



EASTERN COMMERCE COLLEGIATE INSTITUTE'S LATE START: *Year Two Highlights*

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TABLE OF CONTENTS

EXECUTIVE SUMMARY	Pg. 1
ACKNOWLEDGEMENTS	Pg. 5
BACKGROUND	Pg. 6
Evaluation Update	Pg. 7
Methodology for Stage 2 Data Collection	Pg. 7
OVERALL FINDINGS	Pg. 8
1.1 Demographics.....	Pg. 8
School Mobility	Pg. 9
School Enrolment.....	Pg. 9
1.2 Student Engagement	Pg. 10
Absenteeism	Pg. 10
1.3 Student and Staff Perceptions, Qualitative Follow-up.....	Pg. 12
Overall Qualitative Results: Staff and Students	Pg. 12
Specific Sustained Benefits	Pg. 15
Specific Remaining Challenges.....	Pg. 17
Overarching Recommendations from the Follow-up Focus Groups.....	Pg. 20
1.4 Student Achievement Information	Pg. 21
Secondary Success Information, Overall School Level.....	Pg. 21
Secondary Success Information, Matched Students	Pg. 22
Average Grade 9 and 10 Marks, by Subject	Pg. 23
Average Grade 11 and 12 Marks, by Subject	Pg. 24
Overall Average Marks.....	Pg. 25
Grade 9 EQAO and Grade 10 OSSLT	Pg. 25

FINAL REMARKS AND NEXT STEPS	Pg. 27
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TABLES

Table 1: Country of Birth, by School	Pg. 8
Table 2: Language, by School	Pg. 8
Table 3: Gender, by School	Pg. 8
Table 4: Enrolment Patterns	Pg. 10
Table 5: Grade 9 Credit Accumulation, Eastern Commerce and School ABC, Overall School.....	Pg. 21
Table 6: Grade 10 Credit Accumulation, Eastern Commerce and School ABC, Overall School.....	Pg. 22
Table 7: Grade 10 Credit Accumulation, Eastern Commerce and School ABC, Matched Students	Pg. 23
Table 8: Grade 9 and 10 Average Marks: Mathematics, English, and Science	Pg. 23
Table 9: Grade 11 and 12 Average Marks: Mathematics, English, and Science	Pg. 24
Table 10: Grade 9 EQAO Academic and Applied Mathematics.....	Pg. 26
Table 11: Grade 10 OSSLT, Method 2.....	Pg. 26

FIGURES

Figure 1: 2010-11 School Year - Year of Birth, by School	Pg. 9
Figure 2: Eastern Commerce Absenteeism, 2008-09 to 2010-11	Pg. 11
Figure 3: School ABC Absenteeism, 2008-09 to 2010-11	Pg. 11
Figure 4: TDSB Absenteeism, 2008-09 to 2010-11	Pg. 12

APPENDICES

Appendix A: Eastern Commerce Collegiate Institute's Year 1 Research Summary	Pg. 29
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EXECUTIVE SUMMARY

At the high school level, most schools begin early in the morning. However, recent research on adolescent brain chemistry, the effects of sleep debt, and teenagers' level of alertness in the morning raises questions about the viability of later school start times.

For the past decades research on students' sleep habits has clearly documented that adolescent students often have insufficient sleep. Student lack of sleep has been associated with lower academic achievement, tardiness, aggressive behavior, anxiety, depression, and lower motivation (Davison, Newton, Brown, Freeman, Ufholz & Smith, 2011)¹. All things being equal, most students would prefer staying up somewhat later, and waking up somewhat later, than the current school start times allow. Overall, the literature suggests that adolescents' learning and development could be impaired by insufficient sleep (Yan & Slagle, 2007)². In addition to the possible sleep gain, research also indicates that there is shift in times of melatonin release in the brains of adolescent students (about ages 12-18) and that a later start time may align better with peak times for alertness in these students. Evidence that later start times will increase student achievement is by no means definitive. The difficulties connecting the theory of late starts with clear evidence of efficacy can be seen in the ongoing evaluation of the Eastern Commerce Collegiate Institute's (ECCI or Eastern Commerce) Late Start program in the Toronto District School Board (TDSB).

Eastern Commerce implemented a school-day schedule change in September 2009. Currently, their school day begins at 10:00 a.m. (previously it was 9:00 a.m.) and finishes at 4:15 p.m. on Tuesdays, Wednesdays, and Thursdays, 3:00 p.m. Mondays, and 2:30 p.m. Fridays. The schedule change was implemented, based on previous research, indicating that a later start

¹ Davison CM, Newton L, Brown RS, Freeman J, Ufholz L-A, Smith JD. Later school start times for supporting the education, health and well-being of high school students. Cochrane Database of Systematic Reviews 2011, Issue 11. Art. No.: CD009467. DOI: 10.1002/14651858.CD009467

² *Teachers College Record*, Date Published: April 02, 2007
<http://www.tcrecord.org> ID Number: 14030, Date Accessed: 1/10/2013 10:12:05 AM

time may help support student learning as well as help to increase student enrolment, which was declining at the time³.

To supplement preliminary findings from the ECCI Late Start Preliminary Report completed in June 2010, a second stage of additional research has been conducted. Follow-up focus groups with ECCI staff and students were conducted in May 2011. As well, school demographics, school enrolment patterns, student achievement data, and student absenteeism data were analyzed for additional years in Spring 2012.

Highlights of Findings

Results for the late start at ECCI show both the promise of the program and the difficulty in making definitive statements. Although there are modest positive improvements within student achievement indicators, the entire story of ECCI's late start journey is not captured within the student achievement data. Qualitative data provides information about additional nuances in ECCI's late start journey. Quantitative (survey and achievement score) data as well as qualitative (interview and focus group) data are summarized here.

Students appear to, on average, be gaining sleep time (30 minutes overall). Students report that they tend to go to bed around the same time as before, but get up somewhat later.

Examination of absenteeism records verifies the consensus in the 2010 and 2011 staff and student focus groups that students are attending school more often (although lateness or tardiness continues to persist). Staff members noted that students tend to be more alert in the morning classes than in previous years. Absenteeism data, especially among older students, also indicates that the Late Start program may be a positive intervention. For example, 16 and 17 year olds who attended Eastern Commerce in 2009-10 and 2010-11, had a lower absenteeism rate than 16 and 17 year olds at the matched comparison school (School ABC); and 18 year olds who attended Eastern Commerce in 2009-10 and 2010-11 had a lower rate of absenteeism than School ABC and the TDSB overall.

³ Please see the interim report of this project: Eastern Commerce Late Start Preliminary Research [\[link\]](#), for an extensive literature review on the topic of later start times and student learning.

Evidence of student achievement; however, was mixed: some measures increased (e.g., year 2 Grade 10 credit achievement); some decreased (e.g., Mathematics achievement in provincial tests); and some were mixed (e.g., Grade 9 credit achievement). The lack of clear achievement results may be partly due to continued high mobility in the school; meaning, students both coming in after Grade 9 and transferring to other schools before graduation, make it more difficult to clearly measure the long-term impact of the program.

