Evaluation of changes to the Student Interest Programs Policy

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Summary

- In May 2022, the TDSB changed long-standing admission procedures to high school specialized programs. The most important change was to replace merit-based admissions with a lottery.
- The difference between admission rates of different TDSB racial groups is mostly due to the difference in application rates. There are significant differences of interest towards specialized programs across TDSB demographics. To the degree that such differences are evidence of policy failure, the failures happened at the elementary or middle-school level, i.e., before high school. The new policy hides these failures without addressing them.
- The new policy has explicit racial and geographic biases.
- The random selection algorithm is flawed: it generates significant inefficiencies and it is open to manipulation. Both of these problems can be addressed with simple tweaks to the algorithm.
- The new policy has direct costs: it leads to a mismatch between student abilities and programs, hurting high-achieving students without helping others.
- The new policy is not driven by a coherent vision of specialized programs.
- **Proposed solutions:**
    - Restore merit-based admissions.
    - Expand specialized programs (especially more popular ones like MaCS or TOPS) either by increasing the number of seats in existing programs or replicating existing programs in other locations.
    - If a lottery continues to play a role in admissions, make the following changes:
        - Use a single random lottery, instead of independent lotteries across programs.
        - Allow for a large number (10 or more) of ranked choices in the application.
    - Combine admissions to specialized programs with optional attendance.

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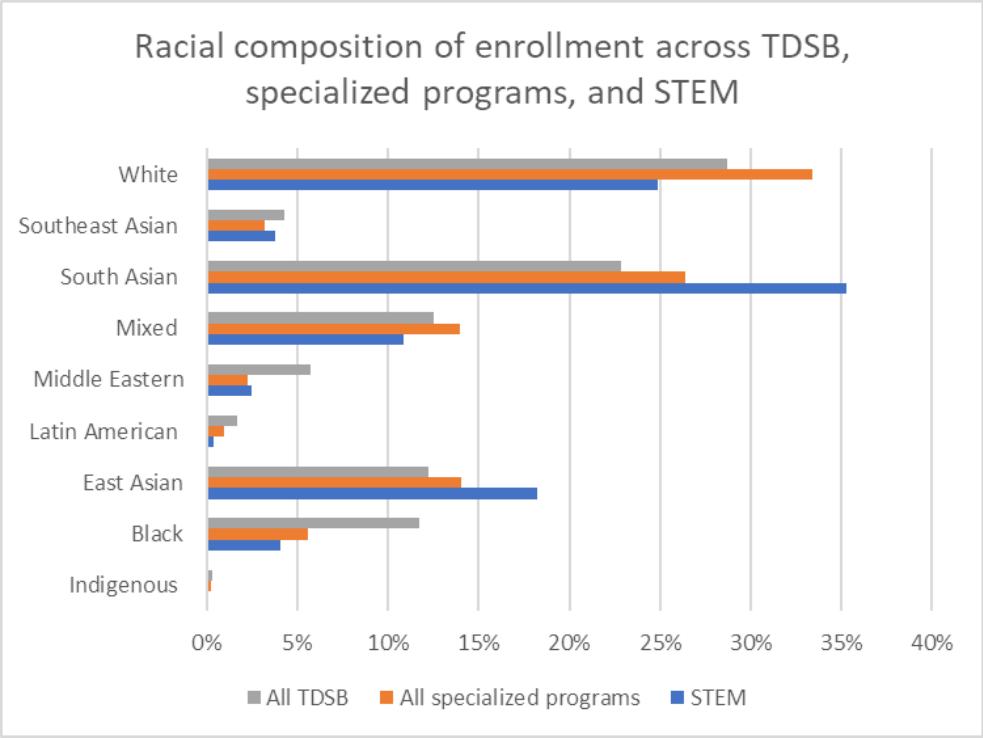
Admission policy prior to 2022

The TDSB offers nearly 40 specialized programs including focuses on STEM, Arts, International Baccalaureate, and Athletics. Before 2022, the admissions to these programs were almost completely decentralized, with each program responsible for their own procedure. The only central element was a restriction that a student can apply to at most two programs.

All specialized programs were developed locally. As a result, each of them is different, with different curriculum requirements (for example, the two most popular STEM programs differ significantly with their emphasis: TOPS accelerates math to make sure that students are able to take Physics earlier, MaCS accelerates Introduction to Computer Science courses, etc.). There was a wide range of admission procedures: MaCS and TOPS used exams and grades, Arts programs required an interview and/or portfolio, and some programs, like Ursula Franklin Academy, experimented with lottery-based admissions. The latter were introduced as a convenient way of running admissions during the 2020 Covid-19 pandemic. There was also a wide difference in demand - with programs like MaCS and TOPS having up to 10:1 applicant to admissions ratios, some art programs more like 2:1 or even 1.5:1, and some other programs (including some STEM-programs) admitting all applicants.

