

***Ontario Longitudinal Student Survey (OLSS)***  
***Development Phase***

**Final Report**

*submitted to the*

**Higher Education Quality Council of Ontario**

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## **A. Introduction**

This is the final report of a project commissioned in December, 2009 by the Higher Education Quality Council of Ontario (HEQCO) for the development of a seven-year study of youth from secondary school into post-secondary education (PSE) institutions and the workforce. The study is called the Ontario Longitudinal Student Survey (OLSS).

### **1. Purpose of this Report**

Not only does this report describe the activities undertaken by the SPEG/Queen's research team but also, in order to make the report useful for further project development, it presents the primary issues evolving from the consultation and sampling and survey design process. More specifically, this report: (1) identifies issues related to stakeholders' priorities and to consider possible design accommodations to meet their needs; (2) provides a concrete approach to the critical issues of integration of data sources into a common database and of database management; (3) recommends a redesign of the research in order to meet HEQCO's and stakeholder goals; and, (4) presents a rationale and penultimate version of the Grade 10 Student Survey and the content for the subsequent four surveys.

### **2. The Project**

Consistent with HEQCO's RFP, the principal objectives of this project – the developmental phase of the OLSS, were as follows:

- (1) to develop the design, piloting, and administration procedures of a longitudinal survey of Ontario youth beginning in their Grade 10 year (Cycle 1 and Year 1) and continuing over four subsequent cycles (Cycles 2, 3, 4 and 5 to correspond with the study Years 3, 4, 5 and 7); and,
- (2) to carry out consultations with the major stakeholders with respect to their support for and development of the survey.

The contract was awarded to the research team from the Social Program Evaluation Group (SPEG) of Queen's University ten months prior to the writing of this report. The original timeline to be followed was to complete the development of the five surveys of students in school and young people in the workforce and a parent survey, as well as the procedures for administering the surveys, to hold consultations with stakeholders in 2010, and produce interim reports<sup>1</sup> and the final report by January 2011. Figure A1 in Appendix A presents the years and cycles in

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<sup>1</sup> The first interim report was sent to HEQCO on April 15, 2010.  
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which data were to be collected by the trajectories or pathways of the groups proposed to be surveyed.

### ***Current Project Status***

At the time of preparing this report, the project appears to remain a HEQCO priority; however, the survey development and consultations as contracted to the SPEG/Queen's research team were curtailed by HEQCO. That is, HEQCO officials asked the research team to focus on creating a proposed budget for the complete study, and HEQCO has since focused efforts on negotiating for governmental and stakeholder support and funding.

### **3. Report Outline**

There are four sections to this report after this Introduction. The subsequent section, Review of Relevant Research: Implications for OLSS, presents summaries of the relevant research studies with respect to particularly informing the design of OLSS.

The third section, Consultation Process, outlines the consultations carried out during the course of this developmental phase of OLSS. Discussions involved representatives from eight principal stakeholder groups, beginning with the Ministry of Education (EDU) and the Ministry of Training, Colleges and Universities (TCU) – ministries so critical to the success of this study.

The fourth section, Instrument Development, Survey Implementation and Database Integration, presents the design principles and background to the survey instruments, information on the Grade 10 survey design, the piloting process, and the implementation strategies and data linkages from each of the five cycles. As part of the latter sub-section, a table demonstrates three student examples and how their data would be integrated into the database from their different destination sources.

Recommendations of aspects of the study are presented in the fifth section, including a revised approach to the study design for improved appropriateness, cost effectiveness and relevance to stakeholder group decision making.

The four appendices contain the figure of data collection cycles and data sources by study participant pathways, summaries of relevant literature, a table summarizing the project meetings with HEQCO and consultations with stakeholder groups, a table presenting school engagement surveys reviewed, and finally the current form of the Grade 10 survey instrument.

## **B. Review of Relevant Research: Implications for OLSS**

The purpose of this section is to outline the review of similar studies in order to identify approaches employed to integrate data coming from different sources, especially those with a mix of survey and hard data, and to identify sampling strategies and participant access issues relevant to this study. The review is presented in the context of our recommendations for approaches to be taken in the HEQCO study, as currently proposed.

### **1. Data Integration**

Not surprisingly, data attainment and integration from multiple data sources are required when a research study such as the proposed OLSS has broad intended goals and questions. Currently, such data integration is problematic in Ontario. As an example, British Columbia benefits from a central organization that is responsible for this integration, and it is supported by a relatively consistent practice of data collection across the province's schools and institutions. The same cannot be said for Ontario. As a result, not all students will have similar information from the administrative data sources, potentially resulting in the reduction of any sample for analyses, but certainly increasing the challenges of data integration.

There are fundamental issues of privacy and ownership of databases in any longitudinal study and in almost every instance, the issues of database integration were resolved through government initiation. All of the longitudinal studies found in the literature of similar scope and purpose that integrated survey and hard data were coordinated through government agencies (e.g., LSYPE in the UK). In each of the studies, strategies were developed to maintain participant matching and consequent congruity throughout the duration of the project. For example, in each study it was necessary to ensure that a common participant code number could be matched across data sources to guarantee valid integration in the master database. Privacy and access issues made it extremely difficult for such longitudinal studies to be conducted by an independent institution or organization outside of government.

Since the Ministry of Education already has a comprehensive database of student information, marks and scores on standardized tests in place, we recommended that the Ministry of Education act as the data integration mechanism and data warehouse for the study. We proceeded with the consultations on that basis, and received reinforcement throughout the consultation process with school board officials and others that Ministry involvement in integrating and warehousing the data was the most appropriate approach.

## **2. Sampling, Oversampling and Accessing Study Participants**

Methodological decisions such as the sample selection, timing of recruitment, the sample size and target groups, recruitment and accessing participants are all critical components of a successful study. These decisions are linked to the purposes of the research and impact on the generalizability of the findings. The sampling process must consider the proportion of students who will be lost due to transiency, which has been estimated by some studies at 8% annually.<sup>2</sup> Similarly, as identified by previous longitudinal studies of young people, attrition can be problematic due not only to the time lapse between sample selection and data collection at various data collection points but also to the differential transiency of subgroups. Hence students who fall within important subgroups that may have a higher likelihood of attrition or transiency need to be oversampled. This requirement is especially important for the logistics of obtaining data at the same point in time from special needs students, immigrant students, Aboriginal students, and “at-risk” students. Also, under the conditions likely to exist in Ontario when the study is conducted, the baseline student sample will need to be large enough to accommodate missing cases/information resulting from the integration of multiple data sets and attrition.

It is useful to examine data collection strategies employed in similar studies in order to identify the most effective approach for the proposed study (see Table B1 in Appendix B for an outline of these longitudinal studies).

### **a. Youth Cohort Study (YCS, England and Wales: 1983-2007: 13 Cohorts, over 40 Surveys)**

UK Departments responsible for education (e.g., the Department for Education and Skills (DFES – 2000 to 2007) conducted the YCS in England and Wales of a sample of young people (approximately 20,000, aged 16 to 19 years of age) in the year after they were eligible to leave compulsory schooling. The follow-up contact occurred between one and four years later (some annually or bi-annually) depending on the cohort. There has been no follow up of Cohort 13, as reported to date, but it is assumed that further tracing of that cohort will be conducted by the UK’s Department for Education (formed in May 2010).

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<sup>2</sup> The assumption of 8% attrition reflects experience with the National Longitudinal Transition Study (date, place), in which aggressive tracking efforts kept sample attrition to about 6% per year. Researchers indicated that they expect a higher attrition rate in NLTS2 due to changing demographics.

Names and addresses of the British young people coming to the end of compulsory schooling were supplied by schools. For OLSS, we would recommend the addition of requests for e-mail addresses, home addresses and telephone numbers. The YCS questionnaire is mailed to a random sample of students. If no response is forthcoming, the reminder procedure consists of a reminder postcard and then two letters, each with another questionnaire, sent out. There is a help-line to ring for queries relating to the questionnaire. Sample members who have still not responded and for whom a telephone number could be found are contacted by phone. In the case of the OLSS study, contact through e-mail addresses then attempts to contact 'no shows' through social media means, e.g., text messaging, Facebook updates, and twitter tweets, could be effective approaches to employ in Cycles 2, 3, 4 and 5 of the study.

For the last few years the YCS, sampling entailed a single-stage simple random sample. In the spring of the sampling year, all English and Welsh schools (excluding special schools), in both state-maintained and private sector schools, were sent a form designed to identify the sample. The forms provided a number of dates, e.g. the 5<sup>th</sup>, 15<sup>th</sup> and 25<sup>th</sup> of a given month, and all pupils on the Year 11 roll whose birth dates coincided were to be sampled. Occasionally more dates were given, either to draw a larger sample overall or only in specific geographical areas where the principal investigators wished to oversample in schools with a high proportion of students in ethnic minorities. Some difficulties arose with school-level non-response at the sampling stage and, to compensate for this, there was a further stage of sampling. The initial sample was sub-sampled to provide a final sample that was representative of a population matrix of student numbers by school type, by sex and by region. The key methodological issues identified in the YCS study included the following:

- (1) response rates declined substantially over time;
- (2) response rates were particularly low for low-achieving students (called 'low attainers') and those not in education, training or employment (e.g., employed or seeking employment in the workforce);
- (3) later replications adopted face-to-face surveys in home; and,
- (4) it was necessary to oversample to adequately represent low attainers.

To address the first two issues identified in the YCS study, our proposed sampling for OLSS entails involving all students in Grade 10 in a sample of schools in order to make accessibility more cost-effective and to reduce loss of data caused by non-response and transiency. In this case, the sampling of schools becomes important to ensure representation of the population.

We also know from previous research that there are unequal distributions of certain sub-categories of students.

**b. The Longitudinal Study of Young People in England (LSYPE; annual survey until 2015)**

Similar to HEQCO's proposed study, the Longitudinal Study of Young People in England (LSYPE), known to its participants as the Next Steps Study, brought together data from a number of different sources, including annual interviews with young people and their parents, and data from administrative sources. Begun in 2004, with an initial set sample of 21,000 young people drawn from Year 9 school enrolments (aged 13-14), and with annual interviews subsequently, the study is planned to continue for twelve years. Its major role is to identify and enable analyses and understanding of the key factors affecting young people's progress and transition through the later years of compulsory education and any subsequent education or training, to entry into the labour market or other destinations. The sample design incorporates oversampling for both deprivation and ethnic minority students. This LSYPE study has very similar purposes and content as the proposed OLSS study and should be a particularly useful resource in guiding key aspects of the final version of the OLSS.

The original LSYPE sample for the first wave included over 33,000 young people in Year 9 attending state-maintained schools, independent schools and student referral units in England. The final sample was approximately 21,000 young people. The sample included those born between 1st September 1989 and 31st August 1990.

For the state-maintained sector, LSYPE adopted a two-stage probability proportional to size (PPS) sampling procedure with disproportionate stratification. Schools were the primary sampling units (PSUs). State-maintained schools were stratified into deprived/non-deprived and deprived schools were over-sampled by a factor of 1.5. The second stage sampled the students within schools. Students from major minority ethnic groups (Indian; Pakistani; Bangladeshi; Black African; Black Caribbean; and Mixed) were over-sampled at the student level in order to achieve target sample numbers of 1,000 in each group. The school sampling stage took into account the number of students from each of these minority groups. Taken together, the school selection probabilities ensured that within a deprivation stratum, all students within an ethnic group had an equal chance of selection (as mentioned above, see the summary of the study design in Table B1, Appendix B).

Again, the random sampling process in the LSYPE proved to be problematic with relatively low response rates, particularly for “at risk” students. Because of inefficiencies of random sampling procedures, it is much more scientifically sound, as well as cost effective, to select and access students through school classes.

**c. Education Longitudinal Study (ELS: U.S.A.; 2002)**

The American Education Longitudinal Study (ELS, 2002) used a two-stage sample selection process. A national sample of schools was selected using stratified probability proportional sample to size (PPS), and school contacting resulted in 1,221 eligible public, Catholic, and other private schools from a population of approximately 27,000 schools containing 10th grade students. Of the eligible schools, 752 participated in the study.

In the second stage of sample selection, a sample of approximately 26 sophomores (16-year olds) from each of the participating public and private schools was selected. Each school was asked to provide a list of 10th grade students, and quality assurance (QA) checks were performed on each list that was received. This procedure made student access awkward and inefficient. The strategies employed to oversample special categories of students were particularly relevant to the OLSS study: i.e., a stratified systematic sample was selected with the strata being Hispanic, Asian, Black and Other race or ethnicity. (Table B1 in Appendix B provides summary notes about this study.)

The ELS provides useful information on the use of passive consent from parents and incentives to participants. Also, since extensive procedures were put in place to reach absent pupils, in-school response rates were relatively high. However, rates of response declined sharply when attempts were made to reach students outside of their original schools. The IMB datafiles of the Ontario Ministry of Education are relatively complete with regard to student transfers and as a result this issue should be of less consequence in the OLSS study.

**d. The Longitudinal Surveys of Australian Youth (LSAY: Australia; 1995 to 2006)**

There is also much to be learned from the Longitudinal Surveys of Australian Youth (LSAY), Survey participants (collectively known as a ‘cohort’) entered the study when they turned 15 years of age or when they reached Year 9. Individuals were contacted once a year for up to 12 years (1995-2006). Survey and administrative data were integrated into a common file similar to what is proposed for the OLSS. Reading and numeracy tests were administered to students to provide information on school achievement. Students also completed a background

questionnaire about their educational and vocational plans and attitudes to school. Information was also obtained from their schools about curricula and school organization.

In 1995 a nationally representative sample of about 13,000 Year 9 students was selected as the first cohort of the LSAY program. The sample was constructed by randomly selecting two Year 9 classes from a national sample of 300 schools intended to represent state and sectors. The cohort was a nationally stratified sample of students in Year 9 in 1995. The major stratum considered in the design was the state. Students from small states were over-sampled. The selection of students within states was proportional relative to school sector. Three school sectors were used as strata: Government, Catholic and Independent (non-Government, non-Catholic) schools. In many respects the sampling strategy was similar to that proposed for the OLSS; that is, school board, then school, then all students in a particular grade. (Table B1 in Appendix B provides summary notes on the sampling and data collection procedures.)

For this Australian study, the first cycle was conducted in school and follow-up cycles were conducted over the telephone. This approach led to high response rates for follow-up cycles. The Y95 cohort of LSAY initially surveyed 13,613 young people when they were in Year 9. In the second year of the survey (one year later), a paper-based questionnaire was used. This resulted in a higher than expected drop out. Therefore in 1997, the survey was rebuilt and a computer-assisted telephone interview (CATI) system was implemented. This resulted in an increase in sample size from 9,837 to 10,307. From 1997 onwards, until 2006, the CATI system has been used and the overall attrition rate was 8-10% per year. We recommend that a similar system be employed as the primary OLSS survey strategy for Cycles 3, 4 and 5.<sup>3</sup>

Of particular interest to the HEQCO survey, the LSAY telephone surveys were contracted out to private companies. In 1997, members of the sample were contacted in the first of the annual telephone interviews. The questionnaire included questions on school, transitions from school, post-school education and training, work, job history, job search history, non-labour force activities, health, living arrangements and finance, and general attitudes. Subsequent surveys (conducted by another private company asked similar questions but with the emphasis changing from school to post-school education, training and work. We propose that the survey for the

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<sup>3</sup> The third cohort for LSAY in 2003 was timed to coincide with the Programme for International Student Assessment (PISA) study in Australia of the same year. Because it was used as a basis for the longitudinal study, the PISA sample drawn in Australia in 2003 was actually larger than that required by the Organization for Economic Co-operation and Development (OECD).

OLSS be conducted by the contracted research group in collaboration with the Ministry of Education not only for cost-effectiveness reasons but also to ensure efficient integration of data files.

**e. National Longitudinal Survey of Children and Youth (NLSCY: Canada, Statistics Canada and Human Resources and Social Development Canada – HRSDC; 1994-)**

The NLSCY is a long-term study of Canadian children from birth to early adulthood. The surveys were designed to examine factors influencing a child's social, emotional and behavioural development and to describe the impact of these factors on the child's development over time. Topics included physical development, health, learning and behaviour as well as children's social environment (family, friends, schools and communities).

Interestingly, the samples were drawn from the Labour Force Survey's (LFS) sample of respondent households. The initial sample for Cycle 7 was comprised of 37,655 children and youths aged from 0 to 9 and 12 to 23 years.

We do not consider this approach to sampling to be appropriate for the OLSS study because the NLSCY study does not deal with educational achievement and decision making, and more importantly it does not link databases, which is a requirement of the proposed OLSS study. However, the NLSCY is useful in that it required surveys of out-of-school youth and parents. In addition, it provides information on attrition rates over time and the practical and statistical devices employed to reduce them.

There were important lessons learned from this study that are particularly relevant to the proposed study (see excerpts from the Statistics Canada website about the NLSCY in Table B1, Appendix B). For example, the study's researchers explained that careful planning in advance for the long term is imperative, the production of reports and papers can take longer than funding agencies prefer, and it is important to maintain a public profile of the study. They described the dangers of issues, measures and theories to say nothing of the data becoming obsolete over the course of a longitudinal study calling for broad-mindedness and guidance from multi-theoretical perspectives, and the importance of retaining the raw data for purposes of recoding them years after the initial data collection, to guard against theories becoming outdated over time.

An independent review of the study noted that there are three main aspects of confidentiality of concern to longitudinal studies: (1) the release of individual level data to third parties; (2) the linkage of interview data to other records; and (3) the methods used to contact individuals for subsequent interviews. These issues are of particular concern for the OLSS because there are many points in the data collection process that might allow identification of individuals.