In 2011, students in focus groups held at ECCI strongly supported retaining the late start program; staff, while less enthusiastic by comparison, were still positive. One overall suggestion was to examine the existing schedule

ECCI conducted their own Focus Groups in May 2012. There were 4 focus groups with 10 students in each group. Each group contained students representing various grades and backgrounds. The topic of 'Late Start' was the only topic that was overwhelmingly and unanimously supported by all 40 students.

and make adaptations so that the dismissal time is a more consistent across the different days of the week. Students and staff members noted that implementation of the program did take a period of adjustment. The majority of focus group participants found the commute to the school was easier in the morning, but more challenging in the afternoon since they were coming out during Toronto's rush hour. In addition, there were some problems in scheduling part-time jobs; however, the later start allowed some students to help at home more in the morning, including taking younger siblings to school. Despite concerns that the Late Start program would negatively affect extracurricular activities, this was not found to be the case.

Perhaps most importantly, staff in the focus groups pointed out that the program should be considered as only one option for supporting high schools and their students. It was described by one staff member as only "part of a toolkit" that a school could use, not something that should stand on its own. This may be a proviso that should be attached to the expectations around most time structure changes. While there is often an intense expectation around such changes, results repeatedly show that these changes are usually modest rather than revolutionary, and they can vary from one individual to the next depending on personal preference and other circumstances.

Although the formal evaluation components of ECCI Late Start are complete, the TDSB will continue to monitor the enrolment patterns at ECCI as well as compare the 2006 and 2011 TDSB Student Census. This information will be available in 2013.

ECCI Update: At a discussion among Curriculum Leaders in 2013, it was reported that although staff may not personally like the late-start, most agree that it supports student success; therefore they accept the personal inconvenience of the schedule. Staff remarked on the noticeable difference regarding students' alertness in classes throughout the day.

ACKNOWLEDGEMENTS

This project came to fruition because of the involvement of many dedicated staff throughout the Toronto District School Board as well as the outside community, without whose commitment, the first interim report as well as this second update could not have been completed. These individuals are recognized below:

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Finally, a special thanks to the staff and students at Eastern Commerce Collegiate Institute and School ABC who participated in this Late Start research study, enabling the Toronto District School Board to gather rich information about this potential option for further supporting students.

BACKGROUND

Eastern Commerce Collegiate Institute (ECCI or Eastern Commerce) implemented a school-day schedule change in September 2009. Currently, their school day begins at 10:00 a.m. (previously it was 9:00 a.m.) and finishes at 4:15 p.m. on Tuesdays, Wednesdays, and Thursdays, 3:00 p.m. Mondays, and 2:30 p.m. Fridays. The schedule change was implemented, based on previous research, indicating that a later start time may help support student learning as well as help to increase student enrolment, which was declining at the time⁴.

There are two main theories about why a later school start time might improve the education, health, or well-being of high school students. The first is that by having a later start time, students may get more sleep, and that this will lead to subsequent improvements in education and health indicators. The second is that later school start times better align school instructional time with peak times in the day for adolescent alertness and learning potential.

The purpose of the evaluation was to assess the impact of the later start on Eastern Commerce's students and teachers using a matched-control pre-and post-intervention evaluation design. The overarching question was: "What are the impacts of the new school start time at Eastern Commerce Collegiate Institute for students, teachers, and their families and community?" The first stage of the evaluation was undertaken between September 2009 and May 2010. This included the collection of qualitative and quantitative data before and after the initiation of the change in start time at ECCI as well as in an anonymous, matched control school as a comparator over this period. For the complete preliminary report along with a research summary, please visit: [TDSB Research - ECCI Late Start Preliminary Report](#) or see Appendix A for the ECCI Late Start Year 1 Research Brief.

⁴ Please see the interim report of this project: ECCI Late Start Preliminary Research, for an extensive literature review on the topic of later start times and student learning.

Evaluation Update

To support the findings from the preliminary ECCI Late Start Preliminary Report, a second stage of additional research has been conducted. Follow-up focus groups with ECCI staff and students were conducted in May 2011. As well, school demographics, school enrolment patterns, student achievement data, and student absenteeism data were analyzed for additional years.

Methodology for Stage 2 Data Collection

Note: In March of the 2009-10 school year (Year 1 of the Late Start), students at Eastern Commerce and a matched control school⁵ (School ABC) were asked to complete a survey related to the Late Start initiative at Eastern Commerce. In total, 670 students completed this survey: 375 School ABC (response rate of 61%); 295 Eastern Commerce (response rate of 56%). In order to compare data across the school years, the student identification numbers of the 670 student survey participants were matched with the 2010-11 student identification numbers. Of the 670 student survey participants at baseline, 522 students were still attending the TDSB during the 2010-11 school year (253 at ECCI and 183 at School ABC). Results should be interpreted with recognition of this diminishing sample size for comparisons.

Quantitative data was accessed and analyzed from a variety of data sources which included student: demographic information (age, gender, country of birth, language), enrolment patterns, achievement information (credit accumulation, Grade 9 Education Quality and Accountability Office [EQAO], Grade 10 Ontario Secondary School Literacy Test [OSSLT]), and average absenteeism rate. Eastern Commerce specific data as well as comparisons with matched students are presented.

⁵ To choose a comparator, we started with 14 possible TDSB secondary schools and reduced the choices to two, based on socio-economic challenge, gender, student age, student language and country of birth, and overall student achievement. School ABC was chosen because while the proportion of students speaking English and born in Canada were lower at Eastern than the other secondary school, it had a similar history to Eastern Commerce and like Eastern Commerce, School ABC did not have a specific school boundary, but instead drew from students from across the city. Although we did our best to ensure an adequate control, it should be noted that school demographics are often fluid, and as such, ECCI and the control school are not exactly the same.

OVERALL FINDINGS

1.1 Demographics

The demographics for Eastern Commerce have changed slightly since the 2009-10 school year when the Late Start time schedule was initiated (the baseline). There has been an increase in Canada born students attending Eastern Commerce (6%) as well as in the comparator School ABC (13%) with a slight increase in students speaking English as their first language (Eastern Commerce, 3%; School ABC, 3%) (see Tables 1, 2, and 3). The male to female ratio has remained fairly consistent with a slight decrease in female students and a slight increase in male students (see Table 3). Most of the current students were born between 1991 and 1994. Age demographics have remained fairly consistent as well, with School ABC currently having a slightly older population and Eastern Commerce having a slightly younger population than at baseline (see Figure 1).

Table 1: Country of Birth, by School

School	Country of Birth (2010-11)		Country of Birth (2009-10)	
	Canada Born	Outside Canada	Canada Born	Outside Canada
Eastern Commerce	65.5%	34.5%	60%	40%
School ABC	44%	56%	37%	63%

*percentages may not add up to 100% due to missing data and/or rounding.