Specialized programs demographics



The above figure is based on the TDSB data.[2] The figure shows 2020 shares of major racial groups among all TDSB students, all students enrolled in all specialized programs, and all students enrolled in STEM programs (I specifically focus on STEM in order to facilitate comparison with subsequent data.) The largest underrepresentation in STEM is among Black students, who comprise 12% of all TDSB students, but only 6% of all specialized programs and 4% of STEM programs. On the other hand, South Asians comprise 23% of TDSB students, 27% of all specialized programs, and 35% of STEM programs. The largest TDSB group, Whites, comprise 28% of TDSB students, 33% of specialized programs and only 24% of STEM programs.

A priori, it is not clear what is driving the differences above. One possible explanation is a discriminatory nature of the merit-based admission process. Another explanation is the difference in interest or preferences across TDSB groups. Yet another explanation is that some demographic groups face barriers like lack of information about the programs, inadequate preparation in elementary/middle schools, distance to the specialized school, etc. To the best of my knowledge, the TDSB has not carefully examined any of these explanations.

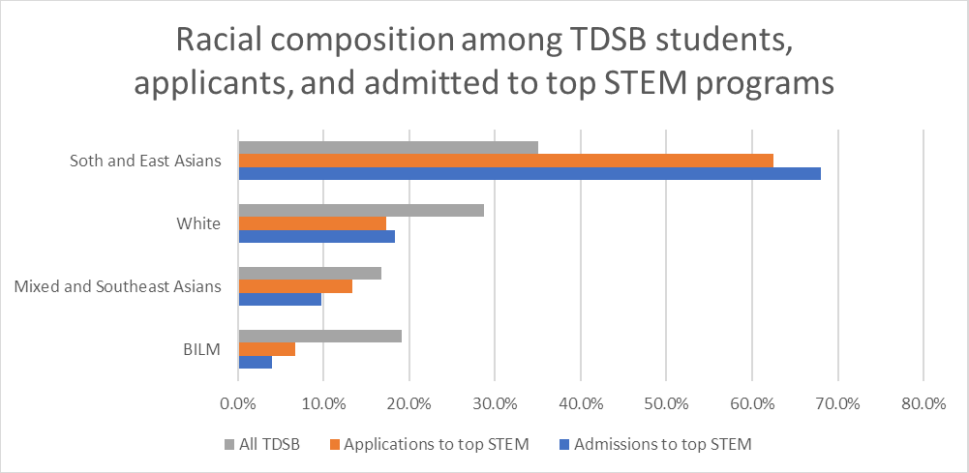
Application vs. admission rates by race and gender

[2] The data on the racial composition of the 2020 student enrollment of specialized programs were obtained under the FOI Request No: 2022:27. It is important to mention that the racial composition information provided by the TDSB has lots of missing data - the race of around 30% of the students is not known.

One way to test whether admission procedure is discriminatory was to compare the demographics of applicants with students admitted. Surprisingly, the TDSB has not analyzed data about applicants.

This section analyzes 2019 application and admission data for three STEM programs: MaCS, TOPS Garneau and TOPS Bloor.[3] The reasons for the limitation to these three programs are (a) obtaining data about all specialized programs was prohibitively costly [4] and (b) these three programs have the most competitive admissions in the entire TDSB system, hence are the most likely to exhibit evidence of discrimination.

Two key facts: In 2019, there were 273 students admitted into the three programs. These programs are extremely popular, with, on average, seven applicants for each admitted student.



The figure compares the TDSB shares of various racial groups and their shares among students who apply and who got admitted to the top STEM programs. Because of small samples, I combine similar (from the point of view of admission probability) groups. Black, Indigenous, Latino, and Middle Eastern (BILM from now on) students comprise the four most underrepresented groups in the sample. All groups apart from South and East Asians are underrepresented in 2019 admissions to top STEM programs.

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[3] The focus on the STEM courses makes this analysis complementary to Gaztambide-Fernandez & Parekh's (2017) study of the Arts programs. That study showed that students enrolled in Arts programs are whiter and come from wealthier families than the rest of the TDSB. A limitation of the study is that it does not look at application data. In particular, it cannot be used to argue that merit-based admissions are discriminatory. To see it in another way, if the pool of applicants is similar in racial and income composition to the pool of enrolled, the lottery-based system will reproduce similar patterns.