The exclusion of Aboriginals living on reserve, and recent immigrant children;<sup>4</sup> and the fact that provincial sample sizes were too small to conduct analyses for specific age groups were of particular concern. Also of relevance to the OLSS study was that “the survey was too long” (this concern was expressed by Key Informants only).

*The literature suggests that loss of representativeness due to immigration can be easily remedied through supplementing the cohort with a ‘judicious sampling of the new immigrants’ (Griffith, p. 14).*

There were problems associated with the loss of representativeness due to attrition, a particularly important concern since those who drop out of surveys are not generally representative of all of the subjects.

In Cycle 1 of the NLSCY survey the In-School Component ultimately had only 57 percent response rate of all those who participated in the household survey.<sup>5</sup>

Many parent consent forms were forgotten or not completed, and some school boards refused to participate, which confounded both sampling and response rates.

#### **f. Youth in Transition Survey (YITS)**

The Youth in Transition Survey (YITS) was designed to examine the patterns of, and influences on, major transitions in young people’s lives, particularly with respect to education, training and work. The study focussed on measuring major transitions in young people’s lives including formal educational experiences and most labour market experiences, achievement, aspirations and expectations, and employment experiences. The design involved a longitudinal survey of

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<sup>4</sup> It is important to note that while recent immigrant children are included in the original cohort samples, those who immigrate to Canada during the study time period were not included. For example, the NLSCY children were sampled in 1994, and this sample included all children in Canada at this time, including immigrant children. However, this sample did not include immigrant children who moved to Canada in 1995.

<sup>5</sup> Statistics Canada is currently conducting an in-depth non-response evaluation, and one informant stated that the preliminary results from this study show that there is a bias problem in the in-school component. No significant biases exist, however, in the other components of the NLSCY.

each of two cohorts, ages 15 and 18-20, surveyed every two years. This study was a major impetus for the proposed OLSS and its objectives are very similar to those presented in the HEQCO RFP. HEQCO noted that the major failings in YITS was provincial sample size and representation of special groups.

The base 15 year-old sample participated in both Programme for International Student Assessment (PISA) and YITS. Starting in 2002, they were followed longitudinally. The survey population for the 18 to 20 year-old cohort included persons born in the years 1979 to 1981 excluding the northern territories, Indian reserves, Canadian Forces bases and some remote areas.

The 18-20 year-old sample employed a stratified multi-stage sample design based on the use of the Labour Force Survey sample. Within each household, one person in the target population was pre-selected for YITS (29,000).

The 15 year-old sample design involved two-stage probability sampling: first, with a stratified sample of 1,200 schools and; second, a sample of eligible students selected within each sampled school (38,000).

Only those who were re-contacted and responded in Cycle 4 were re-contacted in Cycle 5. The resulting sample size was 18,762 for the 15 year-old Reading Cohort (15 year-olds) and 12,360 for the 18 to 20 year-old cohort.

Not surprisingly, many of the YITS objectives were strikingly similar to those proposed for the OLSS.<sup>6</sup>

- (1) To examine key transitions in the lives of youth, such as the transition from high school to post-secondary schooling and the initial transition from schooling to the labour market.
- (2) To better understand educational and labour market pathways and the factors influencing these pathways.
- (3) To identify educational and occupational pathways that provide a smoother transition to the labour market.
- (4) To examine the incidence, characteristics, factors, and effects of leaving school.
- (5) To understand the impact of school effects on educational and occupational outcomes.

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<sup>6</sup> Youth in Transition Study (2000).  
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- (6) To examine the contribution of work experience programs, part-time jobs, and volunteer activities to skill development and transition to the labour market.
- (7) To study the attitudes, behaviours, and skills of young people entering the labour market.
- (8) To gain a better understanding of the determinants of post-secondary entry and post-secondary retention, including education financing.
- (9) To better understand the role of educational and labour market aspirations and expectations to invest in further education and career choice.
- (10) To explore the educational and occupational pathways of various subgroups, particularly youth “at risk”.

Data collection for the YITS cohort entering at ages 18-20 employed a computer-assisted telephone interview system (CATI; returns totalled 23,000).

Unlike the proposed OLSS, YITS relied on survey data with the same samples accessed over time and, therefore, the researchers did not have to deal with data integration from different sources and privacy issues.

The response rate for the 18-20 year-old cohort survey was 80%, and for the 15 year-old cohort was 78.3%. These response rates were relatively good and CATI might be the most effective strategy for follow up of difficult-to-access respondents. Nevertheless, the cost of this procedure for our recommended sample of 50,000 (including those with special education designation and language issues) would be exorbitant.

### **3. Recommended OLSS Sampling Approach**

Table 1 presents the target groups for each cycle of the proposed study. It also includes the proportions of the sample in each location (PSE institution or out of school), anticipated returns and the proposed survey approach (in-school survey, e-mail survey and/or telephone interview with contacting by texting and Facebook postings). This section presents the research group’s current thinking on the sampling and recruitment of participants based on our review of existing literature and our knowledge of the education system in Ontario. This design must be adapted to respond to stakeholder priorities as they have been and will be identified throughout the consultation process. The basic proposal includes a baseline sample representing one-third of the population of Grade 9 students in Ontario, n=50,000, enrolled in approximately 250 schools. The sample would be drawn from approximately 25 school boards.

**Table 1: OLSS Data Collection<sup>a</sup> Cycles, Groups & Methods**

<b>Cycle &amp; Study Year</b>	<b>Targeted Participant Group (n=anticipated returns)</b>	<b>% of original Grade 10 cohort</b>	<b>Data Collection Method</b>
Cycle 1 (Yr 1) (n=100%)	Grade 10 n=50,000	100%	In-class paper survey
Cycle 2 (Yr 3) (n=50,000: 47,500 – 5% attrition)	Grade 12 n=44,000 Out of school (No OSSD) (including transfers) n=3,500	91% 9%	In-class paper survey e-mail/texting/facebook/tele./mail <sup>b</sup>
Cycle 3 (Yr 4) (n=50,000: 45,250 – 9.5% attrition)	Year 5 n=13,500 University n=12,800 College n=5,450 Apprenticeship n=900 Out of school/Non-PSE n=12,600	30% 28% 12% 2% 28%	In-school survey e-mail/texting/facebook/tele./mail <sup>b</sup> e-mail/texting/facebook/tele./mail <sup>b</sup> e-mail/texting/facebook/tele./mail <sup>b</sup> e-mail/texting/facebook/tele./mail <sup>b</sup>
Cycle 4 (Yr 5) (n=50,000: 42,000 – 16% attrition)	Year 6 n=1,000 University n=14,970 College n=8,210 Apprenticeship n=2,430 Out of school/Non-PSE n=15,390	2% 34% 20% 6% 38%	In-school: e-mail/telephone e-mail/texting/facebook/tele./mail <sup>b</sup> e-mail/texting/facebook/tele./mail <sup>b</sup> e-mail/texting/facebook/tele./mail <sup>b</sup> e-mail/texting/facebook/tele./mail <sup>b</sup>
Cycle 5 (Yr 7) (n=50,000: 35,000 – 30% attrition)	University n=9,206 College n=8,448 College Completion n=2,037 Apprenticeship n=2,916 Out of school/Non-PSE n=12,393	28% 24% 6% 8% 34%	e-mail/texting/facebook/tele./mail <sup>b</sup> e-mail/texting/facebook/tele./mail <sup>b</sup> e-mail/texting/facebook/tele./mail <sup>b</sup> e-mail/texting/facebook/tele./mail <sup>b</sup> e-mail/texting/facebook/tele./mail <sup>b</sup>

<sup>a</sup> Data collection is recommended to take place in early Spring of the respondents' 16<sup>th</sup>, 18<sup>th</sup>, 19<sup>th</sup>, 20<sup>th</sup>, and 22<sup>nd</sup> year.

<sup>b</sup> E-addresses, postal addresses and telephone numbers would be requested on the initial Grade 10 surveys. An online survey will be e-mailed to subjects, if e-addresses are available. Follow up will be conducted by telephone for late returns. If agreeable, the subject will participate in the 7-8 minute telephone interview; otherwise, the survey would be mailed. Also, if no answer after 3 follow-up calls, texts and facebook postings, the survey would be mailed.

A two-stage cluster sample would be employed where boards are differentiated by type of school (public/Catholic) and geographic location within the province. Urban/rural representation could be captured by selective geographic ordering of school boards. Young people living in the rural and Northern parts of Ontario are not as densely distributed as they are in urban areas, and they usually attend relatively smaller schools. Hence the design recognizes that capturing community differences has to be built into the sampling procedure to allow the examination of geographic differences as they pertain to the educational outcomes of these students. This will

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enable an examination of policy issues such as migration from rural and Northern areas. School samples could be systematically ordered based on average school size and focus of courses (e.g. academic, applied). Identification of schools that will be randomly selected to achieve one-third of the sample will be made. Next, representation based on certain key categories needs to be considered, for example, ethnicity, Aboriginal status, and special education status (see sections which follow for more detail on sampling of these groups).

**a. Sampling of Special Needs Students**

Identified special needs students comprise about 115,000 secondary school students in public and Catholic school boards in Ontario. Some of these students are withdrawn for almost all of their school day, others are partially or fully integrated into regular classrooms, and others are in special schools. Special needs students representing different age groups are generally aggregated together to take Locally Developed Courses in English and Math and sometimes Science. These students are not proportionally distributed through the classes and require a special sampling scenario: we recommend that the sample include students with additional support needs in mainstream schools, and students in special schools (provincially funded special schools serving secondary school-age deaf, blind, and deaf-blind students).

Basic sample numbers will likely be too small for detailed analyses of subgroups due to the dispersion of these subgroups across schools in Ontario (that would include well over one-half of those receiving Special Education services). We estimate this number to be 20,000 to 25,000 students at the grade/age level. Our basic sample should include about one-third of these students (about 7,800). Therefore, the baseline sample of special needs students would have to be increased to make up for the small concentration of some categories of this subgroup across regular public high schools in Ontario (e.g., autistic students). However, this will imply that a disproportionate amount of resources would be required to include them in the study and accommodate their broad range of needs.

Subgroup analyses will examine experiences and outcomes of students receiving Special Education who are differentiated by other characteristics other than type of special need category, such as gender, ethnicity. The OLSS-special needs (SN) sample must be large enough to support such subgroup analyses to allow for generalizations across each subgroup or SN category. It may be necessary to combine subgroups of these students into larger logical disability groupings for analyses. We believe it is important to increase the initial samples to ensure that the numbers in the particular subgroup categories are large enough to account for

dispersion across the various post-secondary destination pathways and to allow for replacing cases lost to attrition.

**b. Aboriginal Student Sampling**

On-reserve Aboriginal students who are enrolled in public, Catholic and private secondary schools represent approximately one-quarter of all Aboriginal secondary school students in the province. The basic definition of Aboriginal includes: Inuit, Metis, and status Aboriginals and three-quarters of such designated students live off reserves. The Inuit numbers are so small, particularly with regard to Grade 10 enrollment, as to make their inclusion in the study questionable. Only about 1,200 Aboriginal on-reserve students would be found in Grade 10 across Ontario. Educational costs for these students are paid by the Federal Government and they are enrolled in Catholic, public and private schools. About one-half of these students are enrolled in 12 of the 950 public secondary schools in the province. Combining the sample of students living on reserve with the Aboriginal students that would be sampled through the basic sampling proposed for the study would yield approximately 800 Aboriginal on-reserve students in total. This would require that all Aboriginal on-reserve students enrolled in the 12 identified schools be included as an over-sample.

Off-reserve Aboriginal secondary school students, estimated at 4,400 students in Grade 10, would be drawn proportionately from the basic sample resulting in approximately 1,300 students. The resulting total sample of Aboriginal students (both off- and on-reserve) is estimated at 2,100 and should be suitable for meaningful analyses provided rigorous follow up of students is employed to minimize sample attrition.

We have real concerns about the ability to follow this subgroup effectively. One suggestion is that they be surveyed annually to maintain contact with them in order to minimize attrition. We also expect there to be a real need to ensure that the Aboriginal community is on board with their young people's participation in the study. Our initial consultations have uncovered potential concerns and issues that may need to be addressed and resolved prior to their formal participation in the research.

### **c. Language and Ethnocultural Groups**

Sampling based on immigrant status, language and ethnocultural background is a complex issue. There is great variation in the achievement and PSE enrolment of ethnic, ethnocultural or immigrant groups, and together they cannot be viewed as an entity. Sampling must recognize the diversity among these groups while ensuring adequate representation.

In order to establish representative sample sizes, not all groups can be adequately represented, but by identifying boards for the basic sample where substantial numbers of particular language and ethnocultural students are enrolled, most of the subgroups can be adequately represented. Where subgroups are too small in numbers to be effectively sampled, they can be aggregated for analysis purposes if they have similar achievement characteristics.

Student categorization data can be derived from the Ministry of Education's IMB variable 'main language spoken in the home' in the student Bio File, and from Statistics Canada (Statcan) census data Information on geographic concentration of immigrants.

Rather than carry out a simple random sample of Ontario school boards which would likely produce relatively small sample numbers of these subgroups, it would be best to select schools where young people from certain groups are concentrated (e.g., a large proportion of Ontario's Portuguese students are enrolled in TCDSB schools and Chinese students in two secondary schools in the TDSB) in order to ensure sufficient numbers of each ethnocultural group for analysis. Rather than selecting boards that include significant enrolments of these subgroups and risk biasing the provincial sample, it would be most effective to augment the sample by selecting specific schools. It would be necessary to select 25 such schools in the Peel, Toronto, and York public and Catholic school boards.

A number of organizations deal with immigrant issues in general as well as the interests of specific immigrant or ethnocultural groups. It is important to obtain the participation of representatives from these organizations to facilitate both the sampling process and the advisory functions required for the study.

With regard to French language sampling, small schools and geographically large boards make random sampling non-representative. A French language school board oversample would be required for the study.

## C. The Consultation Process

The contract with HEQCO required the research team to enter into a series of consultations in order to “develop and carry out a consultation process for the sector which will draw on the expertise and previous work in both the education and the postsecondary education sectors and, identify the opportunities and challenges in implementing the survey in the sector”. The consultations were also designed to prepare for a symposium of the stakeholders to refine the proposed study and to respond to particular stakeholder concerns. The consultation process as outlined in our response to the RFP was not completed as a result of a decision by HEQCO to delay further consultations until support from Ministry of Education, TCU, COU and Colleges Ontario was obtained, as well as the necessary financial resources to complete the study over the seven-year period.

Throughout the course of this project, meetings were held with representatives from the Ministry of Education, representatives of the Council of Ontario Directors of Education, Queen’s University Registrar, Ontario University Council of Registrars, Ontario University Admission Centre, school board researchers, Colleges Ontario, and along with Fiona Deller a meeting with TCU officials (Table C1 in Appendix C outlines the meetings and consultations held throughout this project to date.)

A document was prepared for each of the meetings to read beforehand by those attending. Each of these documents included a section on the proposed research study purpose, objectives and design, and another section on the indication of benefits that could accrue to the organizations if they participated in the study. The research team did not view it as their responsibility to obtain the agreement of the organizations to participate in the study.

The introductory parts to the document were modified slightly over the course of the consultations, but essentially were as follows:

### ***Proposed Design of a Longitudinal Study of Student Transition through Secondary School into Post-Secondary Education and other Destinations***

1. ***Purpose of the Study:*** *to track student pathways through secondary school to college, university, apprenticeship or the workforce, and identify factors affecting accessibility to post-secondary education by means of a longitudinal study conducted over a seven-year period.*

**2. Objectives:**

- a. *to describe the post-secondary aspirations of young people, their post-secondary education and career decision-making processes and their actual post-secondary destinations, as well as their demographic characteristics;*
- b. *to identify the factors that influence the decisions that young people make about their post-secondary pursuits during their secondary school experiences and as young adults in post-secondary institutions and/or in the workplace (factors including marks, courses/programming, the influence of family and friends, teachers and guidance counsellors and school experiences);*
- c. *to describe baseline information about students' early experiences in secondary school and transitions from secondary school to post-secondary education, transitions from secondary school to elsewhere (e.g., into the workforce) before and after completion, and movement in and out of formal education that could occur at several points in time.*

**3. Research Design:**

*The proposed study involves a trace of students from Grade 10 to their post-secondary destination (university, college, apprenticeship, workforce or other) seven years later. They will complete questionnaires at five points in time and their responses will be augmented with a parent questionnaire (in cycle 1) and course, program and achievement data from data files at the Ministry of Education, Ministry of Training, Colleges and Universities, OCAS, OUAC, Ontario universities and colleges.*

*A sample of 50,000 Grade 10 or year 2 students (i.e., one-third of year 2 secondary school student population) will be selected from about 250 Public and Catholic District School Boards schools.*

*The following groups of students will be oversampled to ensure valid and representative findings: Aboriginals, immigrants, Francophones and exceptional students.*

Most of the sections that follow include the parts of the document that describe some of the anticipated benefits that might be associated with the involvement of each of the organizations approached about the study. The organization, mandate and functions of HEQCO were not understood by most of the participants in the consultation process. A review of HEQCO's research program did little to enlighten the participants. However, it was clear to most of those consulted that this particular study had merit if conceptualized more specifically to respond to stakeholder concerns. In summary, the consultation process required not only a discussion of the study, but also a clarification of roles and responsibilities of the stakeholders, as well as of HEQCO.