Table 2: Language, by School

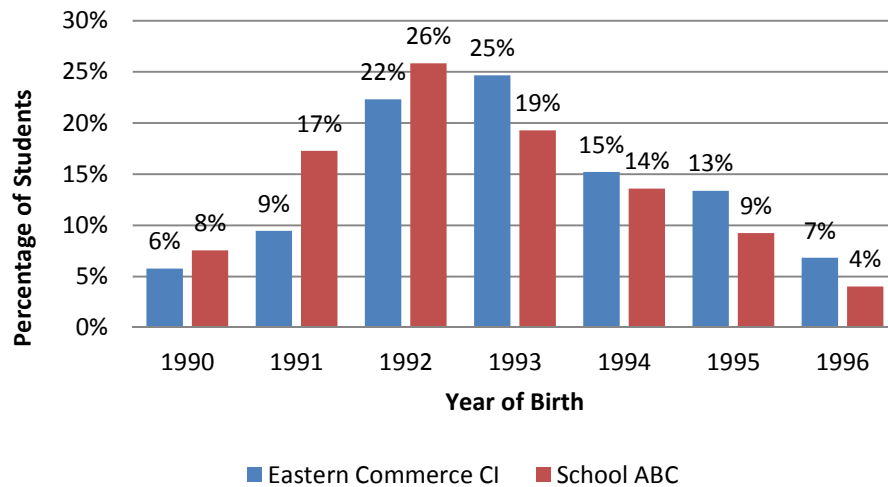
School	Language (2010-11)		Language (2009-10)	
	English	Non-English	English	Non-English
Eastern Commerce	49%	44%	46%	54%
School ABC	30%	68%	27%	73%

*percentages may not add up to 100% due to missing data and/or rounding.

Table 3: Gender, by School

School	Gender (2010-11)		Gender (2009-10)	
	Male	Female	Male	Female
Eastern Commerce	58%	42%	55%	45%
School ABC	54%	46%	52%	48%

Figure 1: 2010-11 School Year - Year of Birth, by School



School Mobility

At both Eastern Commerce and School ABC, student mobility is fairly high. At Eastern Commerce, 56.3% of students present in June 2010 were still present at Eastern in October 2010. This number decreases to 45% further in the year (March 2011). At School ABC, 59.6% of students present in June 2010 were still present at School ABC in October 2010. This number also decreases further in the year to 46% (March 2011). Both schools have higher percentages of student mobility than the TDSB⁶.

School Enrolment

School enrolment patterns for both Eastern Commerce and School ABC show a longitudinal enrolment decline. In 2011, Eastern Commerce's student population was only 42% of the student population in 2002. School ABC's student population declined by 50% in the same period (see Table 4).

⁶ Student mobility refers to students no longer in the TDSB system (e.g., students who have graduated, transferred outside of the TDSB, dropped out, etc.).

Table 4: Enrolment Patterns

Date	Eastern Commerce CI	School ABC
2002	837	930
2004	664	783
2006	566	651
2008	528	688
2009	517	687
2010	380	600
2011	351	469

1.2 Student Engagement

Absenteeism

There is a relationship between absenteeism and at-risk status. If a student is absent for more than 10% of the time (more than half a

18 year old students who attended Eastern Commerce in 2009-10 and 2010-11 had a lower absenteeism rate than the TDSB overall.

day a week) there is a chance that the student may have completed fewer than 16 credits by the end of Grade 10, making him/her more at-risk of not graduating (Brown, 2010)⁷. Students with an absenteeism rate of 20% or more (more than a day a week) should be considered highly at-risk (Brown, 2010)⁸.

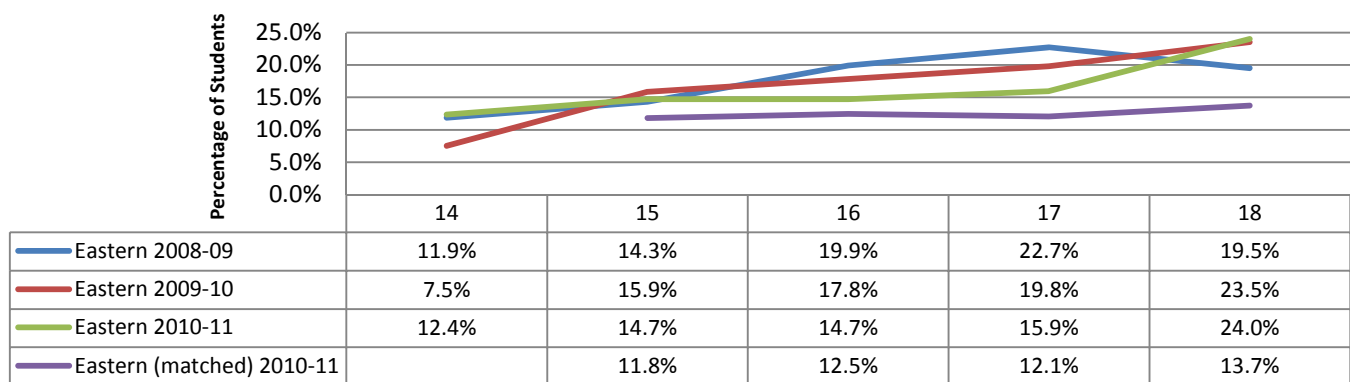
This section explores the patterns in student absenteeism at Eastern Commerce, School ABC, and the TDSB over three years: 2008-09 (Baseline Year), 2009-10 (Year 1), 2010-11 (Year2). For Eastern Commerce, following the schedule change in September 2009, absenteeism decreased in three age groups: 14, 16, and 17 year olds. This differed from the absenteeism increases, across all age groups, in the TDSB. Comparing 2010-11, absenteeism decreased in age groups: 15, 16, and 17. Conversely, for 14 year old students (for the most part, Grade 9 students), absenteeism increased by almost 5%. Over the three-year period, absenteeism decreased the most for the 17-year-old students (see Figure 2). Comparing Eastern Commerce and School ABC, Eastern Commerce had lower percentages of absenteeism for the 16 and 17 year olds. Across all age groups, Eastern Commerce and School ABC's absenteeism rates are higher than the TDSB.

⁷ Brown, R. (2010). The Grade 9 Cohort Report Fall 2004. Toronto, ON: Toronto District School Board.

⁸ Brown, R. (2010). The Grade 9 Cohort Report Fall 2004. Toronto, ON: Toronto District School Board.