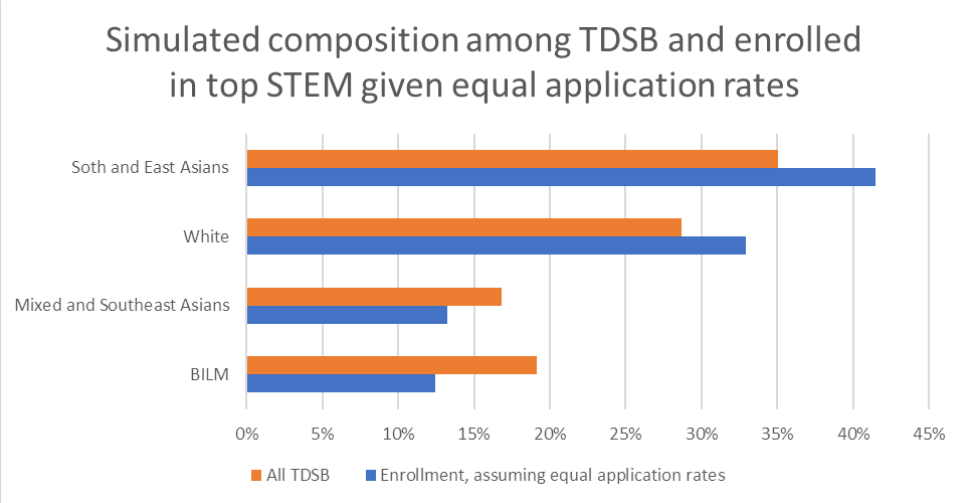
[4] The data on the racial and gender composition of the 2019/2020 applications and admissions to the top three STEM specialized programs were obtained under the FOI Request No: 2022:42. The data are limited to the three programs and a single admission year due to a prohibitively high fee the TDSB requested for their preparation.

One way to describe the differences in representation is to compare the admission rates among different groups. (An admission rate is defined as the ratio of students admitted to the top STEM programs to all students in the TDSB.) And so, an average Asian student is 3 times more likely to be admitted than an average White student and 6 times more likely than an average BILM student.

Are BILM students underrepresented because they apply at lower rates? Or is it because they are less likely to pass the entrance exam? To answer these questions, I compute

- Application rate, which is the ratio of all students who apply to top STEM programs to all students in TDSB. For example, an average South or East Asian student applies at a rate that is 3 times as high as a White student, and 5 times as high as a BILM student.
- Exam passing rate, which is the ratio of all students admitted to the top STEM programs to all students who apply to these programs. For example, the probability that a BILM applicant passes the exam is 60% smaller than an analogous probability for an Asian applicant.

To evaluate the impact of the application rates, I simulate the enrollment numbers *assuming that all groups apply at the same rates.* The outcome of the simulation is shown below:

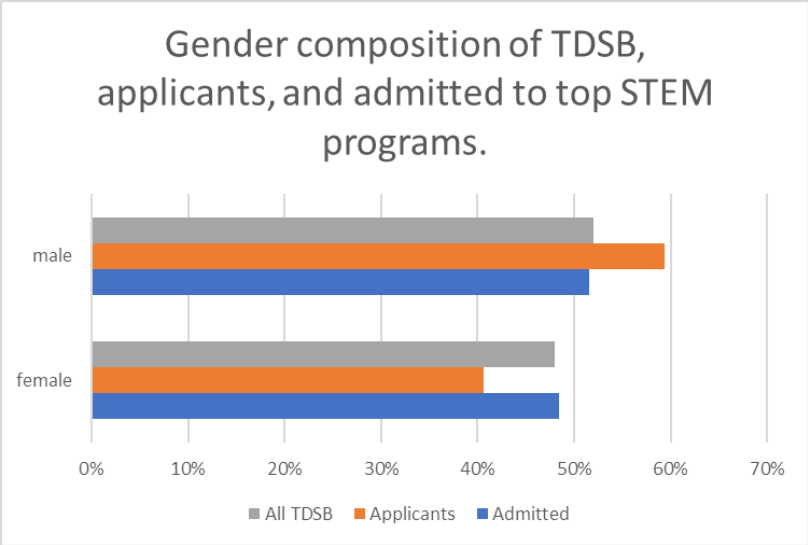


A visual comparison between this and the previous figure suggests that equalizing application rates significantly reduces the under- and overrepresentation of racial groups in the top STEM specialized programs. A more quantitative argument shows that equalizing application rates reduced the amount of underrepresentation by 68%. The remaining 32% is due to differences in the passing rate.[5]

I conclude that BILM students are underrepresented mostly, because they apply at a lower rate.

