (2008). Effects of Reading on Knowledge, Social Abilities, and Selfhood Theory and Empirical Studies. 10.1075/la1.5.12mar.

## Learning Outcomes

### Grade 1 Students on Track to Meet Grade Level Reading Expectations by Language Spoken at Home



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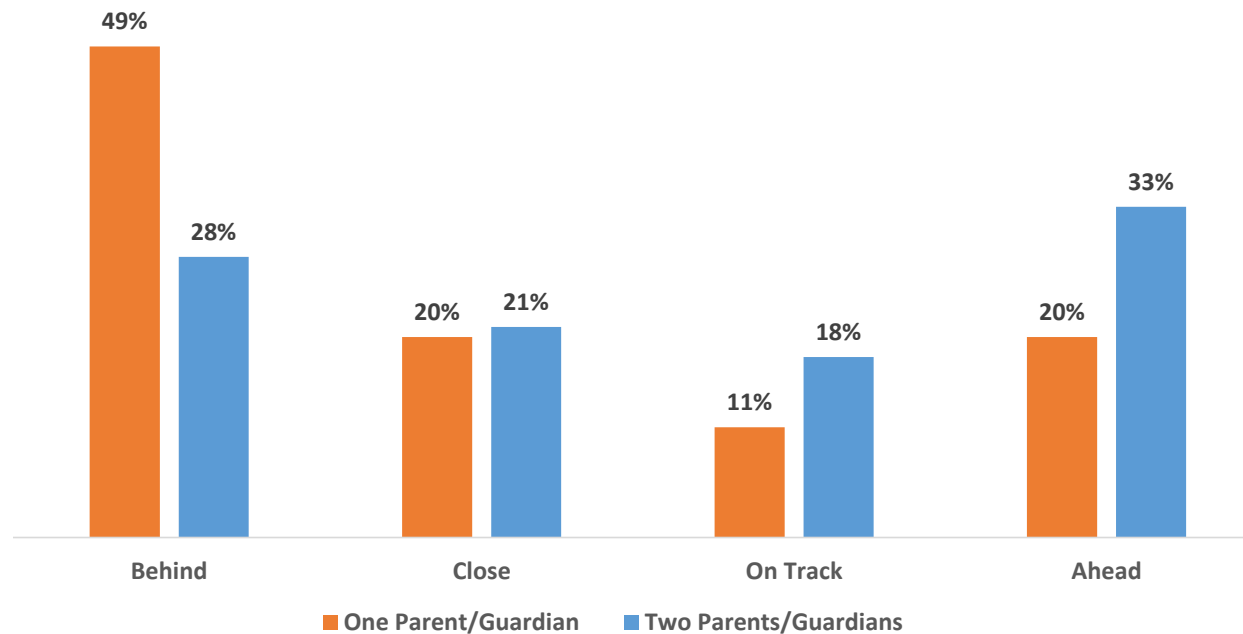
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Data in this chart show higher proportions of students on track to reaching grade level expectations in reading by the end of Grade 1 who also speak a language other than English at home compared to those that speak English at home. It is not clear, however, whether the variable 'language spoken at home' is the significant variable in explaining these differences, as such factors as family income, parent education, and single parenting have stronger associations with achievement in general.