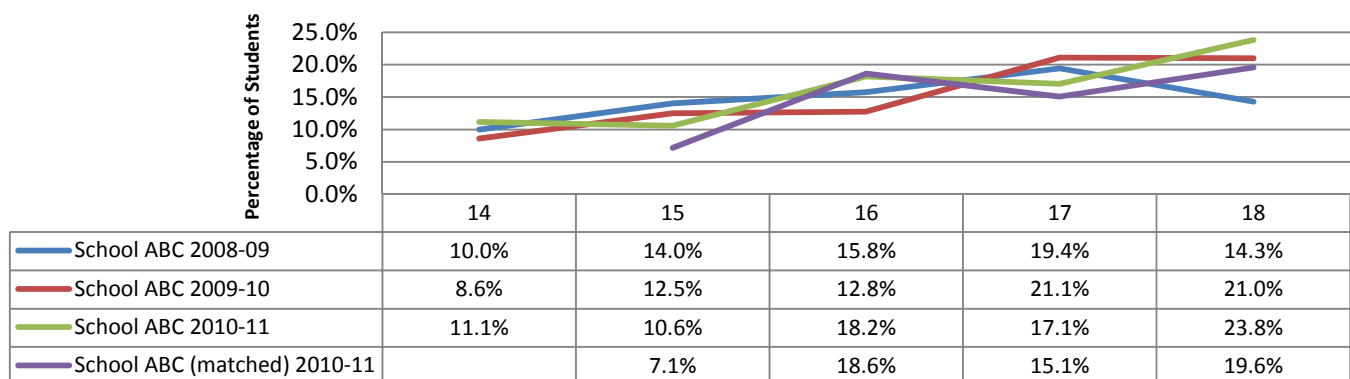
Comparing matched students, meaning students attending Eastern Commerce in the 2009-10 school year and present at Eastern Commerce in October 2010, the absenteeism rates are lower than the school's overall rate. Note, 16 and 17 year olds who attended Eastern Commerce in 2009-10 and 2010-11, had a lower absenteeism rate than 16 and 17 year olds at School ABC. Furthermore, 18 year olds who attended Eastern Commerce in 2009-10 and 2010-11 had a lower rate of absenteeism than School ABC and the TDSB (see Figures 2 and 3; Figure 4 shows the TDSB's trend for comparison).

Figure 2: Eastern Commerce Absenteeism, 2008-09 to 2010-11



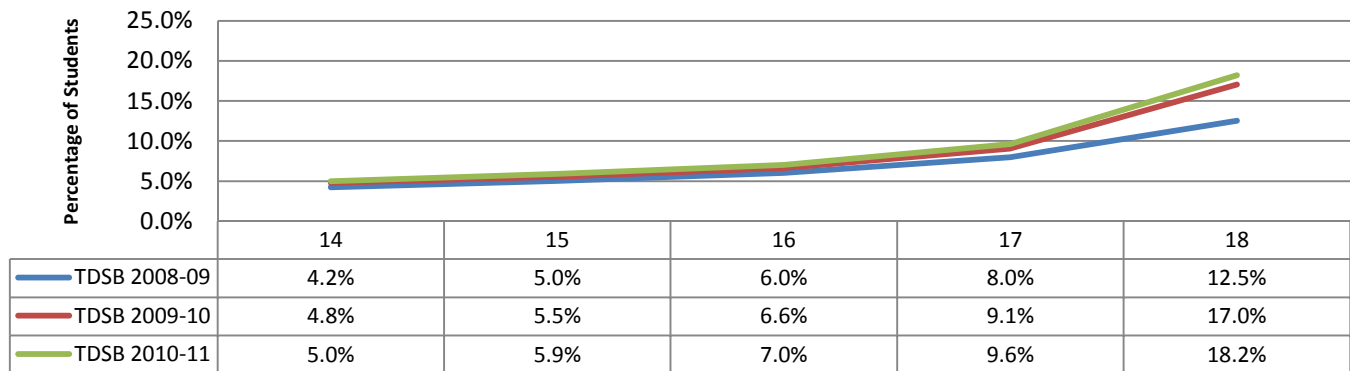
**blank represents no data as students were matched to 2009-10 and therefore would be 15 years or older the following year*

Figure 3: School ABC Absenteeism, 2008-09 to 2010-11



**blank represents no data as students were matched to 2009-10 and therefore would be 15 years or older the following year*

Figure 4: TDSB Absenteeism, 2008-09 to 2010-11



*blank represents no data as students were matched to 2009-10 and therefore would be 15 years or older the following year

1.3 Student and Staff Perceptions, Qualitative Follow-up

Four follow-up focus groups (involving 11 staff members and 14 students) were done with staff and students at ECCI on May 25, 2011. A purposeful, maximum variation sample was used by grade and length of time at ECCI, types of academic and extracurricular involvement, and for staff, type of staff member (teacher or support staff).

Overall Qualitative Results: Staff and Students

Overall, feelings are still quite positive about the Late Start initiative, but thoughts about benefits and challenges are mixed. In general, staff members note that it has not impacted lateness at all:

The late students are still late. It is the same students, the same kids all the time.

However, as one teacher notes, this was not the main purpose of the Late Start being implemented:

The one thing that I don't like when we talk about the late start is that it focuses on the word "late". That was never the intention, to improve punctuality. Instead it was about achievement and engagement.

In terms of achievement and engagement, staff members have continued to notice more alert and engaged students, especially during period one. They have also noticed that there are fewer behavioural issues within and outside the classroom. There was near consensus on these points:

Anecdotally they are more alert, they are nicer, and there are less behavioural challenges.

The students who participated in the focus groups generally supported the Late Start initiative. They feel they are getting more sleep in the morning and that they are more punctual and engaged, especially in the first period class:

I can focus more during 1st period with more sleep. I come in with a smile on my face and I interact, which I never used to.

"It has made me more focused and have more energy."

It's wonderful. I've seen the changes and been through everything here and it's excellent with the changes. ... People (used to) be hanging out and people not coming at all but now people are actually coming (to class).

Teachers also felt they got more sleep and had more time to prepare for school in the morning before class:

I am finally getting my 7 or 8 hours of sleep! I am getting more sleep, I feel great, I don't feel the weight of school.

The over-riding sentiment was that following the initiation of the Late Start schedule; it did take a period of adjustment. Eventually however, most were able to manage in their own unique ways:

You have to adjust to whatever situation you are in. (student)

For adults in the building, we start our day at about the same time. The first year was really exhausting; it took a lot of adjustment. (staff)

Others in the school board adjusted as well. Accommodations were often necessary for after-school athletics, for example. The staff noted that over time, coaches at other schools became more willing to make adjustments to game times to limit the amount of class-time missed by ECCI athletes. This was not always an easy process, but the sense of understanding or accommodation from other teams grew during the 2 years after the initiation of Late Start:

[The coach] pushed and pushed, the first year was a nightmare. But it got a lot better; he just said no we just can't miss that much school. (staff)

Both staff and students reiterated that the Late Start initiative took place in a dynamic environment at ECCI where there were other programs and initiatives being started and ended over time. The breakfast program and a literacy carousel, initiated at the same time as the Late Start, are examples of other initiatives. In addition, last year ECCI implemented a policy where more experienced teachers now teach the most at-risk classes. Each of these other programs likely had some impact on the effectiveness and impact of Late Start.