## 1. Ministry of Education

The document we prepared for the Ministry of Education consultation provided the following possible advantages to them for their participation:

- (1) *Provision of a comprehensive picture of secondary school student course selection achievement and post-secondary destinations.*
- (2) *Identification of factors affecting educational decision-making throughout secondary school and beyond.*
- (3) *Contribution to the assessment of the effectiveness of secondary school programs, curriculum, and counselling in terms of post-secondary destinations, achievement and satisfaction (e.g., the impact of the dual credit system could be determined).*
- (4) *Determination of the feasibility of linking Ministry of Education, Ministry of Training, Colleges and Universities, OCAS, OUAC, and university and college achievement data sets.*
- (5) *Development of a strategy for ongoing monitoring of student progress and program evaluation.*

The document also reaffirmed the research team's assessment of the importance of the Ministry of Education in data integration, data management, and communication with the schools. The document included the following statements:

*In our proposal to HEQCO, we suggested that the Ministry of Education would be responsible for data integration and the maintenance of students' privacy consistent with FIPPA. The proposal would require the Ministry to be responsible for communication with the schools, the integration of data from student and parent surveys, student achievement, EQAO, OCAS, OUAC and ultimately student achievement data from universities and colleges. The research team would be responsible for data preparation and the development and processing of questionnaires; however, for the project to be successful all file integration and communication to schools would have to be managed by the Ministry of Education. This is a massive burden and would only be of value to the Ministry if officials could shape the research program in such a way as to respond to issues considered to be priorities in Ministry of Education program. The purpose of this consultation is to find an approach that would meet Ministry needs and the goals of HEQCO through this longitudinal study.*

One research team member met with Grant Clarke, Assistant Deputy Minister of Learning & Curriculum Division, and two other team members met with Raymond Théberge, Assistant Deputy Minister of French Language & Aboriginal Learning and Research Division, and Don Young, Director of IMB (currently Assistant Deputy Minister of Health System Information

System and Investment Division) and his colleagues. Team members emphasized the importance of the Ministry of Education playing a pivotal role in the study and tried to illustrate this role citing other similar studies with privacy- and data-related issues.

In our December 2009 proposal we had indicated that the Ministry of Education must be a full participant in the study in order for the study to be viable. We stated that the Ministry of Education should have the responsibility for data management and integration of data sources (i.e., secondary school student achievement data, EQAO data, OCAS and OUAC application/registration data, college and university achievement data, apprenticeship registrations, and of course the integration of the students' survey data); negotiations would be conducted with TCU to discuss the potential of obtaining apprenticeship registrations and with COU and Colleges Ontario to obtain student achievement data. We also noted that it would be necessary to fund an individual through the Ministry of Education part- or full-time for the course of the study. This person would be under the direction of EDU and not a formal member of the research team.

During the first meeting with Don Young, it was clear that the meeting was viewed as a request for access to Ministry of Education data, similar to the request made by PEDAL (also funded by HEQCO) as opposed to an information meeting about the study and expectations to gain collaboration of EDU for data integration and warehousing. He commented that smaller research initiatives would be received with a greater likelihood of success. It was not until later in the discussion that we were able to make clear the collaborative nature of the proposed study and the importance of the Ministry's participation. Within their area of responsibility, it was not possible to support or reject the OLSS research initiative. Our intent for this meeting to focus on the logistics of data integration and data management was thwarted because the study had not received support at a higher level.

Essentially the same issues evolved in the discussions with the two Assistant Deputy Ministers. Since the project was not understood as clearly consistent with Ministry of Education current priorities, it was difficult for them to find a place for the research proposal within their area of responsibility. They did see some value in the research if it could provide information in the short-term feedback consistent with government political priorities. Also some issues arose during the discussions regarding the Ministry of Education departmental roles and responsibilities. It became clear from these discussions that the study had to receive formal support from more senior members of the Ministry of Education (i.e., the Minister and the

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Deputy Minister) before these discussions could be fruitful. It is also worth noting that there was little evidence of knowledge of HEQCO and its research agenda during the discussions.

## **2. Ministry of Training, Colleges and Universities (TCU)**

Fiona Deller arranged a June 1st meeting with relevant Program Directors and Managers from TCU (Chris Monahan, Director, Research & Planning Branch; Ellen Passmore, Director, Strategic Policy and Initiatives Branch; Noah Morris, Director, Student Financial Assistance Branch (SFA); Victoria Pensa, Manager, Policy & Project Coordination Unit; Paddy Buckley, Manager, Training Colleges and Universities Policy Unit (in Leah Myers' PSE Secretariat); Shawna Macivor, Senior Policy Analyst, Interjurisdictional Relations Unit; Donna Wall, Manager, SFA Branch; Erin Schenk, Senior Policy Advisor, Policy & Project Coordination Unit). Two research team members attended this meeting.

We had prepared a brief document outlining the advantages of the OLSS to TCU, but Ms. Deller had prepared a detailed presentation which she eloquently presented to the gathering. Again it was clear that the participants did not know the mandate and function of HEQCO, and more importantly the relationship between TCU and HEQCO. The Directors and Managers were forced to respond to the presentation in terms of the priorities of their own particular departments and may have had a difficult time fitting the research proposal into their department's roles and responsibilities. It was especially notable that the TCU Director of Research was not able to clearly differentiate between TCU's research priorities and those of HEQCO. We anticipated that he would have knowledge of the study and be able to demonstrate how it fits in with TCU's research priorities. As with Ministry of Education meetings, the Directors and Managers viewed the study from their own departmental perspective and could not effectively comment on the larger picture. Ms. Deller's presentation did appear to be of interest to the Director of the Student Financial Assistance Branch who saw the importance of understanding the financial needs of students (e.g., Aboriginal and first and second generation students). Again it was clear that the study had to receive support at the Minister and Deputy Minister level before the department Directors and Managers could effectively respond to how it might be most effectively implemented. The research team members, and others present at the meeting, encouraged HEQCO to seek support at a higher level before discussions regarding more specific research details could be entertained.

### **3. Colleges Ontario (CO)**

The meeting with Colleges Ontario was held with Linda Franklin, President & CEO, Bill Summers (VP, Research) and Suzanne Dwyer (Research Officer), and two members of our team. Colleges Ontario representatives were provided with a document in advance outlining the study, indicating the advantages of the study associated with their participation and raising some questions regarding the study that might be of particular relevance to them (see below).

***Proposed Design** .... (brief description of the longitudinal study – see pp 20-21)*

#### ***Involvement of Colleges Ontario in OLSS***

*It is hoped that, through continuing consultations with Colleges Ontario, questions about how the study might be of benefit to the colleges will emerge. For example, responses to the questions such as the following could be raised:*

- (1) What do you see as the main issues associated with carrying out the longitudinal surveys particularly with regard to: (1) the interface between the secondary schools and the colleges; (2) use of OCAS data; (3) the relationship between secondary school and college achievement; and (4) mobility across colleges and between colleges and universities?*
- (2) What information would colleges like to obtain from the surveys and the hard data analysis of traced student records that would be useful to them?*
- (3) How can we build on the studies recently completed by Colleges Ontario?*
- (4) Before this study goes forward, are there other issues that the researchers and HEQCO should be aware of that are specific to the needs and concerns of the colleges?*

#### ***Potential Benefits to the Colleges***

*Of possible interest to the colleges, the benefits (as a whole, or in part) that might be derived from the study are as follows:*

- (1) Provision of a comprehensive picture of secondary school student course selection, achievement and student aspirations as they relate to enrolment in particular college programs.*
- (2) Identification of factors affecting educational decision making throughout secondary school and beyond. For example, How did students go about making the decision re post-secondary pursuits (i.e., what and who influenced their decision to go to college or directly to workplace; at what point, during or after secondary school, did they make the decision about pursuing PS activities?); How much did students know about financial assistance for college at the time of making the decision about post-secondary activity?*
- (3) Contribution to the assessment of the effectiveness of secondary school programs, curriculum, and counselling in terms of preparation for enrolling in college (e.g., determine the effectiveness of the Dual Credit System).*
- (4) Development of a strategy for ongoing monitoring of student progress and college program evaluation.*

After the research team summarized the purpose of the meeting, the CEO of Colleges Ontario representatives described a bit of the ‘ugly history’, as she called it, behind their negative attitude about taking part in the OLSS – “they had no intentions of doing so, partly because they

had all the data they needed from the Who Doesn't Go to PSE study" and partly because of "HEQCO's arrogant and uninformed approach to them about participation in the study earlier". The CEO noted that her view of HEQCO had improved since meeting the new CEO and President, Harvey Weingarten.

When Ms. Franklin asked about the relationship between the OLSS study and the McMaster study which appeared to them to be one and the same, she explained that they had turned down the request to have OCAS participate in the PEDAL study after seeking permission from the Committee of Presidents (COP).

The CEO showed an interest in some of the advantages of the study for the colleges:

(1) potential for finding out more about no shows who applied and were accepted; (2) learning more about changes in student decisions regarding programs and career paths; (3) being able to understand more about apprenticeship and to make the case for having apprenticeship completely run by the colleges; (4) tracing students who enter college from university and vice-versa; (5) learning more about the PS destinations of special needs, immigrant and Aboriginal students and (6) gaining more information about latecomers to college.

Colleges Ontario is able to block OCAS involvement in the proposed study. Our proposed discussions with OCAS would have involved only the logistics of data integration, data sources, and privacy of information issues.

#### **4. University Registrars**

In addition to the core document citing the background of the study, the document prepared for meetings of registrars included the following questions:

- (1) What do the registrars see as the main issues associated with carrying out the longitudinal surveys particularly with regard to the interface between the universities and secondary schools, universities and universities, universities and colleges, and colleges and colleges?*
- (2) What information would registrars like to glean from the surveys and the hard data analysis of traced student records that would be useful to them and their university?*
- (3) What do the registrars see as necessary to be in place to allow for links the data across the various sources (i.e., OUAC data, OENs, and university marks data)?*
- (4) Is it possible to develop a common measure of student achievement across universities (e.g., GPA)?*
- (5) What benefits for the universities could be derived from this study?*
- (6) Are there other issues that the researchers and HEQCO should be aware of before this study goes forward?*

A meeting was held with Jo-Anne Brady, Queen's University Registrar and two research team members. The registrar was quite supportive of the study and highlighted important issues she felt needed attention. She explained that there are inherent issues, some structural, at the university level that hinder student pathways despite their decisions.

These structural issues are due in part to:

- Universities' struggle with preparedness and capacity.
- COU focus on purpose-driven programs that quickly become irrelevant (e.g. push by Nortel executives in the '90s for increased spaces for computer majors resulted in huge number of graduates who could not obtain jobs).
- The huge disconnect between the Ministries of Training, College and Universities (TCU) and of Education (EDU).
- Differing agendas of universities and colleges.
- Joint programs between colleges and universities (e.g. Engineering Technology) facing professional accreditation issues.
- TCU's targeted envelope funding to universities rather than broad-based funding

An example of the latter is TCU was anxious for universities to pursue their Access agenda to increase participation of under-represented groups, e.g., second generation students. The University Experience Program was an offshoot of that initiative, where under-represented groups were invited and brought to different campuses to encourage them to apply, provide them with the various options available to them, and introduce them to the financial supports available. These students had to be identified by their teachers as students who would benefit from a university education; therefore, it was not optional to participate in the University Experience Program. Universities had to apply for funding from TCU to implement The University Experience Program. Queen's hired someone for Aboriginal recruitment.

Student access for under-represented groups was guaranteed through a TCU/OSAP plan that provided the tuition fee while universities covered the remaining costs. (Those who do not qualify for OSAP do not receive University bursaries.) After five years of implementation, TCU decided that the Access agenda was to be replaced by an agenda emphasizing student retention of the under-represented groups ("without evaluating the effectiveness of the former").

However, it was noted that the new 'Retention Agenda' was not inconsistent with the purposes of the OLSS: the study could be used to inform critical 'Retention' questions. In this regard the Registrar saw advantages in the following information potentially being collected by the OLSS:

- demographic and psychological/sociological factors associated with under-represented groups who enrol in PSE;
- derivation of students (e.g. 40% of Queen's students are from GTA, but universities need a finer breakdown of incoming characteristics);
- enrolment of under-represented groups (e.g. program choices, destination choices); and,
- progress of under-represented groups (e.g., retention, graduation, program/university transfer).

The Registrar viewed the student and parent surveys to be particularly useful because in her experience barriers to PSE are mainly due to absence of role models in the lives of students and the absence of a culture that emphasizes PSE which results in a lack of PSE aspirations not because students are incapable academically or financially. She would like to see not only students but also parents participate in programs similar to Access's University Experience Program.

She noted the following concerns with the study methodology:

- Current student records at universities are not standardised (e.g., Grades vs. GPA), this would be a challenge for data integration across institutions.
- OEN numbers are not part of student codes provided by institutions.
- FIPPA prohibits universities from releasing information about students without student consent. Therefore, she viewed that student consent would need to be re-collected at PSE institutions.
- Financial information will **not** be released under FIPPA and would need to be collected from students.

The Registrar indicated that she would attempt to have the study placed on the agenda of two upcoming spring meetings of her colleagues: the Ontario University Registrar's Association (OURA) and the executive committee of Ontario University Council on Admissions, (OUCA) an affiliate group of COU (also attended by representatives of TCU, EDU, and secondary school principals). Our documents outlining the study and pertinent questions of potential interest were forwarded to the chairs of those meetings. Those who attended the meetings seemed quite enthusiastic, and some registrars offered to take part in the study's developmental phase.

## **5. Ontario Universities' Application Centre (OUAC) and Ontario College Application Service (OCAS)**

The meetings planned with OCAS and held with OUAC were viewed by the research team as identifying and developing strategies to resolve the logistics issues of data matching, data integration and participant privacy. It was not the intent of these meetings to obtain the cooperation and support of these organizations because those would have to be obtained through Colleges Ontario and COU, respectively. The following questions in each document were raised:

- (1) What do you see as the main issues associated with carrying out the longitudinal surveys particularly with regard to the interface between the universities and secondary schools, universities and universities, universities and colleges, and colleges and colleges?*
- (2) What information obtained from the surveys and the hard data analysis of traced student records that would be particularly useful to universities and colleges?*
- (3) What do you see as necessary to be in place to allow for links to the data across the various sources (i.e., OUAC data, OCAS data, OENs, and university and college marks data)?*
- (4) Is it possible to develop a common measure of student achievement across universities and colleges (e.g., GPA)?*
- (5) Are there other issues that the researchers and HEQCO should be aware of before this study goes forward?*

One research team member met with George Granger, OUAC's Executive Director, and Trudy Sykes, Director of Operations in August. The discussion focused on logistics, timing and data integration, and reinforced the viability of the proposed OLSS study with regard to data availability and the potential for data merging.

We had also arranged a meeting with Greg Hughes, Senior Director, Policy & Analysis of OCAS. While a member of the research team was in transit to attend that meeting, he was notified that Greg Hughes had cancelled it because of his requirement to gain approval from Colleges Ontario. This was the case even though we had worked very closely with OCAS and Colleges Ontario for the past few years.

Both OUAC and OCAS are primary data sources and collaborators with secondary schools, colleges, and universities. The participation of both organizations in the study is crucial; however, gaining agreement for their participation is dependent on the initiation of COU and Colleges Ontario.

## **6. Council of Ontario Universities (COU)**

A meeting was arranged for one of our team members to be held in early August with Dr. Peter Gooch, COU Senior Director, Policy and Analysis, but was cancelled after discussion with HEQCO. Consequently, we have little insight into COU expectations with regard to the study. We presume that some of the issues that arose with Colleges Ontario would also be raised by COU, especially those related to advantages of the study for the universities. We recommend that the role of formal collaborator in the study be offered to COU. Since interest in the study on the part of university registrars was strong, we would expect COU to be supportive.

A similar outline to that submitted to other consulted organizations (see pp.21-22) was proposed for the cancelled meeting with Dr. Gooch. It was hoped that, through continuing consultations with COU and university registrars, questions about how the study might be of benefit to the universities would emerge. For example, responses to the questions such as the following could be raised:

- (1) What do you see as the main issues associated with carrying out the longitudinal surveys particularly with regard to: (1) the interface between the secondary schools and the universities; (2) use of OUAC data; (3) the relationship between secondary school and university achievement; and (4) mobility across universities and between universities and colleges?
- (2) What information would COU and university registrars like to obtain from the surveys and the hard data analysis of traced student records that would be useful to them?
- (3) How can we build on the studies recently underway and completed on the universities?
- (4) Before this study goes forward, are there other issues that the researchers and HEQCO should be aware of that are specific to the needs and concerns of the universities?

## **7. Ontario District School Boards**

Consultations – Frank Kelly, Executive Director of CODE; two school board directors (Martyn Beckett, Durham District School Board; Brenda Hunter, Limestone District School Board; Andre Labrie, Superintendent, Limestone District School Board); six researchers (Ottawa-Carleton Public and Catholic, Upper Canada Public, Halton Catholic, and Durham Public District School Boards); and informal discussions with administrators from nine school boards at a conference where a keynote presentation was made by one of our team members.

Our initial approach to the Ontario school boards was made in the winter through CODE (Council of Ontario Directors of Education). We made phone contact with Frank Kelly, Executive Director of CODE and followed that up with an email describing the study and its benefits for the secondary school system. In a later telephone conversation, he was very supportive and cited our past research as an indication of the kind of research the directors would support (he had

been on the advisory committee of two of our previous studies). He met with his executive committee to consider the OLSS study. They also were supportive, but knew little of HEQCO and its functions. We agreed to get back to them with more specifics on the study and the anticipated role of the school boards.