## Learning Outcomes

### Grade 1 Students on Track to Meet Grade Level Reading Expectations by Parent or Guardian Presence



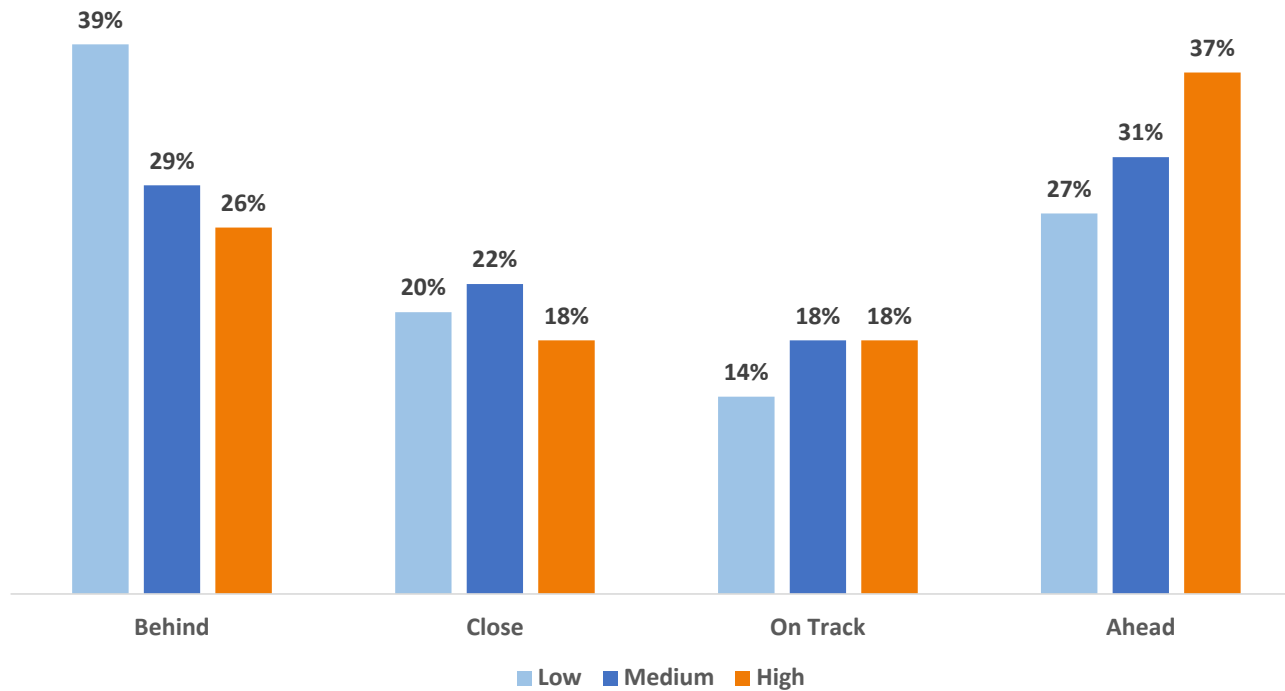
17

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There is a 21 percentage point difference in students with two parents/guardians present being behind grade level expectations, compared to those with one parent/guardian present. While caution needs to be applied to relative value of parental circumstances, including potential deficit based narratives that are often generated around issues of co-parenting and single parenting, the degrees to which students can access support for reading via an adult at home seems significantly increased within two parent/guardian families.

## Learning Outcomes

### Grade 1 Students on Track to Meet Grade Level Reading Expectations by Estimated Income



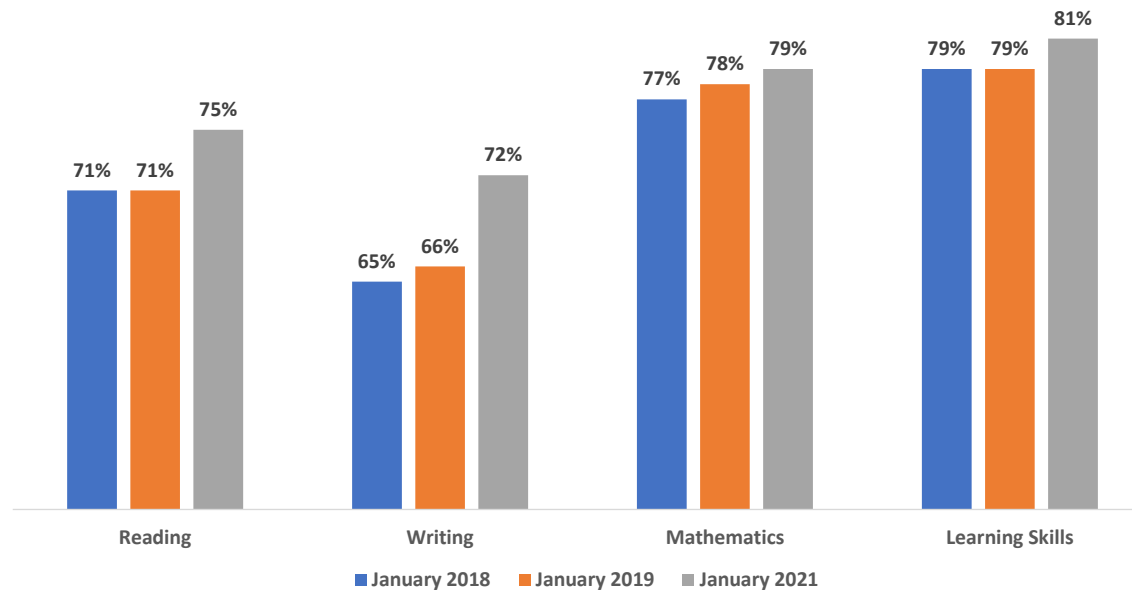
18

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Higher levels of income in families also appears to have a positive impact on a student's learning environment in considering grade level reading expectations. There is a 13 percentage point difference between students from low income family backgrounds who are behind in their reading expectations compared to those that come from high income family backgrounds. In addition, there is a 10 percentage point difference for students from high income family backgrounds ahead of grade level expectations compared to those from low income family backgrounds.