[5]To measure underrepresentation in the 2019 data, I compute the sum of the absolute values of the differences between the TDSB and the enrollment shares of each of the four groups A. I compute an analogous measure for the simulated shares under equal application rate assumptions B. Then B/A = 32%

It is interesting to conduct a similar analysis, but for gender differences.



Boys and girls are admitted roughly proportionally to their share in TDSB, but there is a significant difference in the gender composition of applicants: Boys apply at 35% rate higher than girls.

The fact that boys apply at higher rates to math-based programs is not surprising. It is well-known that girls have a lower confidence in their math abilities, or think that math is not their speciality, despite them having in general the same or better grades. Interestingly, admissions fully correct for the imbalance. It could be because girls, by being more selective about their own abilities, form a stronger pool. It could also be that the administrators are conscious about not having a gender-imbalanced class. (When I asked the administrators of one of the programs, they replied that the admission "*was based on the test, report cards- grade 8 progress and grade 7 final, learning skills, supplementary forms. So although more boys applied than girls, girls statistically had a stronger success rate on their overall application so are program was always about 50% boys and 50% girls.*")

Importantly, an application form to MaCS under the old system had a question about gender, but not about race. If it did, perhaps the administrators would be able to design admission criteria leading to a more racially balanced enrollment.

The above data reveal clear differences among various TDSB demographics. Most of the difference in enrollment is due to the differential in application rates. Trying to understand why application rates further is complicated by a lack of relevant data. Possible reasons include:

- individual preferences,
- interest for mathematics and science developed before applying to high school,
- rational response to anticipated admission probability, perhaps due to low confidence in a student's own skills, etc.

Low confidence in math abilities among girls or lack of interest or fear of inadequate preparation are indications of failures of education policy. These failures occurred during elementary or middle-school levels, i.e., before high school. It is important for the TDSB to be clear about their existence and think hard about why they exist before trying to address them. Unfortunately, the new policy hides these failures under the cover of lottery-based equality.[6]

[6] The racial and gender differences in math achievement (or confidence in math skills) likely appear across all education levels. Alas, TDSB Math Action Plan does not mention demographic gaps in achievement or confidence.

Changes in 2022

On 25 May 2022, TDSB approved changes to the Student Interest Programs Policy. The main change is to replace local admission procedures with a centrally-run lottery-based mechanism. In particular, exams or auditions are not going to be used anymore for any of the specialized programs.

The rationale for the change (see here, page 10 and further) was to “remove known barriers to access and decrease the underrepresentation of groups of students”. The accompanying press release mentions “*ensuring a greater number of students have access to these high quality programs and schools* ” and “reducing systemic barriers - such as geographic, socio-economic and race”. The TDSB has also pointed to racial imbalances in some specialized programs.

During the discussion, the Trustees amended the initial motion by requiring that to be considered for a lottery, applicants must “demonstrate passion and interest”. As TDSB spokesperson Ryan Bird explained in the subsequent interview: “You really do have to demonstrate, whether it be maybe a performance video, a written submission, to really explain why you are so passionate and interested in attending one of these programs”, 25 May 2022).

(Some) details on implementation of the changes were released in October 2022, a few weeks before the application process opened. In particular,

- 20% of the seats in each of the applicants will be reserved for applicants that self-identify as Black, Indigenous, Middle-Eastern, and Latino (BILM). The number 20% for BILM applicants was likely chosen because 19% of all TDSB students according to the 2017 census belong to the BILM group.
- 50% of seats in STEM programs will be allocated to girls.
- On top of the above, 50% seats in MaCS and TOPS Garneau will be given to students from local middle schools.
- The procedure gives preference to student residents of TDSB area and considers other students only if there are unfilled spots.

Comparing the May announcements and official justification with the October implementation details reveals a number of discrepancies:

- Since the TDSB has neither changed the number of available seats nor revealed any plan to do so in future, it is difficult to understand what expanding access to a greater number of students means.
- Despite stating the goal to remove a range of barriers, the only two criteria affected by the policy are race and gender. The policy does not address geographical nor socioeconomic barriers. (In fact, using the TDSB logic, limiting 50% of the seats in the STEM programs to local students creates new geographic barriers.)
- Gender was not mentioned as a barrier in the initial announcements. A likely reason is that, as the above data suggest, there were no gender imbalances under the merit-based system. However, it is likely that, between May and October, the TDSB

realized that, with boys applying to STEM programs at a 35% higher rate, a gender-blind lottery will produce classes with many more boys than girls.
- The restriction of 50% seats in MaCS and TOPS Garneau to local students violates "standard admission process" language of the Student Interest Programs policy (6.3.5) as well as the official goals of providing uniform access across the district.
- Despite the Trustees amendment on 25 May 2022 to require a demonstration of interest as well as clear language in the policy, the 2022 applicants did not have any opportunity to demonstrate passion or interest.