In addition, throughout the course of our OLSS developmental work, we have had informal consultations with other school board officials (e.g., Andre Labrie, Superintendent, and Brenda Hunter, Director, both of Limestone District School Board),

Ken Norrie of HEQCO suggested that it would be to our advantage to raise the possibility of a HEQCO-sponsored longitudinal study at the May 17 meeting of superintendents, principals and services team leaders from nine school boards. As keynote speaker, Alan King threaded issues related to the proposed study throughout his presentation, including an overhead of the study design. Andrew Harris, the Barrie Region Executive MISA Lead asked for a show of hands indicating whether the attendees supported the proposal. Almost every hand in the room went up (150 participants). There was enthusiasm for the study by almost all participants, particularly with regard to the potential of obtaining feedback on secondary school students' success in college and university. We do not foresee any major obstacles to overcome in obtaining support for the study from the boards across Ontario, but there is a need to provide them with clear and reliable information on the timing of the study, their role (e.g., facilitating data collection, privacy issues), and the type of feedback they would receive.

The Durham District School Board Director, Martyn Beckett, had been present at a CODE executive meeting where Frank Kelly presented the proposal. Mr. Beckett said there was considerable support for the study and he would be willing to present the proposal to the nine regional directors at their next meeting, which he very kindly has done.

With regard to the continuation of school board consultations, Fiona Deller indicated that HEQCO's president would send a letter to the school board directors. We suggest now that it would be best to send that letter to Frank Kelly, Executive Director of CODE and indicate (1) the evidence of the support that our SPEG/Queen's research team have received so far from him, school board directors and board research committee chairs and their researchers for the study, (2) an outline of the structure, function and mandate of HEQCO, (3) a description of the OLSS and its general objectives, and, (4) the current status of negotiations with and anticipated role of the Ministry of Education (EDU) and the Ministry of Training, Colleges and Universities (TCU)

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with regard to the study. It should be left to Frank Kelly as to how he disseminates the information to his colleagues. Since the next meeting of all CODE members takes place late in the fall, it might be timely to send such a letter.

**a. School Board Researchers**

We have prepared many drafts of the Grade 10 survey instrument. In June, two team members met with researchers from the Ottawa-Carleton Public, Catholic and Upper Canada Public District School Boards in Ottawa. They had received drafts of our latest (11<sup>th</sup> or so) version of the instrument and were prepared to deal with the issues in a very positive, work-oriented session. They suggested changes to approximately ten items and raised questions about others. We redrafted the instrument a few times in response to their review and our further discussions before we sent copies to the second group who agreed to consult with us on the instrument.

Three research team members met with a second group of school board researchers who were from the Halton Catholic and Durham District School Boards in July. Not only did they provide useful insight on issues related to approximately 12 items with suggested rewording on some of them in the Grade 10 survey draft, but they also were very enthusiastic about the study. In fact, after the Ottawa meeting, the school board researchers offered to prepare a letter of support for the study from the Ottawa-Carleton Research Advisory Committee to the Ministry of Education as did the chief researcher from Halton Catholic District School Board.

In addition, we had met in the spring with Rob Brown, the Research Director for the Toronto District Board of Education. He was particularly helpful in dealing with research issues related to student information access. He saw little value in the Parent Survey requested by HEQCO as part of the OLSS study because, in the Toronto Board experience, response rates had been poor. The school board researchers in meetings described above and others with whom we have had informal discussions were also opposed to the Parent Survey for reasons of poor response rates to their knowledge.

## **D. Instrument Development, Survey Implementation & Database Integration**

This section focuses primarily on the rationale, structure and content of the Grade 10 student questionnaire for Cycle 1. It is designed to complement and not replace course selection and achievement information that is sent from the school boards to be stored in the data bank of the Ministry of Education's Information Management Branch. A main function of the survey is to obtain a comprehensive picture of students' level of school engagement, post-secondary plans and factors affecting them.

It is useful to examine the survey development process in terms of the other data sources and the overall timing of data collection over the course of the study. Table 2 summarizes the data sources for each cycle of the study, the status of the sample (i.e., where they are at each point in survey administration timing), and the suggested content for each of the remaining surveys. While the Grade 10 survey will access respondents when they are in school, in the subsequent four cycles, there will be variations in respondents' educational status and, as a result, in the content of the surveys.

### ***Parent Survey***

Since a parent survey is not likely to be useful as a source for adding information on parent influence on students' aspirations because of anticipated low response rates, we have not included it as part of the basic database. However, a parent survey could be employed for a separate analysis (i.e., not linked to the basic sample), that might prove to be useful in understanding parent perspectives on education in general and their children in particular.

**Table 2: OLSS Data Cycles, Sample, Survey Topics & Sources – Cycle 1 (Year 1)**

Study Cycle	Sample (Status)	Survey Topics	Data Sources	
			Secondary School Courses & Marks	EQAO
Cycle 1 Year 1	Grade 10 (100%)	Background Parents' Education/ Home Situation Course Types Achievement (Grade 9) School Engagement (Extra-curricular participation, relationship with teachers, parent involvement in school, peer relationships) Self Concept Post-Secondary Plans Factors Affecting PSE Sources of Info & Influence	Grade 9 Courses & Marks ESL/EDL Special Education	Grade 9 English Mathematics Science Grade 10 Literacy Test

....Table 2 cont'd

**Table 2 (cont'd): OLSS Data Cycles, Sample, Survey Topics & Sources – Cycle 2 (Year 3)**

Study Cycle	Sample (Status)	Survey Topics*	Data Sources		
			Secondary School Courses, Programs & Marks	EQAO	PSE Applications
Cycle 2 Year 3	a) Grade 12 (91%)	Background* Course Types* Achievement-Gr10 & 11 School Engagement* (see Gr 10 Survey) Self Concept* Part-time Job(s) Post-Secondary Plans/College & University applications* Perceptions of college, university, apprenticeship Factors Affecting PSE/perceived barriers to PSE (e.g., finances, peer & parent attitude re PSE, sources of info re PSE including apprenticeship, peer PSE plans, use of guidance services, hours of homework, motivation)*	Grade 10 & 11 Courses & Marks  Grade 12 Courses & Marks  OYAP (apprenticeship registration)  Coop Ed  High Skills Program  ESL/EDL  Special Education	Literacy Test Status	Colleges and programs applied to (OCAS)  Universities and programs applied to (OUAC)
	Out-of-school <sup>a</sup> (9%) employed in workforce or seeking employment	same Grade 12 Survey topics specified as on previous page* Average Achievement (previous yr)* Factors Affecting School Leaving (attitude re school & teachers, parent & teacher expectations)* Work Status* Career Plans	Same as above		

<sup>a</sup> Schools should have access to these 'out-of-school' individuals since they are supposed to be officially registered in school until age 18.

....Table 2 cont'd

**Table 2 (cont'd): OLSS Data Cycles, Sample, Survey Topics & Sources – Cycle 3 (Year 4)**

Study Cycle	Sample (Status)	Survey Topics*	Data Sources		
			Secondary School Courses, Programs & Marks	EQAO	PSE Applications, Registrations, Programs
Cycle 3 Year 4	a) Year 5 (SS) (30%)	same Grade 12 Survey topics specified as on previous page*	Grade 12 & Year 5 Courses & Marks  OYAP (apprenticeship registration)  Coop Ed  High Skills Program  ESL/EDL  Special Education	Literacy Test status	Colleges and programs applied to (OCAS)  Universities and programs applied to (OUAC)
	b) College (12%) 1 <sup>st</sup> Year	Background*  Type of Sec School courses*  Program*  Achievement*-Gr12  School Engagement (extra-curricular participation, peer relationships)*  Part-Time Job(s)*  Financial supports*  System Supports (e.g., Counseling, professors)*  PSE & career aspirations*	Same as above		Program Status (OCAS)
	c) University (28%) 1 <sup>st</sup> Year	Same topics as in College Survey above	Same as above		Program Status (OUAC)
	d) Apprenticeship (2%)	Background  Trade  Apprenticeship Status  Achievement  School Engagement	Same as above		Registration & Status
	e) Out-of-school (28%) employed in workforce or seeking employment	same Cycle 2 Out-of-School Survey topics specified as on previous page*	Same as above		

....Table 2 cont'd

**Table 2 (cont'd): OLSS Data Cycles, Sample, Survey Topics & Sources – Cycles 4 (Year 5) & 5 (Year 7)**

Study Cycle	Sample (Status)	Survey Topics	Data Sources	
			PSE Applications & Registrations	PSE Programs & Achievement
<b>Cycle 4 Year 5</b>	a) College (20%)	Same topics as in Cycle 3 College Survey	Colleges and programs applied to and registered in (OCAS)	College program; GPA
	b) University (34%)	Same topics as in Cycle 3 University Survey	Universities and programs applied to and registered in (OUAC)	University program; GPA
	c) Apprenticeship (6%)	Same topics as in Cycle 3 Apprenticeship Survey	Apprenticeship Registration & Status	
	d) Out-of-school (40%) (or 6 <sup>th</sup> Year in Secondary School -1 to 2%) employed in workforce or seeking employment	Same topics as in Cycle 3 Out-of-School Survey	Colleges and programs applied to and registered in (OCAS)  Universities and programs applied to and registered in (OUAC)	
<b>Cycle 5 Year 7</b>	a) College (24%)	Same topics as in Cycle 4 College Survey	Colleges and programs applied to and registered in (OCAS)	College program GPA status (year, transfer)
	b) University (28%)	Same topics as in Cycle 4 University Survey	Universities and programs applied to and registered in (OUAC)	University program GPA status (year, transfer)
	c) College Completion (6%)	Same topics as in Cycle 4 College Survey		Program completed
	d) Apprenticeship (8%)	Same topics as in Cycle 3 Apprenticeship Survey	Apprenticeship Registration & Status	
	e) Out-of-school (34%) employed in workforce or seeking employment	Same topics as in Cycle 3 Out-of-School Survey	Colleges and programs applied to and registered in (OCAS)  Universities and programs applied to and registered in (OUAC)	

This fourth section of the report is organized as follows: the principles guiding the design of the Grade 10 Survey; research used to help shape the survey content with particular reference to the concept of ‘school engagement’; the survey items in their current form with a rationale for their inclusion within each part; a discussion of the response keys, item ordering and open-ended items as well as of the review of drafts (including reviews by school board researchers) and the survey piloting; and, finally, a proposal for implementation of each cycle of the survey and for database development.

## 1. Grade 10 Survey Design Principles

Although the questionnaire is only one source of data, it is the only source for certain demographic data (e.g., parent characteristics), as well as attitudinal data. Therefore, it is critical that the questionnaire design facilitates complete and valid student responses. Therefore, the length and item clarity of the questionnaire are fundamental to its design.

Since the questionnaire must ensure complete responses from 'difficult-to-survey' groups such as those whose main language is other than English or French (a French language version of the questionnaire will be required), and exceptional and Aboriginal students, clarity and validity of the survey language for those groups are particularly important.

The following criteria have been applied in the design of the Grade 10 questionnaire:

- a. The questionnaire should take approximately 15 minutes to complete for the fastest students and 30 minutes for the slowest students (11 to 12 pages).
- b. The language complexity should not exceed the Grade 6 level (determined through grade level analysis).
- c. The question leads or stems should be short and clear. Use "other", "please specify" to minimize the range of alternative responses and the need to make the leads too complex.
- d. The questions must flow from broad themes (e.g., school engagement).
- e. The questions must be designed so that respondents do not have to respond "don't know" very often.
- f. Avoid all indications that the survey has any of the characteristics of a test.
- g. Minimize the requirement of duplicate data sources (e.g., marks, course choices). Core course types can be used to provide a useful post-secondary destination link.
- h. More specific data on career plans can be obtained in the Grade 12 survey (it is difficult to make effective use of information that Grade 10 students provide on occupational goals) – see the Double Cohort studies (King & Warren, 2001; King & Warren, 2002; King & Warren, 2003; King, Warren, Boyer & Chin, 2005) and Transition to College: Perspectives of Secondary School Students (King & Warren, 2006).

## 2. Defining School Engagement

The concept 'engagement in school' was used throughout HEQCO's RFP as a major aspect required for the longitudinal analysis. In our review of the literature, we have found a wide range of studies that contain elements related to the theme of school engagement (see Table D1 in Appendix D).

In defining the concept of 'engagement' it is useful at this point to introduce the constructs of school engagement created by L. Barr-Telford and C. Norris at Statistics Canada.<sup>7</sup> The definition and components of their model were used with the *National Longitudinal Survey of Children and Youth* (NLSCY; Norris, Pignal & Lipps, 1998) and with *The Youth in Transition Survey* (YITS; Barr-Telford & Norris, 1998) and likely influenced the concept in HEQCO's RFP.

*A student's engagement or involvement with school ... academic achievement and the probability of graduating from high school. It is thought to be a concept composed of several factors including a student's participation both academically and socially at school and students' identification with their school in terms of whether they feel that they belong and whether they value their school experiences both currently and with respect to their future.*

*Academic engagement is defined as the identification with and behavioural involvement in the academic aspects of school. ... students' dealings with teachers, curriculum, and school governance. Identification in the academic aspect can be further subdivided into two constructs: belonging and valuing. Belonging refers both to a sense of fit between students' perceived needs and the offerings of the school, and to students' perception that they are in an environment where they are cared about and respected. Valuing refers to students' endorsement of the goals of education in general and academics in particular. For example, valuing includes students' interests in and beliefs about the importance and relevance of academic achievement.*

*Social engagement is defined as the identification with and behavioural involvement in the social aspects of school. ... the informal, out-of-classroom interests and activities associated with school. ... relationship with peers, extracurricular activities and contacts with teachers outside of the classroom. Identification with the social aspects of school involves both a feeling of belonging and a sense of fit between the individual and the school's social environment. Valuing is the belief that being socially involved in school and interested in the social life of the school are important.*

*(Barr-Telford & Norris, 1998)*

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<sup>7</sup> The definition and constructs of school engagement created by L. Barr-Telford and C. Norris at Statistics Canada are based on the work of J. Finn (1993), K. Voelkl (1995), and J.D Willms and colleagues at the Atlantic Centre for Policy Research in Education (University of New Brunswick, 1998).

Our own research on adolescents over the years has employed the broad term ‘relationship with school’ that corresponds to the constructs embedded in the term ‘school engagement’ (King, 1986; King & Peart, 1990; King & Peart, 1994; King & Warren, 2001 to 2003; King, Warren, Boyer & Chin, 2005; King, Wold, Smith & Harel 1996; Boyce, King & Roche, 2008). There is other relevant research (e.g., Wilms, 2003; Ladd, 1990; and, Voelkl, 1996), and the most comprehensive analysis of school engagement (found in the National Centre for School Engagement, 2006) focused on such concepts as school satisfaction, relationship with teachers, participation in extracurricular activities, homework, motivation related to PSE, and parental support. We have incorporated these concepts in the design of the Grade 10 survey.

A review of the findings reported on the implementation of similar questionnaires has been helpful in the design of the Grade 10 Survey (see Table D1 in Appendix D). However, we would be remiss if we did not say that our own research (particularly the Post-Secondary Plans Survey in Transition to College: Perspectives of Secondary School Students conducted for Colleges Ontario: King & Warren, 2006) has been a significant resource.

### **3. Survey Design**

The Grade 10 survey instrument was divided into six sections: Background, Educational Issues, School Engagement, Self-Concept (Emotional Well-Being), Post-Secondary Plans, and Sources of Information. The items with response categories of the Grade 10 instrument can be seen in Appendix E, but the questions, stems and statements of each item, as well as the open-ended items, are shown below by theme.

#### **a. Background**

The background questions were designed to establish student categories of particular interest (e.g., gender, ethnocultural background, language, special needs, and location). For example, two broad categories from the analysis could be female on-reserve Aboriginals; or, male, mother born in Jamaica, father in Canada; visible minority (black). Language issues were also included in this section, along with parents education and home arrangement (with whom do you live, siblings). Because there are so many language and places of birth options, the respondent will be required to write in language categories and place of birth, other than “Canada”, “English” and “French.” Pages of language and country lists not only extend the time to fill out the survey, but unnecessarily challenge the slow reader.

The background section includes the following items:

1. Are you male or female?
2. When were you born? *For example, if you were born on September 8, 1996, you would write*

0	8
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*in the boxes beside 'Day',*

0	9
---	---

*in the boxes beside 'Month', and*

9	6
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*in the boxes beside 'Year'.*
3. Where were you born?
4. Where were your parents<sup>8</sup> born? (If your parents were born in different countries place a checkmark [✓] in the box **under each one**.)
5. Are you of Aboriginal background? If 'Yes', which of the following describes you?
  - a. Do you live on a reservation?
6. What is the language **most often spoken** in your home?
  - a. What other language(s) are spoken in your home (*please specify below; if none, write "none"*)?
7. In what language do you feel most comfortable?
8. How many years have you lived in Canada?
9. Do you belong to a visible minority?
10. What level of education has **each** of your parents achieved?
11. With whom do you live?
12. How many children, other than you, are there in your family?
13. How well off do you think your family is?
14. Do you currently have a part-time job(s) for which you are paid?
  - a. If you answered "Yes", indicate the number of hours you usually work in a week.

Item 10 is designed to be part of a measure of SES with the other part coming from item 13 (How well off do you think your family is?) On the surface, item 13 should provide a useful determinant of SES, but in practice over 90% of respondents chose 'average' or above average' and 57% chose 'very well off' or 'quite well off' (HBSC 2009-2010, Canadian report in progress).