## Learning Outcomes

### Students in Grades 1 to 8 Achieving Level 3/4: Reading, Writing, Mathematics, Learning Skills

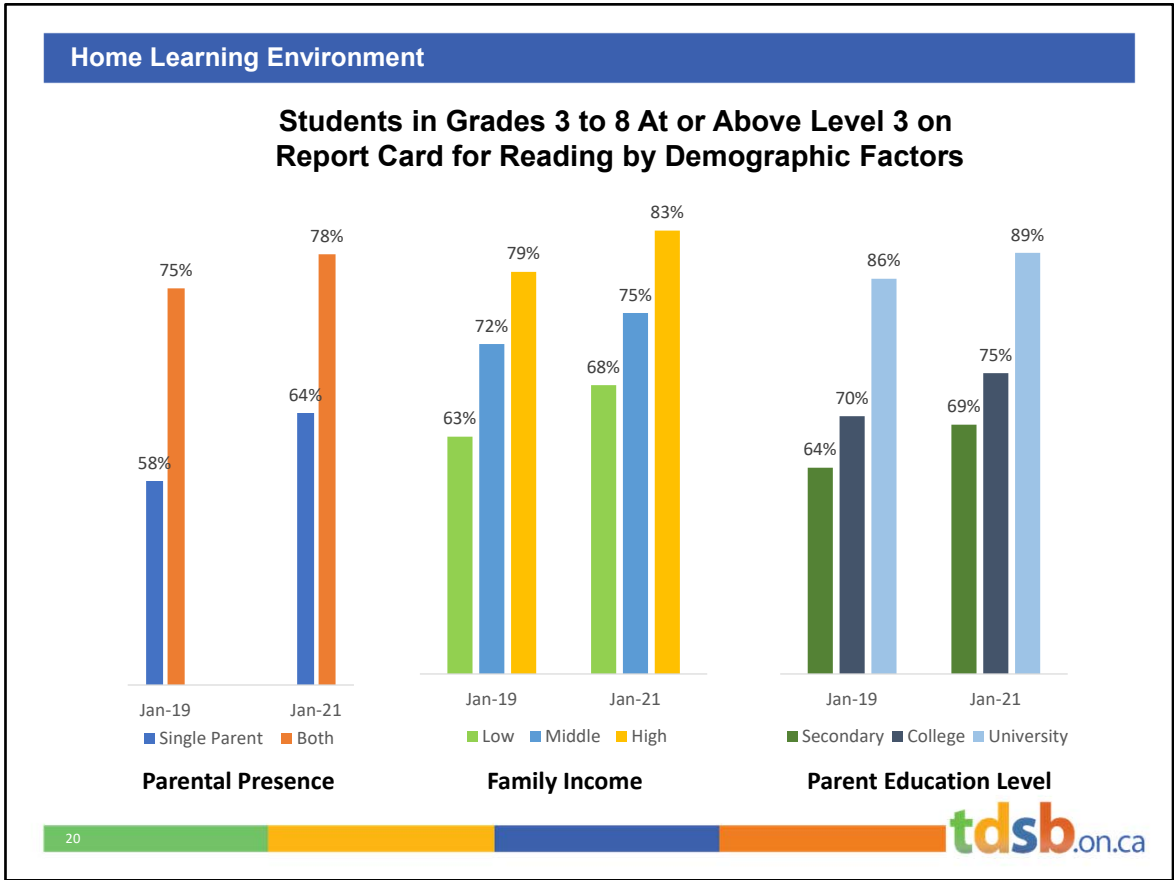


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Similar to Grade 1 Reading marks reported in March (see <https://www.tdsb.on.ca/Portals/research/docs/School%20During%20the%20Pandemic/PreliminaryFindingsImpactLearningPandemic.pdf>), significantly higher proportions of students are at or above Level 3 for all subject areas including Learning Skills across Grades 1-8 when compared to the same report card period before the pandemic in both 2018 and 2019. While Learning Skills shows the highest percentage (81%) of students getting an average of 'Excellent', for academic subjects, Mathematics shows the highest percentage of students at or above the provincial standard (79%) while Writing shows the fastest growth rate with a 6-percentage point increase as well as the lowest proportion (72%) of students achieving at or above Level 3.

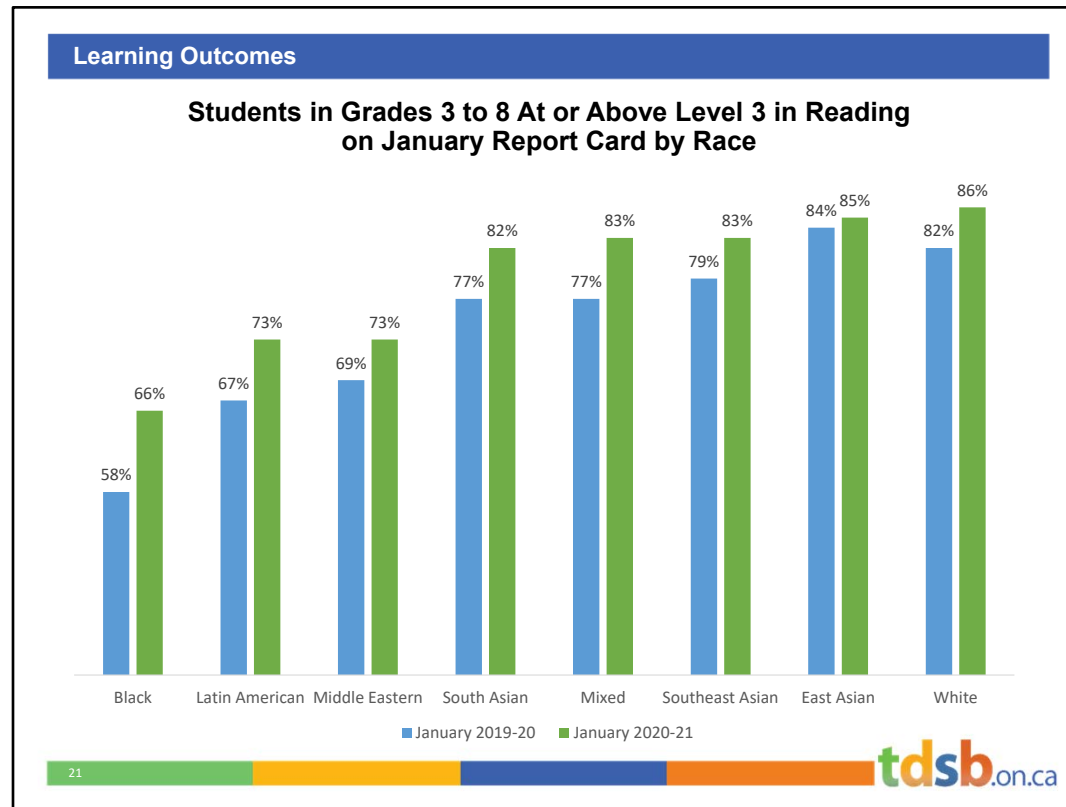
That said, caution should be used in inferring any discernible differences or similarities between these percentages as they relate to pre-pandemic learning and pandemic learning. While the percentages reflect increases across this time period, the relationship between the assessment itself and the content learned has shifted significantly as students have moved from in-person to virtual to in-person and back to virtual learning. Comparability between these periods using assessments levels is uncertain as pedagogy has also shifted significantly throughout this process.