Algorithm

Here is a short description of the random selection algorithm[7]:

- *Application*: Each student chooses and ranks at most two programs from all specialized programs. The application form asks if the applicant self-identifies as a member of the BILM group (Black, Indigenous, Latino, and Middle Eastern) or as a female.
- *Random lottery*: Suppose that the program has X seats.
    - For each specialized program, the applicants (i.e., all those who choose the program at any of the two spots) are assigned random lottery numbers.
    - Importantly, the lotteries are run independently across programs - this detail will play an important role in the discussion below.
    - 20% of the seats in the program are offered to the 0.2X BILM applicants with the highest lottery numbers.
    - The remaining 80% of the seats are offered to 0.8X of all the remaining candidates with the highest lottery numbers. The remaining pool includes the BILM applicants who did not get chosen in the previous step.
- *Waitlist*: The applicants who were offered a seat in their top-ranked program have a week to decide whether they accept it or not. If they reject, they will be offered no more seats and they leave the program. All the other applicants remain in the system. As the rejections come in and the seats open and the administrator manually moves applicants from the waitlist to the program. An applicant offered a seat in their first-ranked spot is automatically removed from the admission list or the waitlist for their second-ranked spot.
- *Gender quota*: In order to implement gender quota, each STEM program is divided into two equal parts, 50% of the seats each. The admission process is run separately for two halves and females are only eligible for one of them, and everybody else is only eligible for the other one.
- *Local residents*: For the two programs with priority seats for local residents, the two programs are further divided into 50% for local residents and 50% for outside residents. So, for example, roughly 100 seats in MaCS are split into 25 seats for local

[7] The details of the algorithm used for randomized selection were not released prior to the application process and, in fact, have never been fully released to the public. Some information in this section comes from the video on random selection process on the TDSB site. The rest comes from the FOI Request 2022:59.

females, 25 seats for local males, 25 seats for outside females, 25 seats for outside males.

Racial and geographic bias

According to the Toronto Star, in May, TDSB director Colleen Russell-Rawlins told the board she wants students to have “a fair chance of acceptance into their program of choice, regardless of their identity, experience, ability, postal code or family income.”

In fact, the new lottery is biased towards some racial and geographic (postal code) groups.

Although 20% of the seats to the BILM group roughly correspond to their 2017 census share in the TDSB student population (19%), the algorithm is designed to allocate more than 20% seats to the BILM groups. The reason is that each BILM student has two chances of being selected - first for the guaranteed 20% seat group and second, after the guaranteed seats are filled, for the remaining seats. In contrast, non-BILM applicants have only one chance.

This mechanism may lead to substantial bias in admission probability. For example, suppose that a program with 100 seats has 500 applicants of which 100 are BILM applicants. Then,
a) the first selection will fill 20 seats guaranteed for BILM groups (20% of 100),
b) the second selection will fill the remaining 80 seats out of the remaining 480 applicants. Because there are still 80 BILM applicants in the remaining group, on average they will get 80/480 * 80 seats = 13 more seats. This way, although only 20% of the applicants belonged to the BILM groups, the BILM applicants will get 33% of seats.

Viewed in another way, a BILM applicant has a 33/100 = 33% chance of getting the seat. The non-BILM applicant has a 67/400 = 17% chance of getting a seat. The passing rate for each BILM applicant is almost twice as high as for a non-BILM applicant!

The numbers in the above example are artificial and were chosen to explain the numerical calculations in a simple way. In practice, the differences in admission rates will depend on what the fraction of BILM applicants is among all applicants and what the ratio of applicants to seats is.

In order to see a more concrete example, I will assume that the application rates and application pool are exactly the same as in the group of 2019 applicants to the top three STEM programs: MaCS, TOPS Bloor and TOPS Garneau. In other words, I assume that the applicant to admitted ratio is 7:1, and the proportion of BILM applicants in the applicant pool is 7%. Then, BILM applicants will get, on average, 24% seats (this will be 20% seats in the first round and 4% seats in the second round). Non-BILM applicants will get the remaining 76% of the seats.