## **b. Educational Issues**

The educational issues section focuses on school programs and achievement, and factors affecting them. The section includes essentially factual items rather than attitudinal items. Type of courses taken (Academic, Applied, Locally Developed), along with academic achievement (average marks) are strong indicators of OSSD completion and PSE enrolment (see King et al., 2009). We have used a general category of 'Special Education' or 'IEP' in the past and related it to PSE enrolment, but one category is much too general; consequently, we propose to employ a

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<sup>8</sup> Questions that state "parents" also refer to a single parent, guardian(s), step-parent(s), and foster parent(s).

range of categories studying the analysis (e.g., autism, behaviour problems). Having respondents project next year's courses and programs should prove useful in indicating PSE interest, especially when linked to such factors as parental influence, language, ethnocultural background and educational plans. Items such as hours of homework, use of computer, and 'extra help' should also be useful measures of motivation. This section includes the following items:

15. Do you have any impairment, handicap or disability (*e.g., poor hearing, physical disability, learning disability*)?
  - a. If "Yes", does your disability limit any of your school-related activities?
  - b. Do you have an Individualized Education Plan (that is, an IEP for your special needs)?
16. Do you use a computer at home?
  - a. If "Yes", how much time in a day do you **usually** spend using the computer? (Please specify in hours and/or minutes.)
17. Have you received extra help with your **learning** since you have been in high school? (Select **all** that apply.)
  - a. In school:
  - b. Out of school:
18. What English and Mathematics courses did you take in Grade 9?
19. Did you pass all of your Grade 9 courses?
20. Indicate the English and Mathematics courses that you expect to take in Grade 11.
21. To which of the following have you applied for next year (*select all that apply*)?
22. Are you taking, or have you taken the following courses?
23. Approximately, what was your overall average in Grade 9?
24. Overall, how do you think your marks compare with other students in your class?
25. Since last year, have your overall marks: (improved, stayed the same, dropped)
26. On average, how many **hours per week** do you usually spend on homework?

### **c. School Engagement**

A large component of this section is essentially attitudinal. The items are designed to be integrated into a series of scales – engagement/involvement in or attitude towards school, relationship with parents, relationship with teachers, and relationship with peers. Many of the items are derived from those we had designed for scales of previous studies (e.g., the World Health Organization-sponsored Health Behaviours of School Children Study – HBSC, in which the reliability measures were reasonably high; for example, the nine-item 'attitude towards school scale': Cronbach's  $\alpha = .87$ ; the nine-item 'parent trust and communication scale': Cronbach's  $\alpha = .80$ ; the six-item 'emotional well being scale': Cronbach's  $\alpha = .82$  (Boyce, King & Roche, 2008).

Positive measures on the scales proposed for the OLSS Grade 10 instrument will indicate that an individual feels comfortable in school, with support from parents, teachers and peers, and as a result would be encouraged to remain in school and enroll in post-secondary education. The scales design assumes that the management of these factors is critical to the sense of school-related well-being that sustains young people while in school and that stress emanating from parents' high expectations and school-related sources of information about post-secondary activities can prove to be particularly difficult for students.

The community involvement item set is relatively new to the discussion on 'school engagement' since it would appear that such activities might be in conflict with similar school-related activities, but such engagement may also be sustaining. One of the research questions of this study is to examine this issue more closely. The community involvement item set is paralleled with a school involvement set of items.

The section also includes items to indicate dissatisfaction with school (skipping classes, suspensions, feeling left out), factors affecting liking school (What I like most ...), and factors affecting school involvement (travelling to school, why no participation in extracurricular activities).

### **i) School**

27. Please show how much you agree or disagree with each statement.
  - a. My school is a nice place to be.
  - b. I feel I belong at this school.
  - c. I like school.
  - d. I feel accepted in this school.
  - e. Most of my friends like school.
  - f. I wish I could go to another school.
  - g. I feel safe at this school.
  - h. My school has a reputation as a good school.
  - i. I am doing the best I can at school.
  - j. This school is meeting my educational needs. [Grade 12 only?]
28. What I like most about school is ... (e.g., *school subjects – Mathematics, Art; school sports; clubs, time with friends. Indicate first and second choices*).
29. Sometimes I feel left out in school because of: (Select **all** that apply.)
30. Have you skipped a class(es) this school year?
  - a. If "Yes", how often?
31. Have you ever been suspended from school?

32. How do you typically get to and from school? (Select one choice.)
33. On a typical day, how much time does it take you to get to school from home?

## ii) Involvement in School Activities

34. Please answer “Yes” or “No” to **each** of the following questions. If you are unsure about your response to a question for some reason, select the “Uncertain” box.
- a. This year, I am playing or expect to play on a school team.
  - b. This year, I am participating or plan to participate in:
35. If you do **not** participate in school activities, what are the reasons? (Select **all** that apply.)

## iii) Relationship with Teachers

36. Please show how much you agree or disagree with each statement.
- a. I feel that most of my teachers care for me as a person.
  - b. When I need extra help at school, I can get it.
  - c. Most of my teachers treat me fairly.
  - d. I feel I can talk to at least one teacher about things that are bothering me.
  - e. Most of my teachers encourage me in my school work.
  - f. Most of my teachers expect too much of me.
  - g. At least one adult cares about me in school.

## iv) Relationship with Peers

37. Please show how much you agree or disagree with each statement.
- a. Other students accept me as I am.
  - b. Students in my class(es) treat each other with respect.
  - c. I can talk easily with my best friend(s) about things that really bother me.
  - d. Most of my friends go to my school.
  - e. Students in this school do not like others who are different.

## v) Relationship with Parents

38. Please show how much you agree or disagree with the following statements.
- a. My parent(s) understand me.
  - b. I have a happy home life.
  - c. My parent(s) expect too much of me.
  - d. I have a lot of arguments with my parent(s).
  - e. My parents trust me.
  - f. There are times I would like to leave home.
  - g. What my parent(s) think of me is important.
  - h. I feel comfortable talking to my father.

- i. I feel comfortable talking to my mother.
- j. When I need extra help with schoolwork, I can get it from my parent(s).
- k. My parent(s) attend events at my school.
- l. My parent(s) show an interest in my work at school.

**vi) Community Involvement**

39. Do you take part in any of the following types of activities **outside of school**: (Please place a checkmark [✓] to the right of **all** activities that apply and indicate the typical number of hours you spend in a week when you are involved.)
- a. Arts (e.g., visual arts, drama, dance)
  - b. Music (e.g., piano lessons, band, choir)
  - c. Youth organizations (e.g., Scouts/Girl Guides)
  - d. Church or religious group activities
  - e. Competitive Sports (e.g., swimming team, rep hockey)
  - f. Recreational Sports (e.g., house league hockey, soccer)
  - g. Volunteer activities (e.g., with the elderly, food bank)
  - h. Other (please specify) \_\_\_\_\_
  - i. I am not involved in any kind of activities, clubs or organizations outside of school

**d. Self-Concept (Emotional Well-Being)**

These items comprise a scale that we designed many years ago. It has been used in most of our studies on adolescents with little modification, up to and including the HBSC studies in which SPEG is currently involved. The scale has proven to be a powerful predictor of perseverance in school.

40. Please show how much you agree or disagree with the following statements.
- a. I have trouble making decisions.
  - b. I have confidence in myself.
  - c. I often wish I were someone else.
  - d. I would change how I look if I could.
  - e. I often feel left out of things.
  - f. I like myself.

**e. Post-Secondary Plans**

The items in this section were derived in part from our research on attitudes toward post-secondary education and the characteristics of those who do not go to post-secondary education, and are primarily designed to determine the role of parents in students' post-secondary educational decision making. The items are as follows:

- 41. Which of the following best describes what you expect to do right after high school?
- 42. What do your parent(s) expect you to do after high school?
  - a. To what extent do you feel pressure from your parent(s) to achieve this goal?

43. Please show how much you agree or disagree with the following statements.

- a. I am concerned about the costs of attending a university or college.
- b. I would prefer to attend a university or college near my home

**f. Sources of Post-Secondary Information**

There are so many possible sources of information for students on post-secondary education, as well as options on access to and the value of them that we decided to simplify this section in the Grade 10 Survey and to add more options in the Cycle 2 survey. When we included sources, effectiveness and utilization categories in a previous study, we found it was much too complex for many Grade 11, Grade 12 and Year 5 students and, as a result, there were many incomplete questionnaires (King & Warren, 2006). These three items were viewed as valid by the school board researchers and would work well in terms of time to complete and completion rates.

- 44. How would you describe your knowledge (*i.e., post-secondary options, costs, requirements*) of the following?
- 45. Have you spoken to a high school Guidance Counselor about your educational and career plans?
- 46. How important have each of the following (*e.g., parents, teachers, career information*) been in influencing your educational and career plans?

**g. Response Keys, Questionnaire Item Ordering and Open-ended Items**

Many of the questionnaire items require explicitly factual answers with simple response choices (e.g., 'yes', 'no' 'uncertain'; types of courses taken). Most of the remaining items are attitudinal, within the overarching theme of school engagement, and utilize a Likert set of response choices ranging from positive to negative: 'strongly agree', 'agree', 'neither agree nor disagree', 'disagree' and 'strongly disagree'. The Likert scale was selected because it is the most appropriate device for developing meaningful scales with acceptable statistical properties, but it does not always present a perfect fit for each stem. It may be necessary to refine this response key as a result of piloting the survey.

Headings and subheadings are used in the Grade 10 Survey for stakeholders and editors to see the topics covered (see Appendix E) and will not necessarily remain in the finished version. We recommend that Items be reordered for the pilot testing so that all items using Likert response choices will appear in one location and appear in a random order.

The coding of open-ended items can be time-consuming and costly; however, the task will be less so than it appears. Nineteen items include space, at the end of the given response choices, to specify an 'other' response. Including an opportunity to respond beyond the 'closed' response choices provided encourages the respondent not only to feel free to write down a response peculiar to his or her particular situation but also to think creatively while avoiding being 'hemmed in' by the given choices. Because an attempt has been made to provide as many response choices as feasible, it is anticipated, as is usually the case, that very few respondents actually specify an 'other' response.

Only two remaining questions ask for a written response; i.e., item 6a in which the respondent who indicated that a language other than English or French was spoken in the home is asked to specify the particular language spoken there (relatively few respondents would not speak one of the two official languages); and item 29 that requests two written choices of what the respondent likes most about school. Rather than design the first item to list multiple language choices that would take extra space on the questionnaire and time for the very few respondents to read through the choices, it was decided to have the respondent record the actual language spoken in the home. To maximize efficient data entry, the operators will work from a pre-designed list of languages and aspects of school in order to be able to quickly code responses.

#### **4. Reviewing and Piloting the Survey**

The survey has been modified as a result of thorough discussions among research team members and with six researchers from five school districts (see Consultation section) as well as ongoing reviews of similar materials. Revisions that were made were done without changing the fundamental concepts. The discussions focused on wording, clarity, appropriateness of items for the cohort and the research, timing of implementation, and alternative strategies for obtaining the required information. Also, considerable time was spent on implementation strategies, information for survey content and board researchers' own experiences implementing similar surveys. Changes in terms of layout, item clarity, and item scaling were made as a result of these useful discussions.

The survey will likely be modified after feedback is received from HEQCO and after a closely-monitored piloting phase. Special attention has to be given to accessing and making the items understandable to 'special needs' students and students with language difficulties. These respondents are required for inclusion in the study because their opportunities for access to post-secondary education are important (they are a HEQCO priority). Similar studies (e.g., OLSS: Development Phase-Final Report (Nov 17, 2010)

YITS) have tended to ignore such students because access is so difficult, but it is possible to effectively involve them in a study.

## **5. Survey Implementation Strategies & Data Linkages**

The survey is only one part of the research process in all five cycles. Survey data for Cycles 1 to 3 will be linked to EQAO achievement measures, student course enrolment and achievement information from the secondary schools and in Cycles 3 to 5 from universities and colleges.

It is important to note that for each cycle an effort will be made to contact the 50,000 respondents in the basic sample. Even if a member of the original sample does not respond in a particular cycle, him/her data will remain in the database and an effort will be made to encourage him/her to complete a subsequent cycle survey. Each cycle will start with the same 50,000 respondents sample identified for each cycle.<sup>9</sup>

Since data from the subsequent cycles will have to be linked to those of each respondent, privacy issues will be raised at each stage of the process and must be anticipated and resolved at the outset of the study. Experience from similar projects suggests that in order to ensure that privacy and other data-integration concerns are resolved, it is necessary to: (1) make the study 'government-sponsored'; (2) establish a mechanism for data integration and database management; and (3) determine how data from multiple sources can be efficiently integrated. If the Provincial Government is perceived as the official sponsor of the study, all the questions of individual respondent privacy are likely to be resolved since the government has the legal right to collect such information.

If the government is to ensure respondent privacy, they must control access to the data files and guarantee that no one outside of government would be able to associate respondents' data with their names. Researchers using the database should not be able to link data to particular respondents. That is why we have strongly recommended throughout the consultation process that the Ministry of Education's Information Management Branch (IMB) be given the responsibility for data integration and database management. If the researchers have some responsibility for data entry, they should not have student names on surveys, but should supply the IMB with entered data on codes that the IMB would match with student OENs. In addition,

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<sup>9</sup> It may require up to 54,000 or more Grade 10 students in the sampling framework to obtain the 50,000 sample for the study.

the surveys must be viewed by respondents and educational institutions as coming from the government (in this case, the Ministry of Education).

**a. Cycle 1 – Year 1 of the study: Grade 10 Survey**

We recommend that Cycle 1 involve questionnaire printing (the research team’s responsibility), questionnaire distribution (the Ministry of Education), follow up to late schools (research team), and data entry of the 50,000 student questionnaires (research team). Based on our discussions with school board researchers, the best way to maximize return rates and response validity is to have students complete questionnaires in pencil and paper format in classrooms. This procedure will require two ID labels to be placed on the questionnaires in advance at IMB. To preserve student confidentiality, one label – the student name and OEN—will be removed at the school as the teacher hands the questionnaire to the student, the second—a ‘matched’ code number – will remain on the questionnaire for the researchers. The completed questionnaires will be sent to the research team for manual data entry. (Methods for following up to capture absentees to complete the questionnaire will be included in the teacher instructions for questionnaire administration.)

The research team will arrange for data entry using the coded ID label, and the file will be sent to the Ministry of Education’s IMB where the coded ID label will be matched to the OEN, and the database established. Cycles 2 to 5 surveys will be managed in the same way; that is, completed surveys with the ‘matched’ ID code labels will be received by the research team, data entered and the file sent to the IMB for respondent code matching and responses integrated into the database. If an independent research team is given responsibility for dealing with ‘privacy’ issues independent of government, then the project as currently formulated is unlikely to be successful.

The following is a brief summary of Cycles 2 to 5 data collection procedures (Table 2, pp 34-37 summarized the data sources).

**b. Cycle 2 – Year 3: Grade 12 Survey**

Cycle 2 of the study involves a second questionnaire distributed to the same students who completed a questionnaire in Cycle 1 of the study. This second cycle will occur two years after the first cycle, when the majority of students will be in Grade 12. While the majority of students will still be attending school at this time, and all are officially required to be in school, there will probably be an out-of-school rate of approximately 8 to 10%. Further, some students will have

transferred to different schools from those in their Grade 10 year. Given that these two groups of students are important sub-populations, the researchers should try to include both the students who are poor- or non-attendees and the students who have transferred into different schools. Paper surveys will be distributed to the same cohort of students in the same schools as in the previous cycle. For those difficult-to-reach students who are out of school or have moved to a different school, questionnaires will be distributed electronically to these individuals (approx. 5,000). Follow-up text messages, emails, and Facebook postings and mail-out questionnaires, and telephone calls to non-respondents will be used to increase response rates of these participants, with an anticipated success rate of 70% (approximately 3,500 difficult-to-reach participants).

In all, this cycle will involve data collection and data entry of approximately 44,000 Grade 12 student questionnaires, assuming a non-return of approximately 1,000 of these students' questionnaires.

**c. Cycle 3 – Year 4: Secondary School Year 5, University and College Year 1, Non-PSE Registrants Employed or Seeking Employment**

Cycle 3 will occur three years after the first cycle when the majority of students will have graduated or left without graduating from high school. There will likely be increased attrition in this cycle, as students become more difficult to contact. Based on our previous research, a substantial portion of students will still be in secondary school for at least part of their fifth year (30%). Some OSSD graduates will have entered their first year of university (28%), or college (12%), or will be enrolled in an apprenticeship program (2%). A significant proportion of students will no longer be in the educational system (28%) and some of these will later pursue post-secondary education. This latter group will be the most challenging to contact in order to ensure their continuation in the study.

The same sampling design as before will be used, relying on paper questionnaires for those students still in high school, and online questionnaires for those out of school. It is anticipated that 90% of the high school questionnaires will be completed (13,500). Participation of those students who have left high school will be encouraged through the use of incentives (e.g., 10 prizes of an IPAD). It is expected that 65% of those participants who have completed high school will complete the online survey after two email and text messaging reminders (22,750 questionnaires). OCAS and OUAC data should help foster the connections with students in the majority of post-secondary institutions in Ontario. Based on demographic information previously

obtained, mail-outs of surveys, follow-up text messages, emails, Facebook postings, and telephone interviews will be used to attempt to obtain data from the remaining 12,250 participants, with an anticipated success rate of 75% (9,000). As most participants are only one year out of high school, the majority of these students should successfully be contacted. The final anticipated sample for this cycle will be 45,250 participants.

**d. Cycle 4 – Year 5: University and College Year 2, Non-PSE Registrants/Employed or Seeking Employment**

Cycle 4 data collection will occur four years after the first cycle, two years after the majority of students will have graduated from high school. This is an important year for the sample of students in the study. The vast majority of students will now have finished high school. Those students who entered university the previous year will now be in their second year of pursuing a university degree, and depending on several factors may have modified their intended programs of study there. Those students who went directly to college after completing Grade 12 will have completed their program if they were in a 1-year college program, or will be completing their 2-year college program during this cycle (approximately 30% of registrants). Further, those students who remained in high school for a fifth year will now be entering post-secondary education or work. We estimate that 2% will be attending secondary school for a sixth year, 34% will be in university, 20% in college, 6% in apprenticeship and 38% as non-PSE, at work or seeking jobs.