*“I love the virtual school. teachers are nicer and way more supportive than my in-person school. They actually gave fair marks, unlike my day school teachers that just marks you randomly without even knowing how you progress and how comfortable you are with the subject. Also, my peers are way more friendly than in-person school, I actually can focus more online rather than in-person school, mostly because in my school there are a lot of bullying going on and my surrounding just kept on distracting me from learning and focusing. I hated it and I extremely DISLIKE my school, which is why I hope the virtual school can last longer.” - TDSB Student*

Both the figure above and the figure on the next slide describe students at or above Level 3 in Reading as a proxy for achievement across subject areas. When looking at students from different demographic experiences, the students who have historically struggled in demonstrating a level of learning success that aligns with their potential, have improved at significantly faster rates than students from higher SES backgrounds who have historically experienced relatively more success in the TDSB. As an example, when comparing students from pre to mid-pandemic report cards, Black students are improving at twice the rate of White students and eight times the rate of East Asian students.

While an argument can be made that at 66% of Black students achieving at or above Level 3 in Reading (up from 58%) there is far more room to grow compared to, as an example, 85% of East Asian students reaching at or above Level 3, there are other possibilities in explaining these improvements. Class sizes were more likely to be smaller for Black students going to schools in-person, given their over representation in schools that had much higher amounts of students choosing to go to virtual schools this past year (e.g., 46% of all students from schools in the Model Schools for Inner Cities program registered for virtual learning).



Note continued from previous slide...

Throughout the 2020-21 school year, a youth action research project, sponsored by a partnership between Dr. Carl James, Jean Augustine Chair in Education, Community, and Diaspora, and the Centre of Excellence for Black Student Success was established. In this program, educators and researchers partnered with Black secondary students in using applied research tools in order to study their and their peers' experiences in secondary schools as a means to provide recommendations for policy and practice to enhance Black student engagement. One study described the energy Black students often must exert in dealing with micro-aggression and other forms of racism by both other students and educators in day-to-day school experiences. The digital learning environment that characterized much of schooling during the pandemic and the separation of the social setting of schools may have provided different opportunities for Black students to succeed.

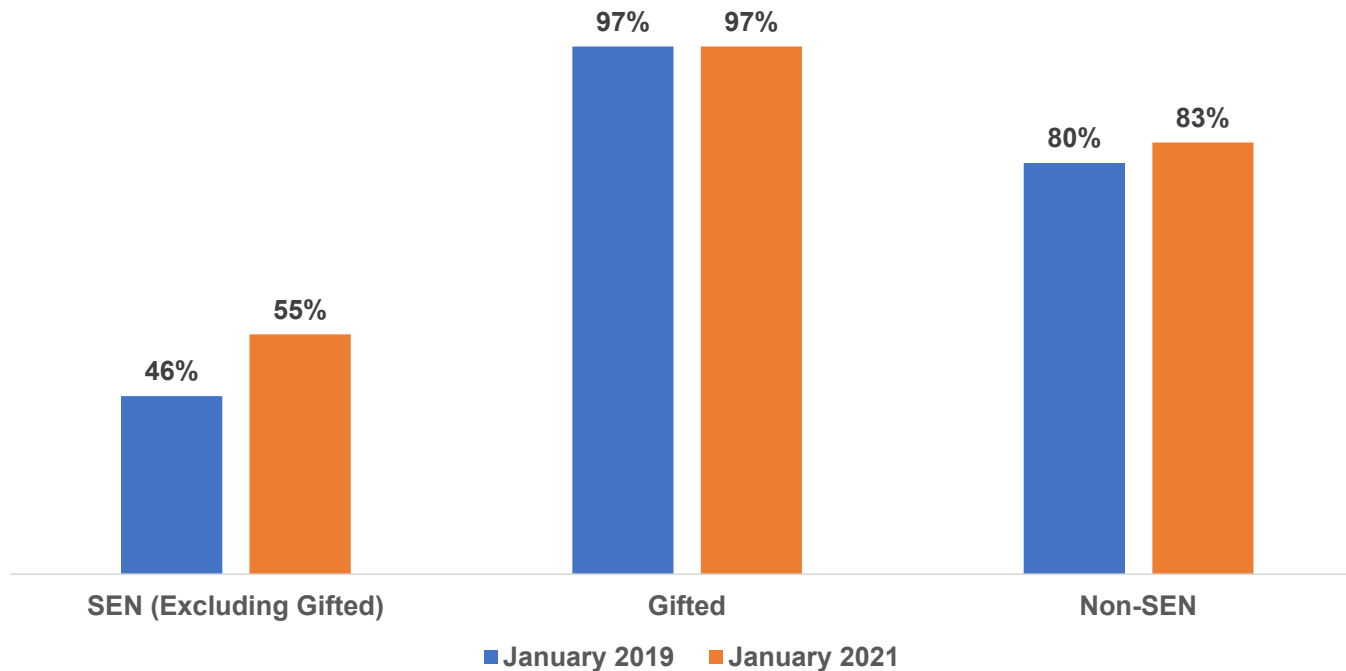
In support of these possibilities, there have been growing responses across the U.S. of a similar phenomena in which Black families have opted out of in-person learning for their children for a variety of potential reasons including, amongst others:

- having more influence of the immediate learning experience through the transparency of the digital medium between teacher; and
- learning in the homes digitally insulates students from the instance social spaces through which micro-aggressive and macro-aggressive racist behaviours occur in schools (e.g., racial profiling among other things).

Regardless, the improvement rates across the different populations of students that have struggled to be successful historically in the TDSB, is an area that needs careful consideration in order to reinforce any positive conditions that may have occurred during this time through partnerships, collaboration, relationship building, and understanding of prior knowledge and experience of students coming back to school in-person.

## Learning Outcomes

### Students in Grades 1 to 8 At or Above Level 3 in Reading on January Report Card Receiving Special Education Support



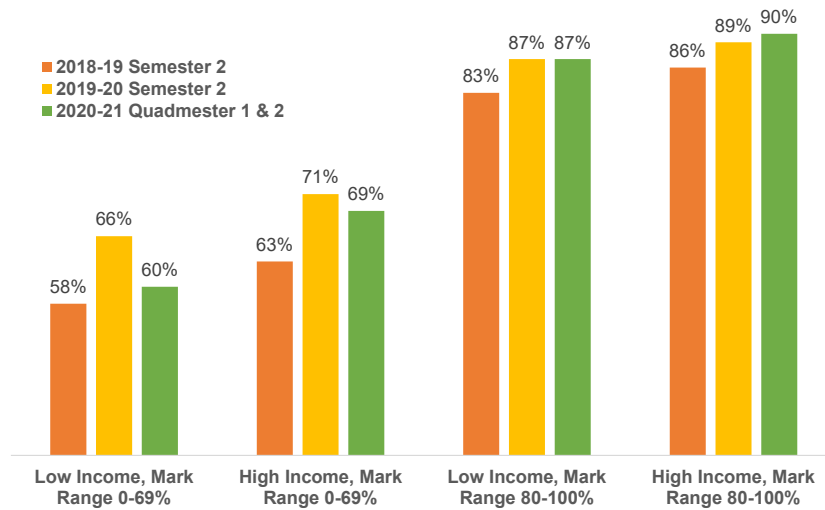
22

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Similar to the previous slides, there has been significant increases in the proportions of students with special education needs who have reached Level 3 or above in Reading when comparing students with special education needs before the pandemic across Grades 1 through 8 to those during the pandemic.

## Learning Outcomes

### Course Marks for Cohort of Students by Average in 2018-19 Semester 1 Before and During the Pandemic for Different Achievement Ranges by SES