Because the advantage for BILM applicants means disadvantage for everybody else, BILM applicants have a much higher likelihood of being admitted. In fact, because there are only 7%

of BILM applicants, this implies that each BILM applicant is four times more likely to be admitted than a non-BILM applicant.[8]

The significant advantage for BILM students in the lottery mechanism creates a powerful incentive to misreport self-identification. It is my understanding that, apart from the admission procedure, there is no further consequence of the BILM or gender self-identification on the application form.

One of the likely consequences of the new policy is that the share of Asian students will decrease relative to the merit-based system. There is an important context for this observation. There is a perception among many students of programs like MaCS and TOPS as well as their parents that the 2022 changes were adopted because the merit-based system admitted too many Asians. Whether justified or not, this perception is real and the TDSB did nothing to address it. Sources for this perception can be traced to public discussions about the presence of Asian students in top educational institutions. Examples include a public discussion about admission criteria to the top US universities that are widely seen as biased against Asians, and an analogous to Toronto debate about San Francisco specialized programs that was marred by complaints about anti-Asian racism.

The new policy will likely increase enrollment in specialized programs among underrepresented racial groups. However, the policy affects only the small group of students admitted to these programs. It does not address wider racial and gender discrepancies in the interest in or preparation for STEM education revealed by the application data. In fact, the policy will hide those discrepancies.

In addition to the racial and gender quotas, the TDSB allocates 50% of the seats in MaCS and TOPS Marc Garneau to local residents. This policy cuts the number of seats in those programs available to the rest of the district by half.

It is worth emphasizing that the restriction affected only the two most competitive specialized programs in the district. Using the TDSB language, the policy raises substantial geographical barriers and creates a preference for students based on their postal code.

[8] The above analysis is based on details of the algorithm and 2019 application data. Likely, the pool of 2022-23 applicants is going to be different than in 2019. A detailed analysis of the lottery based admission system must wait until the TDSB releases 2022-23 data: application numbers of BILM and non-BILM students and analogous numbers for admissions *for every single program, divided by gender, and seats allocated to local and outside residents.* The TDSB has committed to release such data before the middle of May (FOI Request 2023:06).

Mismatch and high-achieving students

This evaluation advances an argument that the new policy did not reduce barriers faced by underserved students to quality education but, instead, hid them under the cover of a lottery. Apart from not advancing the TDSB goals, the removal of merit has significant direct costs.

First, the policy creates a mismatch between program design and student skills. Programs like MaCS and TOPS were designed with high-achieving students in mind. The design led to curricular solutions that are not appropriate for all students. For instance, MaCS has a number of requirements, including acceleration of ICS courses, or relatively strict rules on taking high-level STEM-based courses. TOPS accelerates mathematics from four years to three, with the goal of teaching AP Calculus in the last year.

Removing merit from admissions eliminates a key tool to ensure that the selected group of students would be able to thrive in the academically demanding environment. Now, it is likely that at least some students will not have sufficient skills or preparation, and, as a result, their education will suffer.

It is worthwhile to look at experience of other similar programs that underwent an analogous change. One of the best US public high schools, San Francisco's Lowell High School, moved to lottery-based admissions in 2020-2021. The first class admitted under the new system saw a record spike of failing grades: "Of the 620 first-year students admitted in fall 2021 via lottery, nearly one in four (24.4%) received at least one letter grade of D or F, tripling from 7.9% in fall 2020." As a result, in June 2022, the newly elected Board reinstated test scores and grades for use in admissions.

It is likely that, as in the Lowell High School, the TDSB policy change will hurt exactly the students it is supposed to help.

It is possible that in order to reduce the negative effect of the mismatch, the TDSB will press specialized programs to change requirements and to make them less demanding. Of course, doing so would undermine well-established and popular programs. [9]

Second, according to the Education Act, " The purpose of education is to provide students with the opportunity to realize their potential … ". This instruction applies to ALL students, including high-achieving students. These students deserve an adequate education in the same way as any other student in the district. The specialized programs were designed to deliver on it by targeting the level and interest of such students.

[9] There is evidence that undermining specialized programs is the goal. Notes from the 8.12.2021 meeting of TDSB SSP Committee contain a discussion of a 5-year plan to close all specialized programs. (FOI Request 2022:22).

This is not to say that the admission criteria used under the old policy could not be improved.[10] It is very likely that high potential students from some disadvantaged backgrounds were missed by administrators who did not have sufficient demographic information.

Proposed solutions:

- Restore merit to admissions.
- Allow the administrators to collect demographic information to identify students with the best fit for the program and to fulfill their duty as educators to maximize learning and potential of their students.