One of the challenges for this cycle of the research will be the expanded locations where study participants may be located, making it increasingly difficult to track and retain study participants (incentives will continue to be used, as described above). Attrition rates will increase as it becomes more difficult to trace participants using online means. This cycle assumes approximately 42,000 Cycle 4 participants. The majority of participants will complete this cycle's questionnaire online, and with text messaging, email, and Facebook postings, a 60% return rate based on the original cohort may be possible (30,000), with more especially for those participants in PSE. Based on demographic information previously obtained, mail outs of surveys and telephone interviews with non-respondents will be used to attempt to obtain data from the remaining 20,000 participants, with an anticipated success rate of 60% (12,000; an anticipated 8,000 will have completed mail-out questionnaires and telephone interviews with the remaining 4,000 young people not responding to the mail outs). The lower success rate is due to the decreased ability to contact these participants over time. As explained at the beginning of

this section (p.48), it is expected that institutional data will be available to supplement the questionnaire data.

**e. Cycle 5 – Year 7: University Year 4, University & College Graduates; Non-PSE Registrants/Employed or Seeking Employment**

Cycle 5 represents the final data collection point of the study. This cycle will occur six years after the first cycle, when the majority of students who entered university directly after high school will be finishing their undergraduate degrees. This data collection cycle will provide information about university students' undergraduate experiences and the degrees that they pursued. It will also provide an indication of university program completion rates. Most of those students who went directly to college right after high school will now be in the work force, and this cycle will also include students who have entered college in the four years since high school graduation. Such data will provide measures of overall success rates of college and other post-secondary programs. Certainly, a much larger proportion of the sample will now be in the work force or pursuing other post-secondary options (e.g., apprenticeships; business colleges), creating a sampling challenge.

Attrition will be a challenge as it becomes more difficult to trace participants, especially since it will have been two years since the last sample. Based on the current research design, the primary data collection method in Cycle 5 will be through online questionnaire, supplemented by institutional data. We estimate that 50% of the sample (25,000) will complete the cycle's questionnaire online (text messaging/ email/Facebook reminders would be used). Using the same methods from Cycle 4, and based on demographic information previously obtained, mail-outs of surveys and phone interviews would be used to attempt to contact the remaining 25,000 participants. Given the two-year gap in the study since the previous cycle, response rates will be decreased, and the anticipated success rate will be 40% of this remaining group(10,000). (The mail-out questionnaire would provide an expected 7,000 responses, and the telephone interviews a further 3,000 responses.) The final number of completed responses from all sources is expected to be 35,000 (i.e., 25,000 online questionnaires expected to be completed online, with the further 10,000 being completed through mail outs and phone interviews).

Linked with data from all other sources, and given the wide variety of data available during this cycle, it will be a challenge for the Ministry of Education's central data warehouse to accurately integrate all of the data, necessitating the need for more time for this aspect of the study.

We have not included the oversampling of special groups procedures in this discussion because it would result in an overly complex and tedious presentation. We refer the reader to the earlier oversampling section for this report (see section B.3, p 15) with regard to surveying students who have language difficulties or are “special needs” students. It is fundamental to the purposes of the study that such students be included. Secondary school teacher instructions for the administration of surveys would be designed to ensure that these students complete the surveys. The procedures would involve one-to-one settings and extended time for survey completion when necessary while they are in school. When they are out of school, we propose to use parents as contact points and telephone interviews, when required. This is a labour-intensive process to include the difficult-to-reach subjects, but will contribute to the validity of the study.

## **6. Database Development and Integration**

In order to provide an example of how the IMB database would be developed and the data integrated from the different sources, the following Table 3 presents three sample student respondents’ types of data collection and their sources.

It is assumed that the data to be collected would be incrementally added to the datafile per student (in the student category) as data collection cycles evolve so that, by Cycle 5 (Year 7 of the study), all of the types of data outlined in Table 3 for the student would be present (provided they are available).

**Table 3: Sample Respondent Datafile**

<b>Three Sample Student Respondents (at Cycle 5/Year 7)</b>	<b>Data to be Collected</b>	<b>Data Sources</b>
<p>1. Student who enrolled directly into <u>University</u> from secondary school Grade 12/Year 4; would be enrolled in Year 4 of university, assuming normal progress</p>	<ul style="list-style-type: none"> <li>• all secondary school courses &amp; marks</li> <li>• OLSS Grades 10 (Cycle 1) &amp; 12 (Cycle 2) data (see Table 2, pp.34-35)</li> <li>• secondary school standardized Grade 9 Math &amp; Grade 10 Literacy (OSSLT) test scores</li> <li>• university students' OLSS 1<sup>st</sup>, 2<sup>nd</sup>, 3<sup>rd</sup> &amp; 4<sup>th</sup> year of university data</li> <li>• GPA in 1<sup>st</sup>, 2<sup>nd</sup>, 3<sup>rd</sup> &amp; 4<sup>th</sup> year university programs</li> </ul>	<ul style="list-style-type: none"> <li>• EDU/IMB database</li> <li>• In-class (250 schools) survey data sent to EDU/IMB</li> <li>• EQAO data integrated by IMB</li> <li>• On-line/phone/mailed survey data sent to IMB</li> <li>• Student reports on survey &amp; university records</li> </ul>
<p>2. Student who enrolled directly into <u>College</u> from secondary school Year 5; would be out of school, assuming graduation from a two-year college program</p>	<ul style="list-style-type: none"> <li>• all secondary school courses &amp; marks</li> <li>• OLSS Grades 10 (Cycle 1) &amp; 12 (Cycles 2 &amp; 3) data (see Table 2, pp. 34-36)</li> <li>• secondary school standardized Grade 9 Math &amp; Grade 10 Literacy (OSSLT) test scores</li> <li>• college students' OLSS 1<sup>st</sup>, 2<sup>nd</sup> &amp; 3<sup>rd</sup> year of college data, where applicable,</li> <li>• Average marks in 1<sup>st</sup>, 2<sup>nd</sup> &amp; 3<sup>rd</sup> year college programs, where applicable</li> </ul>	<ul style="list-style-type: none"> <li>• EDU/IMB database</li> <li>• In-class (250 schools) survey data sent to EDU/IMB</li> <li>• EQAO data integrated by IMB</li> <li>• On-line/phone/mailed survey data sent to IMB</li> <li>• Student reports on survey &amp; college records</li> </ul>
<p>3. '<u>Out-of-school</u>' youth who enrolled in two-year <u>College program</u> after two years out of Grade 12.</p>	<ul style="list-style-type: none"> <li>• all secondary school courses &amp; marks</li> <li>• OLSS Grades 10 (Cycle 1) &amp; 12 (Cycle 2) data (see Table 2, pp.34-35)</li> <li>• secondary school standardized Grade 9 Math &amp; Grade 10 Literacy (OSSLT) test scores</li> <li>• college students' OLSS 1<sup>st</sup>, 2<sup>nd</sup> &amp;, where applicable, 3<sup>rd</sup> year college data</li> <li>• Average marks in 1<sup>st</sup>, 2<sup>nd</sup> &amp; 3<sup>rd</sup> year college programs, where applicable,</li> </ul>	<ul style="list-style-type: none"> <li>• EDU/IMB database</li> <li>• In-class (250 schools) sent to EDU/IMB</li> <li>• EQAO data integrated by IMB</li> <li>• On-line/phone/mailed survey data sent to IMB</li> <li>• Student reports on survey &amp; college records</li> </ul>

## **E. Recommendations**

### **1. Background: Revised Approach to the OLSS Study**

The proposed study is designed to: “track Ontario students through high school into PSE and/or the labour market; help policy makers understand the pathways of subpopulations of Ontario students (e.g., Aboriginal, Francophone, first generation, and low income students); and help policy makers understand the expectations, attitudes, behaviour and decision making of Ontario students in the transition from high school and PSE”.<sup>10</sup>

More specifically, the study is designed to “track student choices and outcomes from high school to PSE and/or the labour market; determine if outreach activities are effective...; track subpopulations of underrepresented students to better understand choices and expectation...; assess if student choices are influenced by academic, economic, socio-demographic factors; and establish academic histories and link to PSE successes ...”.<sup>11</sup> These objectives are viewed by HEQCO as being logically consistent with their mandate.

Some fundamental questions should be answered before proceeding with the current study design: (1) Is the proposed study design the most appropriate and cost-effective approach to meeting these HEQCO objectives?; (2) Will the information from the study be relevant in terms of educational policy implications at the end of the study’s proposed seven-year period?; and (3) Does the study have the capacity to develop the relationships with stakeholders required to sustain and legitimate HEQCO’s place in the Ontario educational system given that the study would be a major draw on HEQCO’s finances and resources?

The answer to all of these questions is “no”. However, it is possible to design a study with timely and relevant findings for stakeholder groups using a Ministry of Education-based database employing institutional information – a study that would result in a positive answer to the above questions. Such a database would include student demographic information (from the Ministry of Education’s Information Management Branch–IMB), student course selection and achievement information (IMB), standardized test scores (EQAO), university application and registration information (OUAC), college application and registration information (OCAS), university program and achievement information (universities), college program and

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<sup>10</sup> HEQCO’s presentation to TCU (June 1/10).

<sup>11</sup> HEQCO’s presentation to TCU (June1/10).

achievement information (colleges), and apprenticeship registration and achievement information (IMB and TCU).

This database could be augmented over time with current information to follow the progress of students, and, just as important, be used to look back at patterns of decision making (course, program) and achievement related to student decisions. Analysis of this database would provide answers to most of the research questions posed in the TCU presentation, for example, related to: (1) student course choices and outcomes; (2) the tracking of subpopulations of underrepresented students (classified in IMB bio files); (3) the determination of the effectiveness of outreach programs (students can be coded as to programs selected, e.g., high skills, dual credit); and (4) an analysis of the relationship between course and PSE choices and academic and socio-demographic factors. The other factors noted in the HEQCO's presentation to TCU (program awareness, engagement, financial issues, and parental influence) could be assessed by a much smaller longitudinal analysis of questionnaire responses or cross-sectional analysis (with different students having been surveyed at the same time). Most of the effort to include self-reported background and attitudinal data and to track a cohort of young people could be spent surveying students in Grades 10 and 12 when access is relatively easy, with the total number of the original cohort of Grade 10 students being less (e.g., 25,000) than what was proposed initially. Then after the majority of the subjects' PSE decisions will have taken place, a reduced, selective sample could be surveyed in Cycles 4 and 5.

This revised approach to the research design has the obvious advantages of responding to stakeholders' priorities with a relatively fast turnaround. For example, if Colleges Ontario wishes to answer questions involving the 62% of their enrolment by out-of-school youth, then data from OCAS and the colleges incorporated into the database (along with the survey data) could provide immediate answers. Maintenance of such a database (managed by the Ministry of Education's IMB) would demonstrate immediate relevance of HEQCO in terms of responding to research questions related to stakeholders' priorities and more clearly define the role of HEQCO in terms of the Ontario educational system.

## **2. Summary of Recommendations**

Overriding all the issues associated with the proposed OLSS are questions related to the role of HEQCO in Ontario education, including utilization of research findings and relationship with stakeholders (roles and feedback mechanisms). The study represents a major research initiative with potential findings that touch the secondary schools, colleges, universities, and

apprenticeship system. Even in its most cost-effective mode, the study will be expensive; therefore, the value of the study must be clearly demonstrated to stakeholders at the outset.

The following is a summary of the recommendations that flow from the report, in particular the consultation process, and take the study from redesign to implementation.

**a. OLSS Redesigned**

*Redesign the OLSS study in terms of educational system priorities and in response to consultations, as described in the previous section.*

We recommend that the study be reconceptualized with clear roles and responsibilities for the collaborators (EDU, TCU, COU, CO, CODE) and specific details regarding outcomes for the stakeholders (see above). The proposed study will take place over an extended length of time in periods of political priority shifts, financial constraints, and unanticipated respondent-accessing concerns. A flexible approach in the study design detail, however, must be assumed at the outset to ensure that the basic goals can be met (see g below for more detail).

**b. Consultations**

*Hold consultations with senior officials of TCU, EDU, CO, COU, CODE regarding the study and their expected role in it.*

Particularly important is to describe HEQCO, its structure, mandate and research agenda. Furthermore, as other stakeholder priorities are identified throughout the consultation process, continued beyond our developmental phase of the study, the research design may have to be adapted to respond to them.

**c. Role of the Ministry of Education**

*Whatever form the research design ultimately takes, assuming it will go forward in some form, establish a mechanism to: manage data collection; integrate data from many sources; guarantee participant anonymity; supervise data utilization; and, concomitantly, maintain a massive database over time. We recommend that the Ministry of Education have these responsibilities.*

It is inconceivable to have these functions performed outside of the government agency because there are so many constraints regarding participant privacy and contractual arrangements with data source agencies (e.g., school boards, EQAO, OCAS, OUAC). Since the Ministry of Education's IMB already maintains a substantial database that includes student background information, course selection and achievement information, standardized test scores, etc., this unit is the optimum base for the data management function of the study.

Once the study is implemented, the research team would consult with IMB staff responsible for the database development, then for data integration and database management. The Ministry of Education would identify an IMB staff member as the internal study coordinator and database manager, working full time or near full time for the duration of the project. Hiring a person in this role would ensure student participant privacy. (The project budget would likely assume costs for that person's salary.) This person would collaborate with the research team on communication with participating schools regarding survey administration, and with other data source agencies, on student survey data entry, and would manage data merging, the database itself, and database utilization (along with senior EDU officials and HEQCO).

The OEN code would be the basic participant code used throughout the duration of the study. Researchers would only be able to identify respondents by a second code (or pin number) that would later be entered into the database by linking it with the OEN. The actual respondent names would only be visible to IMB staff. Researchers using the database would not be able to identify individual students at any point during and after the study is completed.

**d. Project Supervision Team**

*Establish a Project Supervision Team involving representatives from HEQCO, TCU, EDU, CO, COU, and CODE.*

Since the proposed study requires that information be provided from a number of sources and that it be designed to meet, at least in part, the priorities of these sources, it will be necessary to establish formal relationships with these organizations. This formal 'collaboration' will require some ownership on the part of these organizations in the study and, therefore, a role in the decision making related to the project. The Project Supervision Team should have the responsibility for making major project-related decisions. The organization contracted to conduct the study would be required to meet on a regular basis with the Project Supervision Team to receive advice and direction, as well as to make status presentations to that team and the Project Advisory Board and receive and respond to the issues they raise.

**e. Project Advisory Board**

*Establish a Project Advisory Board which would not only provide advice (not decisions) throughout the research process on the research design, reports' content and dissemination of the research findings but also be charged to represent the study (and HEQCO) to their educational constituencies.*

Conditions related to report development and data utilization would have to be made clear to collaborators and other stakeholders at the project outset (who would get what, or could use what, at what point in time).

**f. Dissemination of Findings**

*Ensure that annual reports from the study are prepared to be distributed to stakeholder organizations.*

These reports would be tailored to the organizations' questions and priorities, using the OLSS data to help address their questions. In the case of participating school boards, brief school board reports could be published for their internal use and monitoring. Annual reports will provide schools, colleges and universities with important sources of information that they can use to monitor their programmatic initiatives.

**g. Design Issues**

*Retain the basic design proposed by the SPEG/Queen's research team with some modifications; that is, the data sources, the use and timing of surveys and sampling procedures.*

Schools are to be the base sampling unit for the study, and all Grade 10 students in the sampled schools would comprise the base cohort. Oversampling of special groups is essential. The contracted research team should be involved in negotiating with IMB the details regarding database development and data integration. Two suggested modifications would be (1) utilize the massive database to respond in a timely way to educational issues; and, (2) reduce the size of the sample in Cycles 4 and 5, and make the findings more focused to project objectives.

**h. Parent Survey Reconsidered**

*Develop and implement a complementary Parent Survey.*

HECQO has expressed a real interest in the use of a parent survey. Nonetheless, it is not at all clear how much information could be obtained from such a survey if the attempt is to link it to students' surveys. Key subgroups will have extremely poor response rates. Some interest in a parent survey was evidenced in the consultations, especially from the university registrars. A review of research similar to the OLSS indicated that return rates from parent questionnaires

tended to be quite low (unless the household was the primary source of all data). The Director of Research for the Toronto District School Board reinforced this finding based on his own recently completed study. Certainly, a parent survey cannot be the only source about information on parents' background. However, a complementary survey of a sample of parents may be effective in providing more general information regarding background, expectations and sources of information regarding PSE. Therefore, we recommend that the basic sample not include a parent survey as a component of the database, but that HEQCO consider conducting an independent, one-time parent survey designed to complement information obtained in the longitudinal study.

**i. The Selling of OLSS**

*The OLSS could be adapted to meet both HEQCO priorities and the Government of Ontario's need for information on the secondary school-to-post-secondary education/work transitions of second-generation young Ontarians and of their retention and success in PSE institutions.*

The PO recently funded (prior to 2010) a series of 'Access to Opportunity Program' initiatives in colleges and universities designed to encourage more students from homes where neither parent had attended a post-secondary institution, to attend university or college. A substantial amount of money was provided to each college and university for those 'second generation' initiatives (e.g., \$382,000 to Queen's University). For 2010 to 2012, the TCU funding emphasis has been placed on university and college initiatives designed for the retention and success of the second generation enrollees'. The OLSS study could be adapted to meet the goals of both initiatives.