Staff at ECCI have tired somewhat of the Late Start initiative being a continual point of focus, when there are other challenges and issues at the school; they felt it sometimes overshadowed discussions:

Everybody still likes the idea... they really support it- they understand it, this is biology, this is physiology, this is change, this is good, but it is not addressing what we need as a school, we have challenging students....a lot of issues overshadow this issue, but this is the issue everyone picks up on. We are really tired of it. I think it is a fabulous idea and I hope we stay with it for a really, really long time, but it is not the main act.

The Late Start schedule was described by one staff member as only “part of a toolkit” that a school can use and not something that stands on its own. It also requires significant support from within the school and school board for it to function effectively.

Specific Sustained Benefits

There are a number of sustained benefits of the Late Start initiative that staff and students highlighted at the follow-up focus groups. Students and teachers report a more alert and engaged student body. There is a feeling that starting at 10:00a.m. allows the students to be more awake and ready to learn than starting at an earlier time:

I need time to get going; to get ready; to wake up. I may be up at the same time but I have more time to be alert. (student)

They are better rested, I don't care what anyone says - they are better rested! (staff)

It appears that while students and staff members are going to bed at the same time as in previous years, most are sleeping slightly later into the morning so there is an overall sleep time gain:

I get home late from work but still get 8 hours of sleep even when I do homework until midnight; I get up at 8am. (student)

Prior to initiation of the Late Start initiative, it was felt that the later schedule might be detrimental for school athletics. Somewhat surprisingly, the opposite has been true. The initiation of the Late Start schedule has allowed ECCI to partner with another high school to establish a football team. The later dismissal time gives the students from the other school enough time to travel the distance to ECCI to participate in the joint initiative. A hockey team was also started because ice times were available in the mornings while 3:30-5:00 times were not:

Football we started because of the late start. We twin with Monarch Park and allows them to get here. Hockey can be done in the mornings as well. So we start at 9. We would not be able to start the hockey program if we had started early in the morning. (staff)

Teams have used the 8:30 a.m. to 10:00 a.m. time slot for morning practices. Eastern Commerce student athletes do miss some school time in the afternoons, and coaches require substitute teacher coverage; however, adjustments have been made to reduce these amounts to a manageable level. For athletes and coaches, the sleep time improvements of a later start may not be as obvious particularly where there are morning practices, however this only occurs at certain times of the school year.

A number of students remarked that with the Late Start schedule they could take younger siblings to school and help out around the house in the morning as well. For some students, the extra time in the morning is used for sleeping while others spend additional time on homework:

If I have homework to be done at the last minute then knowing you can still wake up early and have time to finish some in the morning and feeling better (at that time) it's a good way and benefitting in a positive way. (student)

A specific credit recovery program facilitated by interns from the Ontario Institute for the Study of Education has also been initiated in the morning time slot.

The Late Start schedule has dramatically changed the commute experience for most staff and students at ECCI. For those riding the subway (TTC) and busses, routes are less busy in the morning after rush-hour. For many, this makes the commute less hectic, but at the same time fewer busses and trains run at off peak times so riders may have to wait and have to plan and adjust to these changes.

The TTC is fairly empty and I can relax and be on time and the bus isn't full. (student)

On days when school dismissal is at 4:15 p.m., students have said they have to leave right away or else the transit system gets very busy by 4:45 p.m. This is not an issue on the days when

school finishes a bit earlier. Leaving immediately at the bell is not always possible for staff or students so there is some implications for a busy return commute.

Finally, staff and students commented that the change in schedule has meant that crowds in local stores and restaurants are less condensed at peak times during lunch and after school.

Specific Remaining Challenges

There are a number of challenges that staff and students continue to face 2 years after the implementation of the Late Start initiative. Firstly, as mentioned, while the commute for some is less stressful, especially in the morning, for others travelling by road especially from the west before 9:30 a.m. or after 4:30 p.m., the commute has been significantly lengthened both before and after school:

I travel almost 3 hours a day. Before it was more like an hour. For commuting, an hour schedule change makes a big difference. (staff)

Sometimes (the TTC) is really packed because other people are finishing work. (student)

There was some frustration expressed by staff saying that although it was made to sound easy, it has not been easy for some staff to transfer out of ECCI if the Late Start schedule does not work for them.

There has been no facilitated transfer. Teachers were not always given the opportunity to leave. There is at least one teacher who has tried to leave, they are not against the Late Start, but the schedule just does not work for them. (staff)

In future, this process and possible limitations for staff transfer should be made more clear to staff and the general public.

There are a number of challenges that relate to the 4:15 p.m. dismissal. By 4:15 p.m., many students are tired and attendance and engagement has been found to lag in the last period. Eastern Commerce has adjusted by trying not to schedule heavy academic courses in the fourth

period, but this is not always possible or an ideal approach. The late hour of dismissal means that fewer people stay for any after school clubs or activities. While some athletic teams have practices in the morning, it has been more difficult to hold club meetings and other activities in the morning. Overall this has led to a reduction in the number and success of school clubs and non-sport activities. With travel time students may not arrive at home until 6 p.m. or later, especially if they stay for any activities. One athlete spoke about frequently not getting home until 8:00 p.m. during his sport's season. In the winter it is also dark by the time school is dismissed and it was felt this has some safety implications.

In addition, staff commented on how difficult it was to arrange personal and medical appointments, as well as attend school-board training sessions or other professional development activities that take place during a more standard TDSB school day (8:30 a.m. to 3:30 p.m.).

Students also discussed the late dismissal time in terms of limiting their ability to get to work on time:

I had a discussion with my employer and he had to shuffle me somewhere else (because of getting out later) and yes that bothers me.

Some employers say that the school schedule isn't their problem and are unreasonable. Some employers make it hard or won't make it a match so they're 'whatever if you don't want it someone else will'. But we do need the money.

It used to be rushing in the morning, now I am rushing after school and working part-time pushes everything back. Sometimes I do need to sign out early.

This last student is referring to the policy that those 18 years or older are able to sign themselves out of school when necessary. A number of the older students talked about having to sign out on the late afternoons in order to get to work on time, or to pick up family members from school:

Sometimes you have to sign out and have to work or my sister can't be picked up or my niece or nephew. And if I'm tired I'll sign out too but that's not a big deal anymore.

Staff members also expressed difficulty with integrating the Late Start schedule and voluntary and part-time jobs they might do in the evenings.

I have had to give up some of my coaching because of the Late Start.

The later afternoons have equally impacted the CO-OP programs at ECCI because students have to work the late schedule around 9:00 a.m. to 5:00 p.m. work settings where they are placed in the afternoon:

For CO-OP, the different times make it very difficult ... they can't do their 15 hours a week. Do we just have to look the other way? This is especially true when their placements are in schools. (staff)

In addition to the sleep, educational achievement, and health reasons for the Late Start initiative, one of reasons why Late Start was considered at ECCI was to provide an additional scheduling option within the Toronto District School Board and possibly increase enrolment at ECCI. The majority of students and staff felt that this influx in enrolment numbers did not occur. After the first year, there were very few students leaving because of Late Start; however, families just didn't seem to be overwhelmingly choosing the option:

It isn't as much about them leaving, but that they just are not coming. If we get one call a week or two calls per week about registration for next year that is a lot. (staff)

Parents wanted their children going all at the same time. Parents didn't like having their students here in the dark. We are no longer losing them because of the late start. They like it. But we might not be getting as many. (staff)

On-call substitute teacher coverage has increased significantly since the initiation of the Late Start initiative.