23

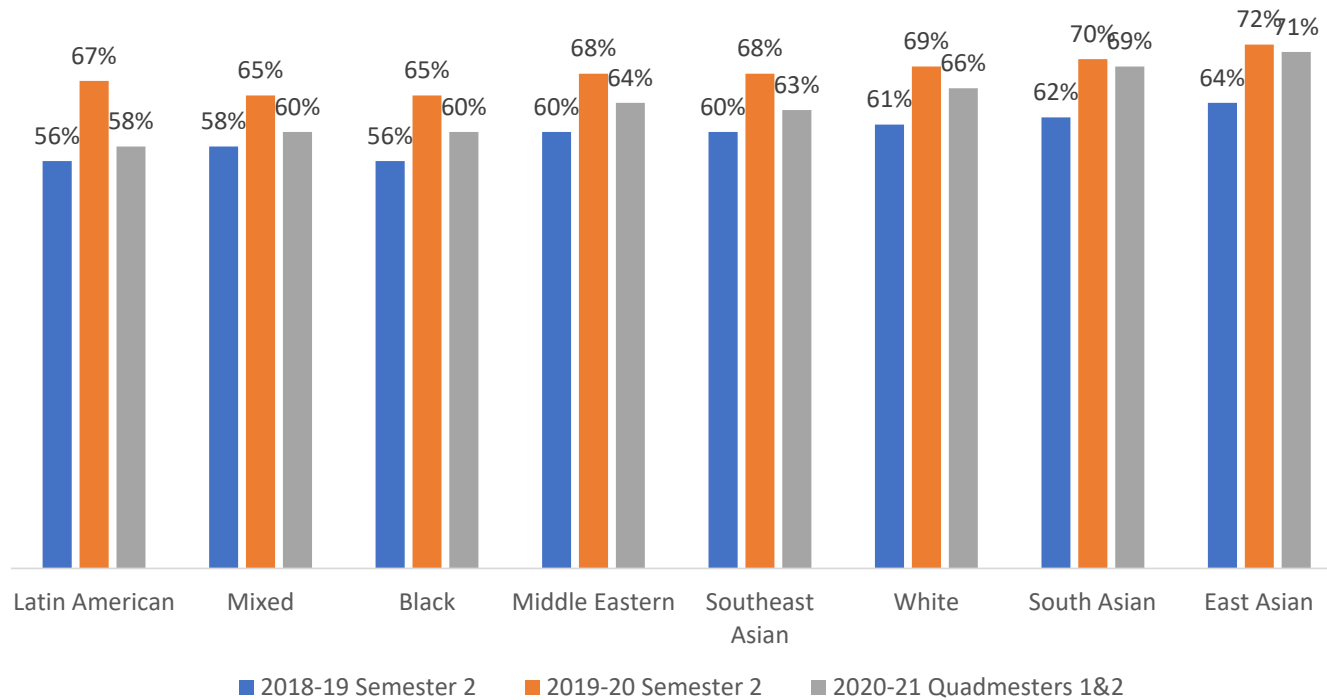
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This analysis has detailed very interesting system level data that often seem to contradict or confuse some firmly held beliefs in relation to the connections between achievement and socio-economic circumstances of students. Students who have experienced less success in school historically are improving at faster rates than students who have experienced more success. Near extreme levels of reported unhappiness and loneliness, and loss of hope from students is coupled with their reported continued persistence in their learning experience that is also coupled with system wide levels of improvement in almost all outcome measures available to evaluate. That said, this chart provides a system wide view of school outcome or achievement having a potentially more powerful predictor of success than demographic circumstances and varied life experiences. The chart shows relative growth during the pandemic as it pertains to two different student populations divided by their average credit course achievement before the pandemic began. In comparing high achievers (80-100% course average) pre-pandemic with middle or lower achievers (0-69% course average), achievement matters more in predicting future achievement than any socio-economic factors associated with these students.

At the outset of the pandemic, achievement rose across the system (the yellow bar in the chart) due to the suddenness of the onset of COVID-19 in March of 2020 and the commitment system wide that this disruption would not harm students' ability to be successful. This changed subtly at the beginning of the following year as the program of learning in schools shifted, sometimes significantly, to deal with the new normal of operating in a pandemic. The comparison between the Semester 2 averages in both 2018-19 and 2019-20 to the average of the first two quadmesters (green bar in chart) in 2020-21 examines whether the system wide rise at the outset was maintained the following year. This data shows that the results are maintained for high achievers regardless of demographic factors and as the subsequent slides show, race. However, for middle achievers and low achievers in relation to course averages, the rise experienced at the outset of the pandemic is not maintained. The chart shows the importance of experiencing success in school as a predictor for future success as well as successful resilience in facing challenges. Together, the charts suggest the importance in focusing on thoroughly understanding prior knowledge and experience of students, re-building successful relationships, leveraging digital opportunities that the pandemic forged, and expanding capacity to use good formative assessment capacity in weaving existing learning with new learning experience.

## Learning Outcomes

### Course Mark Performance for Cohort of Students by Average in 2018-19 Semester 1 Before and During the Pandemic for 0-69% Ranges by Ethno-Racial Background



24

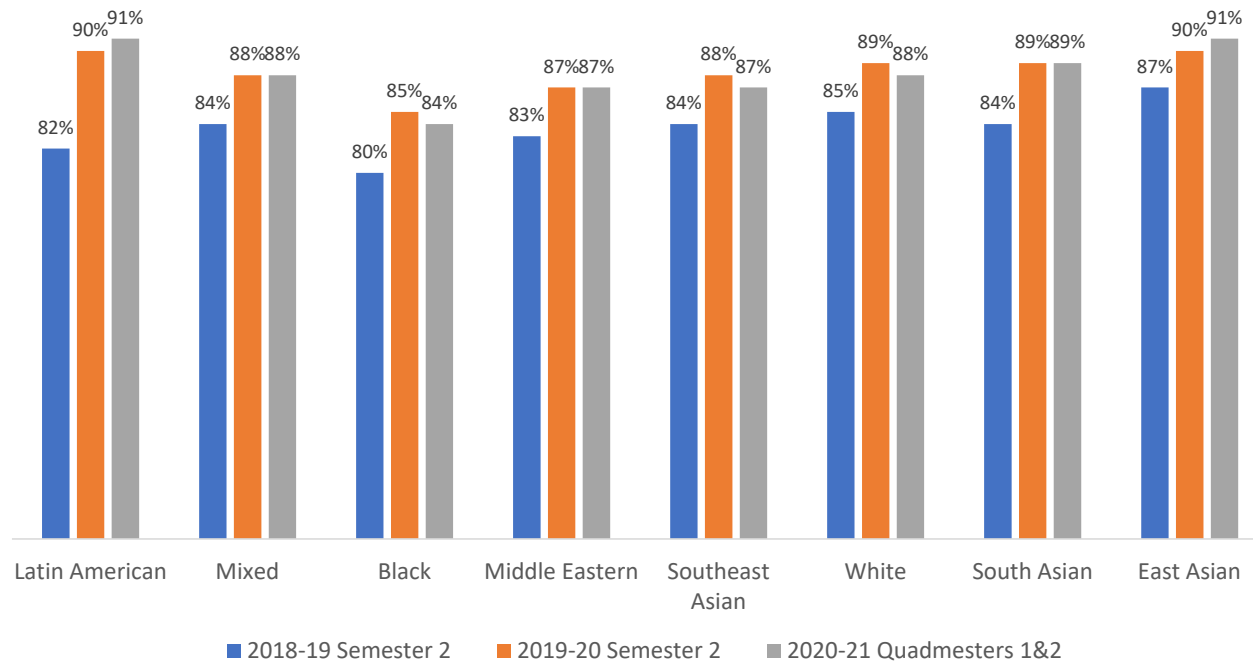
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Students achieving between 0-69% struggled to maintain the rise in marks initially experienced in 2019-20 Semester 2 during Quadesters 1 and 2 in 2020-21. For example, in 2019-20 Semester 2, students that identify as Latin American had a 67% course average, but in 2020-21 Quadesters 1 and 2, this average dropped by almost 10 percentage points to 58%.