*Reconfigure the study in such a way as to provide answers to immediate policy questions.*

To make this study relevant to the stakeholders, it is probably necessary to reconfigure it in such a way as to provide answers to immediate policy questions. This is particularly true for TCU and EDU who must think in terms of short-term, political goals. As we have noted above, it would be possible to reconfigure the study structure by making more use of the developed/existing databases from EDU, OCAS, OUAC, as well as universities and colleges' student information files. This approach would enable the tracing of a series of cohorts simultaneously – a desirable modification to enable an examination of changes over time.

*Refine the process of accessing respondents.*

Additionally, the overall cost of the study could be reduced substantially by refining the respondent access process and more specifically respond to the research questions.

### **3. Concluding Comments**

Although there are many difficulties to overcome, the proposed study has the potential to be one of the most informative studies in terms of educational policy undertaken in this province. For the first time, the interface between the secondary schools and the post-secondary education sector could be examined in depth: patterns of mobility could be clearly delineated; the relationship between secondary school programs and post-secondary educational achievement could be assessed in terms of facilitating continuity; factors affecting student progress could be more precisely defined; and, perhaps most importantly, a functional collaboration between TCU, EDU, universities, colleges, and school boards could be established.

On the basis of the consultations conducted as part of the preparation to undertake the study, the obstacles may seem insurmountable, but our past experiences with major educational research in this province suggest that this is not the case. We would be privileged to continue in the process to make the proposed study a viable undertaking.

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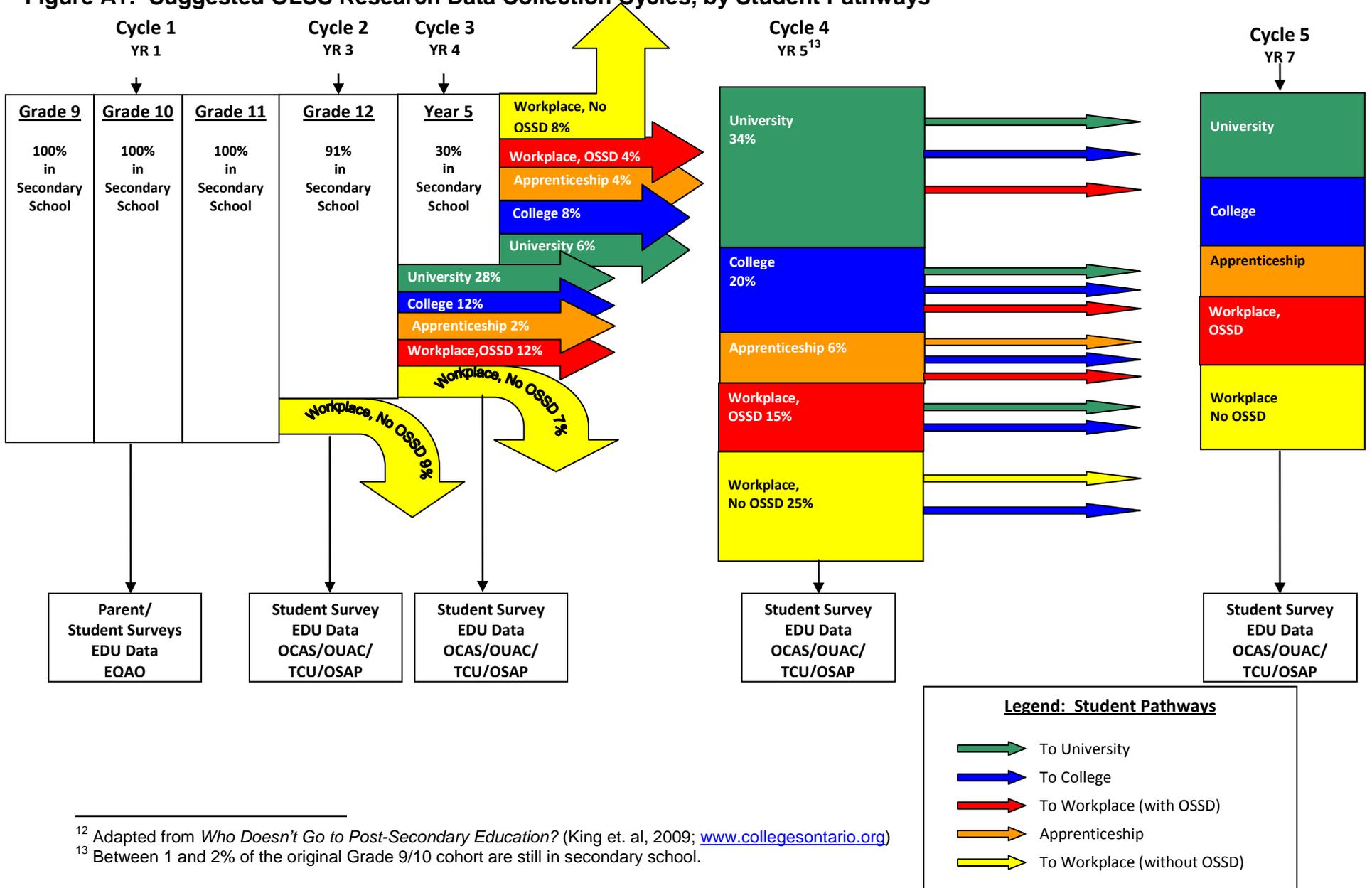
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## **APPENDIX A**

### **Figure A1: Suggested OLSS Research Data Collection Cycles, by Student Pathways**

**Figure A1: Suggested OLSS Research Data Collection Cycles, by Student Pathways<sup>12</sup>**



<sup>12</sup> Adapted from *Who Doesn't Go to Post-Secondary Education?* (King et. al, 2009; [www.collegesontario.org](http://www.collegesontario.org))

<sup>13</sup> Between 1 and 2% of the original Grade 9/10 cohort are still in secondary school.

## APPENDIX B

- **Table B1: Key Points from International & Canadian Longitudinal Studies**

- **Other Relevant Literature:**

**Successful school to post-secondary education transitions: A review of the literature.** A paper developed by S. Youmans, August 5, 2010. Faculty of Education, Queen's University. (8 p)

**Successful school to work transitions: A review of the literature.** A paper developed by S. Youmans, August 11, 2010. Faculty of Education, Queen's University. (10 p)

**Table B1: Key Points from International & Canadian Longitudinal Studies**

Name	Funding Agency	Cycle 1	Subsequent Cycles	Summary design elements
<b>Education Longitudinal Study of 2002 (ELS:2002)</b>	United States Department of Education & National Center for Education Statistics	Grade 10,15/16 years old	Intervals: <ul style="list-style-type: none"> <li>▪ (2 yr), 17/18 years old</li> <li>▪ (2 yr), 20 years old</li> <li>▪ (4 yr), 23/24 years old</li> <li>▪ (2 yr), 25/26 years old</li> </ul>	<ul style="list-style-type: none"> <li>▪ Two stage sample design with schools selected first and then 10<sup>th</sup> grade students selected randomly within each school from a full list of enrolled students.</li> <li>▪ A stratified systematic sample of students was selected on a flow basis as student lists were received.</li> <li>▪ The strata were Hispanic, Asian, Black, and Other race/ethnicity.</li> <li>▪ First two cycles conducted in schools</li> <li>▪ Baseline achievement tests: mathematics &amp; reading administered</li> <li>▪ Teacher surveys and Administrator surveys</li> <li>▪ Passive consent from parents, where possible</li> <li>▪ Incentives from second cycle onwards</li> <li>▪ Extensive procedures for absent pupils</li> <li>▪ Parental interview at first cycle</li> <li>▪ High response rates in school, low rates: outside original schools</li> </ul>
<b>Longitudinal Study of Young People in England (LSYPE)</b>	Department for Children, Schools and Families; as of May 2010, called Department of Education	All students in Year 9 schools in England ages 13/14 (2004)  Final sample limited to those born between September 1st 1989, and August 31st, 1990	Annually to continue to 2015	<ul style="list-style-type: none"> <li>▪ Two stage probability proportional to size (PPS) sampling procedure with disproportionate stratification.</li> <li>▪ Schools, primary sampling units, stratified into deprived/non-deprived &amp; deprived schools were over-sampled by a factor of 1.5.</li> <li>▪ The second stage sampled students within schools. Students from major minority ethnic groups were over-sampled at student level in order to achieve target sample numbers of 1000 in each group.</li> <li>▪ The school sampling stage took into account the number of students from each of these minority groups.</li> <li>▪ Taken together, the school selection probabilities and the student selection probabilities ensured that within a deprivation stratum, all students within an ethnic group had an equal chance of selection.</li> <li>▪ Interviews conducted in the young person's home via Computer-Assisted Personal Interviewing (CAPI) with the sampled young person and any parents/guardians living in the same household</li> <li>▪ Linkage to administrative records such as the National Pupil Database &amp; other data sources such as geo-demographic census</li> <li>▪ Financial incentives provided for participation</li> <li>▪ Very high response rates</li> </ul>

**Table B1: Key Points from International & Canadian Longitudinal Studies (cont'd)**

Name	Funding Agency	Cycle 1	Subsequent Cycles	Summary design elements
<b>Longitudinal Surveys of Australian Youth (LSAY)</b>	Australian Government Department of Education, Employment and Workplace Relations (DEEWR) with support from state and territory governments	Yr 9: 14/15 year olds (1995)  Two subsequent cohorts 1998, 2003 15/16 years old to coincide with PISA	Annually for 12 years	<ul style="list-style-type: none"> <li>▪ Major stratum was the state.</li> <li>▪ Students from small states were over-sampled.</li> <li>▪ The selection of students within states is proportional relative to school sector.</li> <li>▪ Three school sectors are used as strata: Government, Catholic and Independent</li> <li>▪ Within strata, schools were selected proportional to their size.</li> <li>▪ Schools were asked for a list of the number of students enrolled in each of their Year 9 classes for a subject studied by all Year 9 students in the school (usually English classes).</li> <li>▪ Lists of schools for each sector within each State were sorted by postcode.</li> <li>▪ The cumulative total of Year 9 students was calculated.</li> <li>▪ The interval required to yield the designed number of schools was determined, a random start made within that interval, and then the interval was applied to and an implicit stratification by geography because of the postcode-order of the list.</li> <li>▪ If constant numbers are selected from each school, the sample within each State becomes self-weighting.</li> <li>▪ Reading and numeracy tests administered to students in schools</li> <li>▪ Mail-in questionnaire, cycle 2, followed by annual telephone interviews</li> <li>▪ Data obtained from their schools about curricula and school organization.</li> <li>▪ First cycle conducted in school</li> <li>▪ Follow-up cycles conducted over the telephone</li> <li>▪ High response rates for follow up</li> <li>▪ Follow-up interviews conducted in respondents' home by phone</li> <li>▪ Data linked to other administrative and longitudinal data</li> <li>▪ Datasets deposited with the Australian Social Science Data Archive (ASSDA) for use by other researchers</li> </ul>

**Table B1: Key Points from International & Canadian Longitudinal Studies (cont'd)**

Name	Funding Agency	Cycle 1	Subsequent Cycles	Summary design elements
<p><b>National Longitudinal Survey of Children and Youth (NLSCY)</b></p>	<p>Statistics Canada – NLSCY is jointly conducted by Statistics Canada and Human Resources and Skills Development Canada (HRSDC)</p> <p><a href="http://www.statcan.gc.ca/cgi-bin/imdb/p2SV.pl?Function=getSurvey&amp;SDDS=4450&amp;lang=en&amp;db=imdb&amp;adm=8&amp;dis=2">http://www.statcan.gc.ca/cgi-bin/imdb/p2SV.pl?Function=getSurvey&amp;SDDS=4450&amp;lang=en&amp;db=imdb&amp;adm=8&amp;dis=2</a></p>	<p>Child/ Youth (birth to adulthood); began in 1994.</p>	<p>Seven cycles administered biennially to Cycle 8: 2008-09</p>	<p>NLSCY is a sample survey with a longitudinal design –a long-term study of Canadian children and youth that follows their development and well-being from birth to early adulthood. The study consists of several longitudinal and cross-sectional samples. The longitudinal samples are representative of the original longitudinal populations (i.e., the populations at the time of sample selection at ages 0 to 11). Cross-sectional weights are provided when an age cohort can also be considered to be representative of a cross-sectional population.</p> <p>The study collects information about factors related to a child's social, emotional, and behavioural development. Topics included physical development, health, learning and behaviour as well as children's social environment (family, friends, schools and communities). All questionnaires were developed in coordination with HRSDC and an expert advisory group.</p> <p>Samples were drawn from the Labour Force Survey's (LFS) sample of respondent households. The initial sample for Cycle 7 was comprised of 37,655 children and youths aged from 0 to 9 and 12 to 23 years. The initial sample for Cycle 8 was comprised of 35,795 children and youths aged from 0 to 7 and 14 to 25 year-olds.</p>

**Table B1: Key Points from International & Canadian Longitudinal Studies (cont'd)**

Name	Funding Agency	Cycle 1	Subsequent Cycles	Summary design elements
<b>Youth in Transition Survey (YITS)</b>	Jointly conducted by Statistics Canada and Human Resources and Skills Development Canada (HRSDC)  <a href="http://www.pisa.gc.ca/eng/yits.shtml">http://www.pisa.gc.ca/eng/yits.shtml</a>	Two cohorts, ages 15 and 18-20; began in 1998; includes 30,000 youth aged 15, from 1,200 schools across Canada; also includes 23,000 youth aged 18 to 20 years old	Five cycles administered biennially to Cycle 5: 2006-07 The first cycle of YITS for the 15 year-old cohort was administered in schools along with the Programme for International Student Assessment (PISA). Data collection took place in April and May, 2000.	Designed to examine the patterns of, and influences on, major transitions in young people's lives, particularly with respect to education, training, and work. YITS was developed in consultation with provincial and territorial ministries and Departments of Labour and Education. Measures include formal education experiences and labour market experiences, achievement, aspirations and expectations, and employment experiences.  Additionally, one parent of each 15 year-old youth took part in YITS to provide supplementary information on their family background.  For participants 18 to 20 years of age, the survey was administered by telephone with a Computer Assisted Telephone Interview (CATI). Data collection took place between January and March, 2000.  Parents of the 15 year-old youth were interviewed by telephone in June, 2000.

Two literature reviews were prepared in August, 2010 as background for this and another current study conducted by the Social Program Evaluation Group. They were developed by Sandy Youmans, SPEG Project Manager, and were used specifically in the research and questionnaire design phases of this project:

- (1) ***Successful school to post-secondary education transitions: A review of the literature***; and
- (2) ***Successful school-to-work transitions: A review of the literature***

**(1) Successful school to post-secondary education transitions:  
A review of the literature**

The benefits of completing post-secondary education (PSE) are numerous, including individual fulfillment, equipping people to compete in a globalized knowledge economy, and reducing socio-economic disparities (Christie, Munro, & Wager, 2005; DeBroucker & Mortimer, 2005). However, even though Canada has the highest rate of post-secondary achievement in the world (DeBroucker & Mortimer, 2005; Lambert, Zeman, Allen, & Bussiere, 2005), there is still room for improvement with respect to Canada's PSE drop-out rates. Drop-out rates for college and university, taken over a five-year period, are 26.9% and 30.6%, respectively (Finnie & Qiu, 2008). These rates are troubling because universal access to PSE, in its broadest sense, must include "participation and completion of that education" (Lambert et al., 2005, p. 6). While a number of Canadian students begin PSE, many experience unsuccessful transitions and do not end up graduating. Understanding factors that contribute to successful post-secondary education transitions can help identify ways to increase participation and graduation. Helping students successfully transition in the first year of PSE is especially important because students who do not continue on tend to drop out in their first year (Christie, Munro, & Fisher, 2004; Yorke, 2000). A review of the literature suggests that supportive family and friends, academic skills, psychological resources, and a positive institutional habitus aids students in making a successful transition to post-secondary schooling.

Family and friends directly impact whether youth will pursue PSE, positively or negatively, with youth perceptions of higher education almost always mirroring parental attitudes. For example, a parent's education strongly influences whether or not a child will attend and complete PSE (Andres, 2009; Choy, 2002; De Broucker & Mortimer, 2005; Finnie, Lascelles, & Sweetman, 2005; Lambert et al., 2004). Students whose parents have a university education are at least twice as likely to attend university than students whose parents did not participate in PSE (Finnie et al, 2005). Parents who successfully finish university or college are apt to want their children to do likewise because they have realized the benefits of higher education themselves. This influence is described in the Parent-Youth Project study (Young et al., 2008). Twenty parent-youth dyads from Vancouver, Canada participated in joint transition-to-adulthood projects. A number of dyads focused on the attainment of a post-secondary education as a career promotion activity. In one instance, a mother who was a teacher helped her daughter successfully transition from high school to university by redefining the mother-daughter relationship and encouraging her daughter to become more independent with respect to education/ occupation outcomes and finances. Promoting independence prior to university life was important in preparing the daughter for the degree of autonomy she would face in her future studies. Interestingly enough, father's education has a greater impact on male attainment in post-secondary education and mother's education has a greater influence on female attainment in postsecondary education (Finnie et al, 2005; Wintre & Jaffe, 2000), suggesting children tend to identify more closely with their same-sex parent when it comes to PSE.