Overarching Recommendations from the Follow-up Focus Groups

The students in the focus groups all supported keeping the Late Start schedule. Staff members were less enthusiastic but still positive. They felt that the Late Start initiative is only one part of a comprehensive and dynamic system that has to be put in place to support students.

The later start time is a resource in a larger toolbox to support student success.

Staff and students felt that it would be advisable to keep the Late Start schedule but somehow make the 4:15 p.m. dismissal *less late*. The schedule should also be standardized 5 days in the week. An earlier dismissal time (3:30 p.m.) would help to reduce many of the sustained challenges that remain after the Late Start initiation. They were also adamant that the lunch should not be shortened (less than 1 hour) because in the early part of the initiative it was 40 minutes, and this did not work for anyone.

ECCI Update: For the school year (2012-13) ECCI addressed recommendations concerning the later schedule with the following outlined changes:

The original late-start schedule had a 10:00 a.m. start time with the following dismissal times: 4:15 p.m. on Tuesdays, Wednesday, Thursdays; 3:00 p.m. on Mondays and 2:30 p.m. on Fridays (page 2). In 2012-13, ECCI maintained the 10:00 a.m. start time, but changed the dismissal times to: 3:50 p.m. on Tuesdays, Wednesdays, Thursdays; 3:10 p.m. on Mondays and Fridays. These changes did not alter the number of instructional minutes as per the original late-start schedule. However, the new schedule provides more balance (i.e., dismissal time is not so late on Tuesdays through Wednesdays, not so early on Fridays). The staff and students prefer our new schedule.

1.4 Student Achievement Information

Secondary Success Information, Overall School Level

We examined credit accumulation information⁹ for Eastern Commerce and School ABC Grade 9 and 10 age-appropriate students¹⁰ across the years. Both schools saw an increase in Grade 9 students with 6 or fewer credits in 2010-11 (Year 2) compared to 2009-10 (Year 1). This is opposite to the finding in the Year 1 report, where both schools saw a decrease in at-risk students comparing the baseline year to Year 1. Comparing Year 1 and Year 2, Eastern Commerce had a 25% increase and School ABC had a 6% increase in students achieving 6 or fewer credits (see Table 5). For Grade 9 credit accumulation, both schools were below the TDSB average.

Comparing Year 1 and Year 2, Eastern Commerce had a 25% increase in students achieving 6 or fewer credits.

Table 5: Grade 9 Credit Accumulation, Eastern Commerce and School ABC, Overall School

Eastern Commerce	Eastern Commerce CI						TDSB					
	2005-06	2006-07	2007-08	2008-09	2009-10 (Y1)	2010-11 (Y2)	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11
Total Number of Students	65	65	69	53	42	24	17804	17864	17607	18053	18053	17679
Completed 7+ Credits	65%	69%	70%	70%	79%	54%	85%	86%	87%	88%	89%	90%
Completed 6 or Fewer Credits	35%	31%	30%	30%	21%	46%	15%	14%	13%	12%	11%	10%

School ABC	School ABC						TDSB					
	2005-06	2006-07	2007-08	2008-09	2009-10 (Y1)	2010-11 (Y2)	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11
Total Number of Students	48	54	62	46	41	28	17804	17864	17607	18053	18053	17679
Completed 7+ Credits	77%	56%	60%	57%	88%	82%	85%	86%	87%	88%	89%	90%
Completed 6 or Fewer Credits	23%	44%	40%	43%	12%	18%	15%	14%	13%	12%	11%	10%

⁹ The Secondary Success Indicators (SSI) that is provided to schools includes: pass/fail data for Grade 9 English, Mathematics, Science, and Social Science (Geography), credit accumulation data for Grade 9 and 10 students, outcome data for 17 and 18 year olds and applications to post-secondary institutions (for 17 year olds as well as 18-21 year olds). Note that the SSI information (see Table 4 and 5) is not matched to the students who completed the Late Start questionnaire only. The information is calculated using the Grade 9 cohort calculation rules.

¹⁰ Grade 9 students are defined as 13-15 year old students present in the school in Fall of the same school year who had no prior secondary school experience, according to available records. Grade 10 students are defined as those students born in 1994 and not in the above Grade 9 group, attending the school in Fall 2010.

Results differed for Grade 10 age-appropriate students. Grade 10 students at Eastern Commerce achieving 14 or fewer credits in 2010-11 (Year 2)

Eastern Commerce showed an increase in the percentages of students achieving 14 or more credits between 2009-10 and 2010-11.

decreased by 5% from 2009-10 (Year 1); while there was a 28% decrease in Grade 10 students at School ABC achieving 14 or fewer credits from 2009-10 (Year 1) to 2010-11 (Year 2). Over the three years (2008-09 to 2010-11), Eastern Commerce saw a gradual decrease in the percentage of students completing 14 or fewer credits when comparing the Baseline Year to Year 2. School ABC on the other hand, fluctuated – with an increase in the percentage of students completing 14 or fewer credits in Year 2. Overall, both schools' Grade 10 credit accumulation improvement percentage (from 2009-10 to 2010-11) was greater than the TDSB's (see Table 6); however, both schools are below the TDSB average.

Table 6: Grade 10 Credit Accumulation, Eastern Commerce and School ABC, Overall School

Eastern Commerce	Eastern Commerce CI						TDSB					
	2005-06	2006-07	2007-08	2008-09	2009-10 (Y1)	2010-11 (Y2)	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11
Total Number of Students	76	66	71	83	60	44	16979	16998	17035	16941	17448	18428
Completed 15+ Credits	49%	47%	37%	43%	47%	52%	76%	76%	77%	79%	81%	82%
Completed 14 or Fewer Credits	51%	53%	63%	57%	53%	48%	24%	24%	23%	21%	19%	19%

School ABC	School ABC						TDSB					
	2005-06	2006-07	2007-08	2008-09	2009-10 (Y1)	2010-11 (Y2)	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11
Total Number of Students	102	48	66	62	50	47	16979	16998	17035	16941	17448	18428
Completed 15+ Credits	60%	60%	38%	47%	36%	64%	76%	76%	77%	79%	81%	82%
Completed 14 or Fewer Credits	40%	40%	62%	53%	64%	36%	24%	24%	23%	21%	19%	19%

Secondary Success Information, Matched Students

When considering only the Grade 10 students who were present at Eastern Commerce and School ABC in the 2009-10 school year as well as the 2010-11 school year, their results are slightly different. Matched students performed better academically. Students in the matched population had a higher percentage of students achieving 15 or more credits: 8% of students

from Eastern Commerce and 3% of students from School ABC; although this difference is not statistically significant (see Table 7).