## Learning Outcomes

### Course Mark Performance for Cohort of Students by Average in 2018-19 Semester 1 Before and During the Pandemic for 80-100% Ranges by Ethno-Racial Background



25

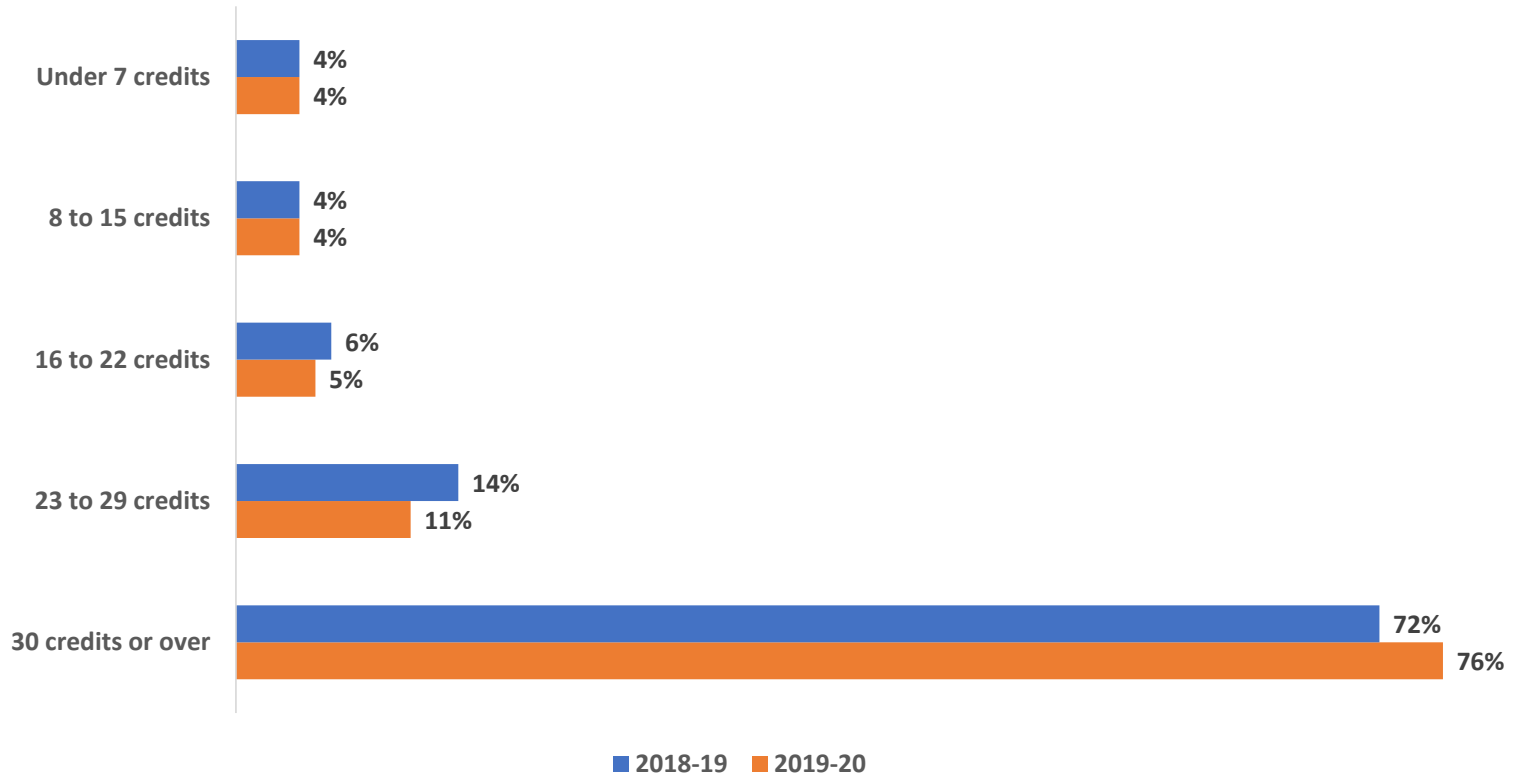
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As per the discussion that precedes, the charts above show a similar dynamic of the value of high achievement in maintaining learning success in schools. Where students achieving between 80-100% before the pandemic were able to maintain the rise in course average, students achieving between 0-69% struggled to maintain the rise initially experienced.