[10] To give a concrete example, the math/science part of the admission tests to TOPS and MaCS included a few questions that belonged to the high school curriculum. Such questions are unlikely to be answered by students who have ability and potential but, due to their disadvantaged background, were never exposed to material beyond their grade level. Another example is essay-writing, which some of the TDSB students do not learn before high school. It is possible that some of the differences in the 2019 exam passing rate discussed above can be attributed to such elements of the exam.

Other problems with the random selection algorithm

There are a number of other problems with the random selection algorithm used currently by the TDSB. The problems and solutions proposed in this section are independent from any other issue discussed in this document and adopting them would not affect any of the goals of the current admission system. They should be addressed even if the lottery mechanism is to stay in some form.

Inefficiencies

The algorithm is likely to generate significant inefficiencies, meaning that some of the students assigned to their second-choice program could instead get their first choices by trading seats. To see why, consider the following example.

Alice and Bai want to get into an Arts program. Both of them apply to Etobicoke and Rosedale School of Arts. Alice lives in Queensway and so she ranks ESA first. Bai lives in Cabbagetown and she ranks Rosedale first.

Recall that the algorithm runs independent lotteries for each of the programs. Suppose that each of the two schools has 100 seats and 200 applicants. It is possible that

- Bai gets a position in the ESA queue below 100 and Alice is above 100,
- Alice gets a position in the Rosedale queue below 100 and Bai is above 100.

The top queue positions win a seat. In effect, both girls are offered a seat in their second-choice school. They are also kept on the waiting list for their first-choice school. However, if there are no further rejections, the initial allocation remains.

In the end, both girls end up with their second best choice, despite the fact that they would save hours of daily commute if they could exchange their offers.

The problem is that the two schools use independent lotteries to select among applicants. Instead, suppose that all applicants to all programs were ranked according to a single lottery, which would later be used to determine the position on the list for each program. Then, if Alice gets a number above 100, she would be admitted to both the ESA and Rosedale. Because of her preference, the algorithm would automatically reject Rosedale and accept the seat at ESA. The rejected seat would be offered to the next Rosedale applicant on the list.

Proposed solution: Use a single lottery for all applicants and use the results of this lottery in admission to all programs.

For instance, New York City Public Schools use a single lottery number in all admissions. The applicants are informed about their lottery number before they fill out their applications. This information helps to make an informed choice on which schools to apply to.

Strategizing

The algorithm creates an incentive for an applicant to misstate information in the application form. In principle, each student should rank their favourite program first, followed by their second favourite program. At the same time, students are aware of the fact that the chances of acceptance to popular programs are small. To maximize their chances, students may decide to apply to a safer alternative instead.

The above behavior is called "*strategizing*". In order to strategize well, the students must be aware of differences in admission probabilities (applicant to seat ratios). It is well recognized in the academic literature on school choice that this "strategizing" leads to inefficient outcomes, and also advantages parents with better information, who tend to be more highly educated, better connected, and wealthier.[11]

Strategizing arises because a student has only two positions to rank. If, instead of two positions, the student had unlimited rankings, the student would have no reason not to rank programs according to their true preferences, and no incentives to strategize.

Proposed solution: Significantly increase the number of ranked choices.

Notice that the administrative reason for restriction to two ranked choices is gone when the admission process is mostly mechanical and done by a computer algorithm.

In fact, allowing a large number of ranked choices is typically all over the world for school admissions. For instance, Boston Public Schools do not limit the number of options and "most families will have somewhere between 10 and 14 school options on their choice list."

Separate optional attendance

Under optional attendance rules, students may attempt to get a seat in schools outside of their zones. This option is important for students who want to take courses (like AP classes) that are not offered in their own school.

Optional attendance is currently run as a separate process. This does not make sense from the perspective of students who often choose between a specialized program and a high school with rich programming. This also does not make sense administratively, as two different processes may end up with allocating a student to two different schools.

Proposed solution: Combine optional attendance with specialized schools into one unified allocation process.

[11] For example, see this study and the literature that quotes it. The literature on implementation of school choice algorithms started with successful reform of the so-called Boston School Choice mechanism in 2004. Since then, it has led to improvements in admission procedures across all levels of education in various countries around the world.

For example, New York City Public Schools allow up to 12 ranked choices of more than 400 schools and 700 programs (some schools have multiple programs) on a single application form.