Table 7: Grade 10 Credit Accumulation, Eastern Commerce and School ABC, Matched Students

	Eastern Commerce CI (matched)	Eastern Commerce CI (NOT matched)	School ABC (matched)	School ABC (NOT matched)
	2010-11	2010-11	2010-11	2010-11
Total Number of Students	35	44	39	47
Completed 15+ Credits	60% (+8%)	52%	67% (+3%)	64%
Completed 14 or Fewer Credits	40%	48%	33%	36%

*in Eastern June 2010 and Oct 2010

Average Grade 9 and 10 Marks, by Subject

Average marks for Grade 9 and 10 students at Eastern Commerce, School ABC, and the TDSB were compared across subjects (Mathematics, English, and Science) for 2008-09 (Baseline year), 2009-10 (Year 1), and 2010-11 (Year2). Comparing all three years, Eastern Commerce's average marks increased in Year 2 by 4% in Mathematics. Results differed for English and Science. Over the three years in English, Eastern Commerce's average marks increased in Year 1 and then dropped slightly in Year 2; however, still remaining above the Baseline Year. In Science, average marks increased in Year 1 and then decreased in Year 2 to below the Baseline Year's average marks. Overall, Mathematics and Science average marks remained above (or same) the Baseline Year in Year 1 and 2.

School ABC's average marks increased gradually over the three years. In Year 2, all three subjects had average marks above the Baseline Year. For all three years, both schools were below the TDSB's average marks across all three subjects (see Table 8).

Table 8: Grade 9 and 10 Average Marks: Mathematics, English, and Science

Gr 9 and 10 Combined	Mathematics			English			Science		
	2008-09 (Baseline)	2009-10 (Y1)	2010-11 (Y2)	2008-09 (Baseline)	2009-10 (Y1)	2010-11 (Y2)	2008-09 (Baseline)	2009-10 (Y1)	2010-11 (Y2)
TDSB	61%	62%	63%	66%	66%	67%	65%	66%	66%
Eastern Commerce	47%	47%	51%	48%	55%	51%	49%	52%	43%
School ABC	46%	53%	58%	53%	57%	57%	51%	51%	57%

Average Grade 11 and 12 Marks, by Subject

Average marks for students in Grades 11 and 12 at Eastern Commerce, School ABC, and the TDSB were compared across subjects (Mathematics, English, and Science) for 2008-09 (Baseline Year), 2009-10 (Year 1), and 2010-11 (Year 2). Eastern Commerce's average marks gradually increased over the three years for Mathematics and English. Average marks for Science decreased in Year 1; however, increased slightly above the Baseline Year in Year 2. Between Year 1 and Year 2, Science showed the greatest improvement with an increase in average marks by 8%.

The pattern differed for School ABC's average marks. School ABC's average marks for Mathematics remained the same in Year 1 and increased in Year 2; English results decreased in Year 1 and increased in Year 2; Science results increased in Year 1 and decreased in Year 2. Over time (2008-09 to 2010-11), Eastern Commerce and School ABC achieved the same percentage increase in average marks for Mathematics (3%) and Science (2%); however, Eastern Commerce showed the highest percentage of improvement (4%) compared to School ABC and the TDSB in English. Both schools were below the TDSB's average marks for all three subjects.

Table 9: Grade 11 and 12 Average Marks: Mathematics, English, and Science

Gr 11 and 12 Combined	Mathematics			English			Science		
	2008-09 (Baseline)	2009-10 (Y1)	2010-11 (Y2)	2008-09 (Baseline)	2009-10 (Y1)	2010-11 (Y2)	2008-09 (Baseline)	2009-10 (Y1)	2010-11 (Y2)
TDSB	66%	66%	66%	67%	67%	67%	69%	70%	69%
Eastern Commerce	53%	54%	56%	55%	58%	59%	59%	53%	61%
School ABC	58%	58%	61%	61%	55%	59%	62%	65%	64%

Overall Average Marks

Overall average marks for 2009-10 (Year 1) and 2010-11 (Year 2) were compared for the TDSB, Eastern Commerce, and School ABC. In secondary school, as years progress previous TDSB Student Success research shows that students' average marks decrease; such is the case for the TDSB overall. In 2009-10, the average mark for all secondary school students was 66.1%. In 2010-11, for the same students, the average mark decreased by approximately 1% to 65.4%¹¹. Students at Eastern Commerce also saw a slight decrease in average marks between 2009-10 and 2010-11. In 2009-10, the average mark was 55.7%. In 2010-11, for the same students, the average mark decreased by approximately 2% to 53.9%¹². School ABC showed a different pattern. In 2009-10, School ABC's average mark was 53.4%. In 2010-11, for the same students, the mark increased to 57.2%¹³. School ABC showed significant improvement in their overall average mark between 2009-10 and 2010-11.

Grade 9 EQAO and Grade 10 OSSLT

Grade 9 EQAO Academic and Applied Mathematics and Grade 10 OSSLT achievement results were compared across the years. Results were mixed. Eastern Commerce saw a decline in the percentage of students achieving Level 3/4 in Grade 9 EQAO Academic Mathematics, while School ABC improved dramatically in Grade 9 EQAO Applied Mathematics. In Grade 9 EQAO Applied Mathematics, School ABC performed above the TDSB. Eastern Commerce saw a 3% decline in the percentage of successful students writing the OSSLT, while School ABC increased 10%. In Grade 10 OSSLT, both schools were below the TDSB.

¹¹ This decrease is significant to <0.001

¹² This decrease is significant to 0.05

¹³ This increase was significant to <0.001

Table 10: Grade 9 EQAO Academic and Applied Mathematics

Grade 9 Academic EQAO (M1)		2005-06	2006-07	2007-08	2008-09	2009-10 (Year 1)	2010-11 (Year 2)
TDSB	At or Above Provincial Standard (Level 3 and 4)	65%	66%	72%	75%	81%	81%
Eastern Commerce	At or Above Provincial Standard (Level 3 and 4)	20%	14%	38%	24%	19%	17%
School ABC	At or Above Provincial Standard (Level 3 and 4)	44%	24%	19%	51%	57%	not reported
Grade 9 Applied EQAO (M1)		2005-06	2006-07	2007-08	2008-09	2009-10 (Year 1)	2010-11 (Year 2)
TDSB	At or Above Provincial Standard (Level 3 and 4)	20%	17%	19%	23%	26%	30%
Eastern Commerce	At or Above Provincial Standard (Level 3 and 4)	19%	7%	15%	15%	6%	not reported
School ABC	At or Above Provincial Standard (Level 3 and 4)	28%	22%	15%	15%	14%	50%

Table 11: Grade 10 OSSLT, Method 2

OSSLT (M2)		2006-07	2007-08	2008-09	2009-10 (Year 1)	2010-11 (Year 2)
TDSB	Successful (%)	81%	80%	82%	81%	81%
Eastern Commerce	Successful (%)	60%	51%	53%	56%	53%
School ABC	Successful (%)	66%	42%	51%	44%	54%

FINAL REMARKS AND NEXT STEPS

Although there are modest positive improvements within student achievement indicators, the entire story of Eastern Commerce's late start journey is not captured within the student achievement data. Data on attendance and qualitative data gleaned from interviews and focus groups with staff and students indicate many positive impacts and reactions towards the Late Start initiative.