Work in Pathways starting at late elementary to start focusing on student success in late elementary seems critical.

## Learning Outcomes

### Distribution of Accumulated Credits by Students in Year 4



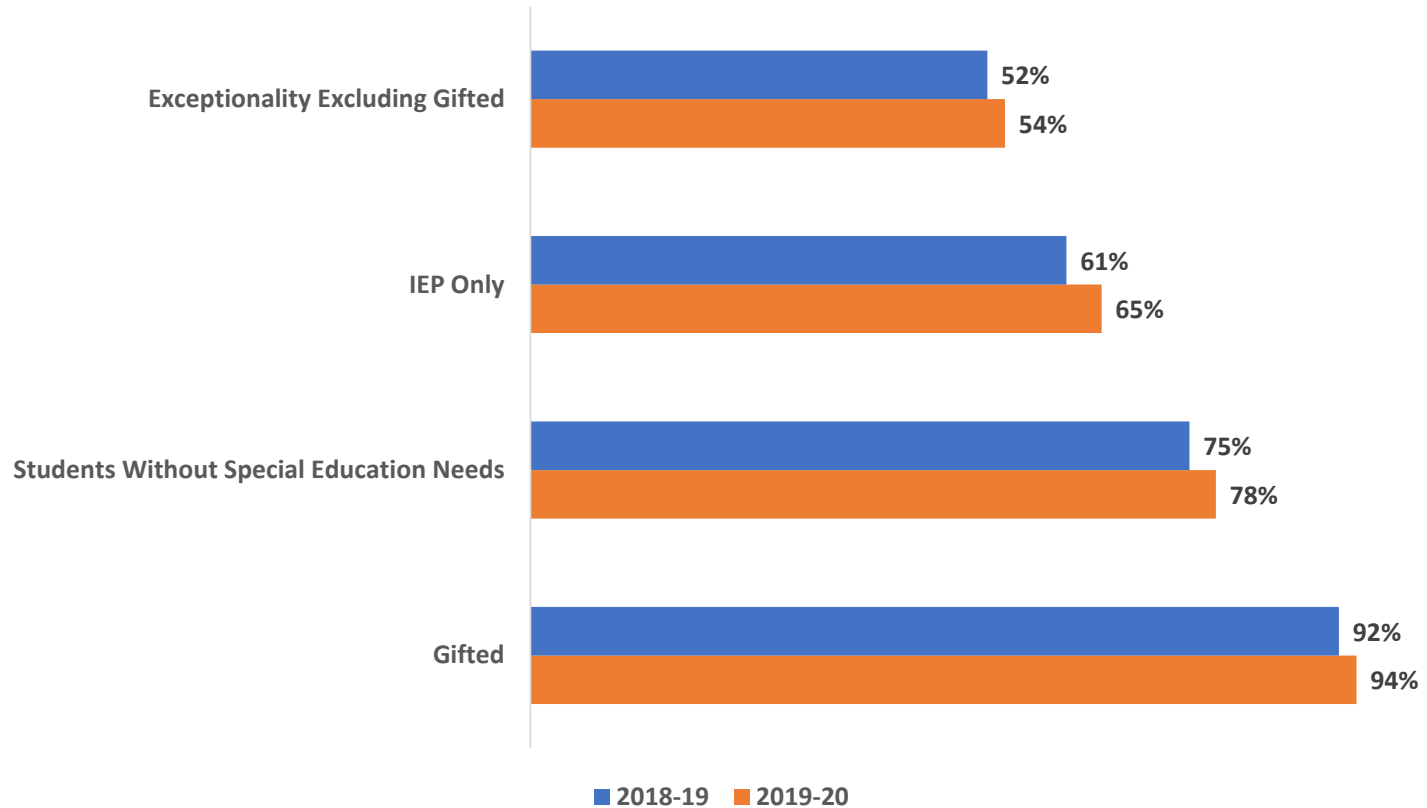
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In line with student outcomes across the TDSB, Graduation rates have also increased proportionally by about 3 to 4%.

## Learning Outcomes

### Anticipated Four-Year Graduation Rate by Special Education Needs



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Grade 12 students with and without special education needs increased their credit accumulation. Students with a Gifted exceptionality - who already have *very high* credit accumulation- and those with other exceptionalities - who have *lower* credit accumulation - had the smallest increases.



## Summary

- Students report increased high levels of loneliness, worry, and stress and increased low levels of happiness and hopefulness as the pandemic progressed.
- However, students report valuing school and trying their best at extremely high levels (about 90% and above).
- Students in early elementary are tracking behind in reading compared to students prior to the pandemic. This is especially the case with students from low SES backgrounds.
- Racialized students, despite the significant challenges that they and their families have faced during the pandemic, are improving at a higher rate than students who have had more success in relation to learning outcomes in the TDSB.
- High performing secondary school students have maintained high levels of performance throughout the pandemic regardless of life circumstances. This is not the case for students who are middle or low performing, these students have declined steadily in their course averages as the pandemic continued.