Potential for fraud

In principle, the lottery mechanism should be fair - with all students having chances (apart from preference for BILM race described above). In practice, the fairness of the lottery depends on whether it is possible to manipulate its outcomes. Such manipulation in individual cases would be prohibitively difficult if the entire process was done by a computer algorithm.

Unfortunately, the key steps of the TDSB algorithm allow for manual intervention. For instance, at the waitlist stage of the algorithm, if a seat is open, the administrator must manually move the applicant from the waitlist to the offered seats. The administrator can move an arbitrary student, regardless of their current position on the waitlist.

Apart from inefficient use of highly qualified human resources, the need for manual interventions creates a possibility of fraud. Imagine an administrator with access to the system, who has a friend whose kid really wants to get into Etobicoke School of Arts. If the kid did not get through initial offers, the administrator may wait until the first reject and move the kid jumping over all other applicants with a higher position on the waitlist. As the video shows, the administrator needs to log the move. He or she can simply add a note "Moved from the first place on the waiting list".

To be fair, the system has logging features that record any transfer. However, the particular logging solutions chosen are very complicated, and, among others, they make it impossible for a student to verify whether their final outcome of having the first spot on the waitlist was for legitimate (no more rejections) or illegitimate (somebody jumped over the queue) reasons.

There is a simple solution that would make the process fraud-free and completely transparent at the same time.

Proposed solution: Use a single lottery (as described above in the section on Inefficiencies). Inform applicants about their lottery number. Publish admission lottery thresholds for all programs divided by BILM and non-BILM status, gender, and residence.

Conclusions: a need for coherent vision of specialized programs

Many of the problems with the 2022 change come from the fact that the new policy did not arise from a coherent answer to the key question: What is the role of specialized programs in the TDSB system of education?

Before 2022, the answer was clear: the specialized programs are to enable high-achieving students to reach their potential. The design (curriculum requirements) and the admissions procedure based on merit flowed from this coherent vision.

Neither the new Student Interest Programs Policy, nor the TDSB websites, nor the materials used for the discussion for May articulated an alternative vision. To be clear, the policy describes the Board commitment to offer programs to support "interests of all learners".[12] However, there is a number of problems with such a vision and its implementation in the policy:

First, the description is unclear whether the goal of the policy is to attract students with interest for enrichment in a particular type of education or whether to develop such interests. These are two different goals and they will lead to two different approaches to the design of specialized programs. Currently, programs like MaCS or TOPS are designed for the first goal. Arguably, this is what makes them so immensely popular. A 10:1 applicant ratio for some programs suggest that there is already lots of developed interest. However, the materials distributed during the May 2022 discussion suggest that the goal is the latter.[13]

Second, a large applicant ratio under the new policy is a clear sign that the policy fails in its key goal of accommodating "all interested students"[14]. In fact, given the significant demand for top STEM programs, the success of the new policy requires a significant expansion of such programs.

Expanding such programs should not be, in principle, difficult. Programs like MaCS or TOPS are not costly - they do not require extra resources and, due to their popularity, student to teacher

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[12] "This Student Interest Programs Policy (the "Policy") was developed to support the Board's ongoing commitment to improve access to special programs based on student interest, and to support its commitment to offer a range of program opportunities for all learners. … TDSB Centralized Programs/Schools will develop and deliver programming for students that will foster and affirm students' intersecting identities, creativity, global connections, real-world context for curriculum and will support the success of all interested students. " Student Interest Programs Policy. One of the May 2022 changes was to rename the policy from formerly Specialized Programs and Schools Policy to emphasize the new emphasis on the "student interests".

[13] "Both TDSB and Centralized Programs will shift programming to be focused on developing student interests and are not to be structured around acceleration and enrichment." TDSB 25 May 2022 minutes.

[14] On the contrary, the TDSB seems to regard a large number of applications as a success. This is consistent with the rhetoric that the lottery "expanded access". The focus on the size of the applicant pool rather than the enrollment numbers as a proof of "access" is unusual.

ratio is likely on the upper end of the TDSB distribution. There is no need for curriculum development - it is enough to copy the existing programs. With the possible exception of the highest level courses like AP Calculus, there is no need for extra teacher training - these programs teach faster, not beyond curriculum.

Unfortunately, the 2022 change was not associated with any new plans of such expansion. No new plans have materialized since then. The inconsistency between the official goals and implementation leads one to wonder what are the real goals of the new policy.

Last but not least, a broad “student interest”-based approach fails to address the needs of the most high-achieving students and their right to education that fulfills their potential.

The old system was easy to understand, coherent, and very successful. Until a new coherent vision of specialized programs is articulated, the district should bring back the old system.