Qualitative data narrates Eastern Commerce's late start journey outlining their success and challenges.

Both staff and students felt that the Late Start initiative did take a period of adjustment with benefits and challenges experienced in many different ways by different people along the way. Staff noted that students tend to be more alert in the morning classes than previous years. Absenteeism data, especially among older students, also indicates that the Late Start initiative is a positive intervention. For example, 16 and 17 year olds who attended Eastern Commerce in 2009-10 and 2010-11, had a lower absenteeism rate than 16 and 17 year olds at School ABC; and 18 year olds who attended Eastern Commerce in 2009-10 and 2010-11 had a lower rate of absenteeism than School ABC and the TDSB overall.

During initial implementation, it was thought that extra-curricular activities might be threatened. This was not the case. In some instances, teams and activities became stronger and school partnerships formed. The later schedule allows students to assist at home more (e.g., take younger siblings to school). The early morning time slot also allowed for the creation of a Credit Recovery class which students can attend as another support option. Many of the staff and students commented that their commute experience has changed dramatically; the later start allows many staff and students to miss the morning rush hour.

With any school change comes an adjustment period and subsequent challenges. Overall, staff and students noted the later afternoon classes effect evening activities. Although the commute in the morning is less stressful for many, the opposite is true for the afternoon commute. The later day situates staff and students directly in evening rush hour. Staying later often impacts students and/or staff members' ability to schedule part-time jobs, volunteer work, or

appointments. In some cases staff and students have to sign-out early. Although the overall attendance at ECCI is higher compared to the TDSB, in the afternoon classes, staff noted that attendance does drop off. Staff also noted that if one does not want to participate in the Late Start initiative, school staff transfer is not always an easy option.

Overall, the ECCI Late Start program must be situated as only one support option for student success. The Late Start schedule was described by one staff member as only “part of a toolkit” that a school can use, but not something that stands on its own. It also requires significant support from within the school and school board for it to function effectively.

Staff in the focus group noted that in some instances, communication surrounding ECCI’s late start option could be more clear and publicized more effectively by the TDSB. It is our hope that this report and subsequent works will support the communication of the Late Start initiative at ECCI as an option for students in the TDSB. The results of this study will also be shared with external education colleagues in the realm of mental health and the broader arena of education and student well-being.

Although the formal evaluation components of ECCI Late Start are complete, the TDSB will continue to monitor the enrolment patterns at ECCI as well as compare the TDSB’s 2006 and 2011 Student Census. This information will be available in 2013-14.

APPENDIX A

Eastern Commerce Collegiate Institute's Late Start Year 1 Research Summary

Research Summary



A look inside the impacts of a *LATE START* @ Eastern Commerce Collegiate Institute

Why a later school start time?

There are two main theories about why a later school start time might improve the education, health or wellbeing of high school students. The first is that later school start times better align school time with peak times in the day for adolescent alertness and learning potential based on research that shows a shift in melatonin release between ages 12 and 18. The second is that by having a later start time, students may get more sleep, and sufficient sleep supports the health and education of high school students in many concrete ways.

What is the research about and what did the researchers do?

Eastern Commerce Collegiate Institute (ECCI) implemented a later school start time in September 2009. Previously, their school day started at 9:00 am; it now begins each day at 10:00 am and finishes at 4:15 pm on Tuesdays, Wednesdays, and Thursdays, 3:00 pm on Mondays, and 2:30 pm on Fridays. A team of administrators and researchers from the Toronto District School Board (TDSB), Queens University and the University of Ottawa developed an evaluation of the schedule change based on the research question:

“What are the impacts of the new school start time at Eastern Commerce Collegiate Institute for students, teachers and their families and community?”

The comprehensive evaluation used a matched-control pre and post the research design. This means that impacts of the later start for students, staff members, and the broader community were collected for ECCI and compared with data collected at a similar, or “matched” high school with a standard start time. The evaluation was undertaken between 2009-2011 and included a student survey, and focus groups and interviews with students and staff as well as the comparison of TDSB data for such variables as attendance and academic achievement, for both schools, before and after the change.

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learn more about the school.
schools.tdsb.on.ca/easterncomm/

What were the Researchers findings?

The later school start time did take some preparation and a period of early adjustment, but it is now perceived as generally positive by students and staff. Limited, yet positive results are shown across a number of academic indicators, staff and student perceptions, absenteeism rates, as well as overall average sleep times.

Eastern Commerce showed a 4-9% improvement in academic credit accumulation for Grades 9 and 10 following the later start. In Grades 9 and 10 English and Science, Eastern Commerce showed the highest percentage improvement compared to the control school and the TDSB as a whole. In Grades 11 and 12, Eastern Commerce showed the highest percentage improvement in English and Mathematics as compared to the control school and the TDSB as a whole. In addition to the increase in achievement scores, 70% of the respondents from Eastern Commerce reported that it is “easier to come to school” and teachers reported that students were much more alert and able to participate in class since the change. Eastern Commerce students are getting, on average, 30 minutes more sleep per night than students in the comparison high school (see graph). There are 2.5 times the number of Eastern Commerce students getting more than 9 hours of sleep per night than in the control school. Eastern Commerce students were also absent less often (among 14, 16, and 17 year olds) and the *degree* of tardiness appears to have improved since the schedule change.

Although these overall trends are encouraging, there have been minimal drawbacks and the results are not definitive. In terms of overall marks, there have been important increases but to balance this, there was a slight decline in Grade 11 and 12 Science marks, and no improvement according to Grade 9 and 10 EQAO assessment results. Although there is general support for the later start time, staff and students have to make certain sacrifices; for example, a later schedule impinges on staff and students' participation in after school activities. This was particularly true for students 18 and older where there was a slight increase in absenteeism rates, many signing out in the late afternoon. At the same time however, impacts on the broader school community have been largely positive with Eastern Commerce staff and students now accessing shops and other services, including the TTC, during off-peak hours.

Overall, it appears that the later school start time has been largely successful at ECCI. The later schedule can be seen as another option for TDSB schools to support student success.



Research Moving Forward...

It is a priority to continue to monitor and mitigate any challenges or issues that arise related to the later start time. The 2010-11 *Late Start* Report is the first evaluation report, and efforts to evaluate the longer term impacts of the late start are on-going. Future research will include follow-up interviews and focus groups in May 2011 with Eastern Commerce staff and students; additional analysis of student achievement information over time; and,

analyzing the older cohort in order to understand the different impact of a later start time. All Eastern Commerce students will be completing a school climate survey in the Spring of 2011. This data will be reviewed and compared to further monitor the potential impacts of the later school start time. Eastern Commerce registration data will also be monitored to understand whether the change in schedule has had any lasting impacts on student population numbers.