Similarly, Brooks (2003) found the majority of student beliefs about the purpose of PSE and the worth of a particular institution or course reflected views of parents. Although youth with parents who completed post-secondary schooling and/or value higher education were more likely to attend and persist in PSE, some parents in this study who had not attended college or university highly valued PSE, desiring their children to attend a high status university. Such parents put strategies in place to increase the likelihood of their children's acceptance. In congruence with this finding, Lehmann (2009) described working-class university students who felt pressure to succeed because of the sacrifices their immigrant parents made for them to attend PSE. Byrd and MacDonald's (2005) study on first generation college graduates also identified family motivation as a key element of success, in that students wanted to do better than their parents who were in unsatisfying jobs. Another positive influence families can have on postsecondary attainment relates to financial support. Students identify being able to live in the

family home while attending college or university as an important factor of success (Christie et al., 2004; Jones, O' Sullivan, & Rouse, 2004). Living at home eliminates housing and food costs incurred by students who pursue post-secondary education away from their family residences. In most cases, students who live at home during post-secondary schooling pay half as much of students who pursue post-secondary education away from home.

Although family support is often cited as the strongest determinant of postsecondary success, friends can also play a critical role. Friends not only influence the PSE decision-making process; they contribute towards positive adjustment in a new (and unfamiliar) environment. Youth are more likely to go to college or university if they have friends who value education and they go themselves (Choy, 2002; Finnie et al., 2005) or if they had a positive social life in high school (Lambert et al., 2004). Youth with friends who only place a medium importance on school tend to be far less likely to participate in higher education (Finnie et al., 2005). Brooks (2003) pinpointed another relationship between friends and post-secondary success. The author identified a hierarchy of ability in high school friendships based upon knowledge of one another's academic achievement. For some students, their position in the hierarchy was an important indicator of whether or not they should participate in post-secondary education. For example, students at the top of the hierarchy were considered to be smart and capable of university success. Having friends who value higher education and/ or go themselves and being at the top end of the ability hierarchy relative to one's friends increases the likelihood of youth participating in and completing PSE.

Friendships at a PSE institute make the transition to higher education easier for youth. Lowe and Cooke (2003) administered a questionnaire to university-bound students before they entered university and again two months into university. Students identified being more glad they had friends at the same university after arriving than before attending PSE, highlighting the significance and comfort friendships bring during the initial transition. In a case study of a modern university in England with good access and retention rates, Thomas (2002) found students felt valued and accepted when lecturers and tutors engaged in friendships with them. For example, when instructors and tutors knew their names, valued their work, and treated them as equals, the transition to higher education was easier. Conversely, students who left postsecondary schooling prior to completion cited "difficulties with getting involved in student life" as a factor (Christie et al., 204, p. 622). Having friends from high school who attend the same university or college, developing friendships during the initial transition into higher education, or a combination of the two appears to help youth cope with change better.

Another important factor contributing to PSE success is possessing necessary academic skills. For example, studies in Australia and Canada suggest academic abilities at the time of university or college entrance exert the most critical influence on PSE completion (Marks, 2007; Wintre & Bowers, 2007). In similar fashion, a U.S. study of first-generation postsecondary students conducted by Warburton, Bugarin, and Nunez (2001) examined the relationship between aspects of high school and PSE completion. High school academic preparation was related to students' GPA and likelihood of postsecondary graduation. Specifically, the more demanding a high school curriculum, the better the GPA and the better the chances of graduation. With respect to graduation, "87 percent of students who took rigorous academic coursework in high school stayed on the persistence track, compared with 62 percent of students who did not take such coursework" (p. iv).

Byrd and MacDonald's (2005) interviews with non-traditional (transferred from college) university graduates highlighted which academic skills contributed most to success. Reading, writing, and math were at the top of the list, with graduates underscoring the importance of reading and writing. With the large emphasis placed on independent reading and writing assignments in college and university, it is thus not surprising that dropping out has been associated with insufficient academic preparation (Lambert et al, 2004; Lowe & Cook, 2003). Certain states in the U.S. have policies recognizing the importance of these skills to PSE success. This recognition has led to the provision of high quality college remediation programs,

especially for minority and low-income youth (Dougherty, Reid, & Nienhusser, 2006; Melguizo, 2007).

In addition, psychological resources promote successful adjustment to university or college. For instance, Shulman, Kalnitzki, and Shahar's (2009) study of low-income youth participating in government sponsored college preparatory programs identified the importance of personality resources in goal investment and goal progress. In this study, "efficacy predicted higher levels of goal investment and goal progress...self-criticism predicted lower likelihood to successfully complete the program, lower goal investment, and higher goal stress" (p. 257). Similarly, first generation university graduates identified the ability "to apply oneself and focus on goals" as playing a pivotal role in their success (Byrd & MacDonald, 2005, p. 32). Wintre and Bowers' (2007) examination of persistence predictors at a Canadian university identified goal and institutional commitment as positive predictors. As well, Christie et al.'s (2005) study of university students from widening access programs in the UK described sacrifices students made to meet their goals. Because these students had to work to pay for their education, they chose to cut down on their social life and avoid participation in extracurricular activities so they could keep up with their academic workload.

PSE school leavers confirm the importance of goal progress for youth, with over half describing a lack of motivation as a reason for withdrawal (Christie et al., 2004). In addition to efficacy, goal progress, and motivation, psychological well-being variables account for successful transitions to university during the first year (Wintre & Yaffe, 2000). Specifically, the abilities to overcome (or at least alleviate) depressive symptomatology and cope with stress were related to positive adjustments. The more psychological resources (and support) youth possess, the better their chances of completing PSE.

A number of studies refer to the importance of a good match or "fit" between student and PSE institution. If there is a good initial fit, students are more likely to continue on with their education. If not, students decide to switch institutes or drop out of college or university altogether. Thomas' (2002) examination of a university in England with exceptional access and retention rates described the importance of institutional "habitus," or environment. The success of this university at retaining students was attributed to being accepting of diversity and placing an emphasis on teaching and learning (as opposed to research responsibilities). For the most part, students at the university felt valued and were able to discuss (and resolve) problems they encountered with staff. Similarly, Wintre, Knoll, Pancer, et al. (2009) explored the relationship between student adjustment to university and student perceptions of how the university met their individual needs. The Student University Match (SUM) questionnaire was administered in six universities across Canada. Findings suggested that "students attending small city, smaller residential universities scored higher on SUM than those attending large commuter schools in a metropolitan area" (p. 765). Theme analysis revealed the four most frequent factors affecting SUM: "physical environment, academics, social relationships, and attachment/engagement to the university" (p. 767). Students who experienced a mismatch with their university reported more difficulty adjusting and were more likely to leave that institution. This finding corroborates studies of university leavers who report having made the wrong choice in course or university as their reason for withdrawal (Christie et al., 2004; Lambert et al., 2004).

While Canada has the highest rate of post-secondary achievement in the world (DeBrouker & Mortimer, 2005; Lambert et al., 2005), drop-out rates for Canadian colleges and universities are still concerning (Finnie & Quinn, 2008). Over one quarter of college students and nearly one third of university students do not complete the post-secondary education they began. Universal access to PSE in Canada cannot be limited to commencement of that education; it must include graduation (Lambert et al., 2005). This literature review identifies factors that contribute to successful post-secondary education transitions in an attempt to assist education professionals and government officials develop policies to increase PSE participation and completion. Such policies must address the critical roles that supportive family and friends,

academic skills, psychological resources, and positive institutional habitus play in helping students make successful transitions to PSE.

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## **(2) Successful School-To-Work Transitions**

The transition from school-to-work (STW) is an important and increasingly challenging developmental task for youth in North America. Globalization and the widespread use of technology in the labour market make it difficult for young adults without post-secondary education to acquire stable employment, especially employment with opportunity for advancement (Byner, 2005; Fouad, 2007; Leggat-Cook, 2005). Moreover, Western trends of more and more youth pursuing postsecondary education and retired people working part-time means jobs historically available for unqualified youth are being overtaken by full-time students and older adults able to work flexible hours (Canny, 2001, 2002).

The current educational system exacerbates economic conditions for work-bound youth by not always equipping them with the skills required for a knowledge-driven market (Leggat-Cook, 2005). Taylor (2005) interviewed key players (representatives of government, business, and education sectors) regarding the Ontario School-to-Work (STW) policies of the 1990s, revealing little has been done to meet the needs of students entering the workforce directly from school, likely because practical knowledge is not equally valued in the North American education system. Courses designed for these work-bound youth neglect their needs in three distinct ways: they do not equip the students with basic skills, they are not meaningfully connected to the world of work, and they have high rates of failure (King, 2002; Taylor, 2005). Moreover, students entering the workforce directly from school do not have access to adequate workplace preparation courses and experience barriers to STW programmes: inadequate technology facilities, lack of strong business partnerships (apprenticeships set up in Germany and Japan are paid, but apprenticeship programs in Canada tend to be voluntary), an insufficient number of technology teachers, and inflexible timetable schedules (King, 2002, 2004; Taylor, 2005). With fragmented initiatives and sporadic government funding in Canada for apprenticeships and STW transitions, students in apprenticeships and youth entering the workplace “still have to find their own way for the most part” (Taylor, 2007, p. 78).

Educational systems in the United States similarly offer “few institutional supports for most young people as they make the transition from school to work” (Mortimer et al, 2002, p. 441). This “under-regulation” of school-to-work pathways in North America (in which regulating institutions are scarce or non-existent) ultimately results in the reproduction and magnification of social inequalities; youth are expected to rely on their social resources (or lack thereof) for employment (Heckhausen, 2002).

Rowjeski and Kim’s (2003) research on career paths of adolescents in the United States clearly depicts less favourable social and individual characteristics of students experiencing school-to-work transitions. Data from The National Education Longitudinal Study of 1988–1994 identified characteristics of work-bound youth as similar to those of students “at risk of school failure” (p. 90). Actual transition paths of youth 2 years after high school were categorized as Work-bound, College-bound, or Unemployed (or out of the work force). Work-bound youth “were more likely to exhibit poor academic performance, reflect lower socioeconomic status, report an external locus of control, possess poorer self-concept, and espouse less prestigious academic and occupational aspirations than college-bound students” (p. 102). Social economic status was largely related to student pathways, with two thirds of work-bound or unemployed students in the two lowest SES quartiles and two thirds of college-bound students in the two highest SES quartiles.

With so many factors working against students undergoing STW transitions, it is imperative to identify features that contribute to successful transitions. Relational support, effective skill development, and resources foster successful STW transitions. Interventions incorporating one or a combination of these features increase the likelihood of a successful STW transition.

## **Relational Support**

Relational support required for successful STW transitions ranges from close parental bonds to acquaintances in social networks. Duncan, Boisjoly, and Harris' (2001) research on the impact of relationships on adolescent development highlights the importance of family ties. Their analysis of data from the National Longitudinal Study of Adolescent Health consistently demonstrated a higher influence of family contexts than school or neighbourhood ones in regard to adolescent achievement. Successful STW transitions are no exception, marked by family investments in children's school and work careers. Blustein, Chaves, Grossman, and Gallagher (2003) similarly demonstrated how familial values and goals are often reflected in children's own attitudes, especially towards school and work. In their study, high school students with high levels of support from families and others had more positive views about the importance of school and its relevance to their lives and were more engaged in school activities than counterparts with less support. Additionally, students with good support were more likely to view work positively, aspiring to be leaders in the workplace, and believing career planning would lead to success.

Successful STW transitions are also characterized by supportive parents who are instrumental in career planning (Blustein et al., 2002). This type of parental involvement is described in the Parent-Youth Project (Young et al., 2008). Joint transition to adulthood projects were undertaken by 20 parent-youth dyads from Vancouver, Canada. Dyads were given the freedom to pursue a shared task, with a number of dyads choosing career promotion projects. In career promotion projects, parents and children worked together to meet goals related to obtaining a desired occupation. Supportive parents helped children remain focused on future aspirations in the face of discouragement and took care of their physical needs (made meals, did laundry, etc.) to allow students to focus their efforts on career goals. Parents shared goals with their children and invested accordingly.

In addition to investing in career planning, families that promoted successful STW transitions provided optimal home environments. Melby, Conger, Fang, Wickrama, and Conger (2008) used the family investment model to explore investments of human capital made by different families. A 14-year longitudinal study of 422 two-parent intact families in North Central Iowa, beginning when adolescents were in Grade 7, examined the relationship between parenting and education variables. Supportive parenting was significantly and positively correlated with academic engagement ( $r = 0.39$ ), with level of academic engagement being significantly and positively correlated with educational attainment ( $r = 0.57$ ). Parents who provided positive home environments promoted academic engagement and thus facilitated school success for their children.

High school success is also associated with successful school-to-work transitions because it prepares students with necessary academic skills for the workplace (Lamb & McKenzie, 2001; Wiesner, Vondracek, Capaldi, & Porfeli, 2003). Weisner et al. used longitudinal data from the Oregon Youth Study (OYS) of 202 boys considered "at risk," revealing that "academic achievement during the adolescent years predicted early adult career pathways, even when controlling for a host of other relevant factors" (p. 323). Lamb and McKenzie (2001) reported similar findings in Australia; students who achieved well and graduated from high school had more positive employment opportunities and better earnings a decade after high school graduation. Parents who invest in their children's school and work careers provide necessary support for successful STW transitions. This type of parenting tends to be reflected in higher social economic status (SES) categories (Blustein et al., 2008; McVicar & Anyadike-Danes, 2002; Melby et al., 2008; Young et al., 2008).

In addition to parental support, students who experienced successful STW transitions reported having "caring guidance counsellors" (Blustein et al., 2002, p. 316). The role of guidance counselors in helping students identify strengths in relation to future job prospects and providing career-related information so youth can make educated decisions is paramount.

Students of lower SES often described receiving inadequate career advice, resulting in unsuccessful workforce transitions (Blustein et al, 2002; McGrath, 2001).

Another instrumental source of support identified by youth themselves is the use of social networks to find and maintain employment (MacDonald, Shildrick, Webster, & Simpson, 2005). While many youth in lower SES families interact with people in similar SES situations (Atkinson & Kintrea, 2004; MacDonald et al., 2005), evidence suggests young adults who have social ties with people in high SES positions are at a greater advantage of finding full-time employment (Jokisaari & Nurmi, 2005). Even if ties are weak, they are regarded as extremely beneficial for youth undergoing STW transitions because they can make all the difference when it comes to finding suitable work. With respect to remaining employed, youth with a social tie to their supervisor report greater job satisfaction and decreased intentions to quit (Jokisaari & Nurmi, 2005).

### ***Skill Development***

Proficiency in basic skills and the acquisition of work-related experience facilitates the STW transition, with extra-curricular activities serving as opportunities for skill development outside of school hours. The OECD (1998) report entitled *Transition from Initial Education to Working Life* analyzed the practices of six countries to describe components that appeared to contribute to successful STW transitions. Main features included the broad provision of general and vocational skills and learning in real work environments.

Bynner (1997) conceptualized basic skills as proficiency in literacy, numeracy, and computer use, in addition to the generic interpersonal skills of being able to work in a team, flexibility, and adaptability. Using the British Cohort Study 1970, Bynner investigated which skills were more important in finding and retaining employment - basic skills or work-related skills. A key finding of his investigation was that “problems acquiring basic skills resulted in problems acquiring work-related skills” (p. 311). There is therefore a need for youth to master basic skills because such knowledge is necessary for the development of work-related skills. Ultimately, basic skills were identified as the determining factor in successful STW transitions, regarded as safeguards for obtaining employment and as protectors from unemployment.

Although Bynner (1997) places a higher priority on basic skills than work-related skills, work-related experience is also important in the STW transition. Part-time work experiences help students become more responsible and allows them to have a more realistic understanding of what they want to do (or don't want to do) in the future (Mortimer, Zimmer-Gembeck, Holmes, & Shanahan, 2002). Workplace learning helps work-bound youth understand the importance of academic achievement and make informed decisions about future work-related aspirations (Wentling & Wait, 2000). Ng and Feldman (2007) further contend that successful STW transitions hinge on work-role identification. Equipping students with work-related knowledge and skills through quality apprenticeships and vocational programs ensures high levels of work-role identification, resulting in successful STW transitions. Evaluations of U.S. work-based activities indicate co-ops and internships/apprenticeships are particularly advantageous for minority youth with respect to facilitating employment (Neumark & Rothstein, 2006). A number of countries, like Australia and the United States, are heeding the call to provide youth with work-related experience necessary for success in the workplace (Harris, 2006; McDonald et al., 2000).

To counteract what they viewed as the absence of research on the profile of successful work-bound youth, in-depth qualitative interviews with 17 high school students were conducted by Phillips, Blustein, Jobin-Davis and Finkelberg White (2002). Interviews identified two categories of STW readiness skill sets required for successful STW transitions - objective and psychological. Objective readiness related to observable skills as a worker in addition to exhibiting a realistic transition plan. Psychological readiness referred to resiliency in the face of obstacles and a clear and optimistic work-related vision.

Extra-curricular activities provide occasions for youth to develop these skills necessary for successful STW transitions. This is especially important because, as mentioned earlier, many work-bound youth are categorized as “at risk”. The Michigan Study of Adolescent Life Transitions (MSALT) found that extra-curricular activities connected positively to youth skill sets (Barber, Eccles, & Stone, 2001). Students involved in any extra-curricular activity (categorized as prosocial, team sports, performing arts, and school involvement) completed significantly more years of education than nonparticipants. More years of schooling afforded more opportunity to acquire basic skills necessary for the workforce. Also, youth involved in sports were more likely to have a job with a future and experience more autonomy in the workplace (at age 24). Participation in sports resulted in team-oriented skills necessary for career success.

Similarly, Bowles and Brand (2009) described the importance of Expanded Learning Opportunities (ELOs) in a report commissioned by the American Youth Policy Forum. They reviewed 22 programs (offered outside of regular school hours) that served older youth, asserting that ELOs “have been effective in helping youth improve their academic performance and school engagement, learn skills important for career success, develop positive social and behavioral skills, and improve their health and wellness” (p. vii). Programs particularly targeted work-related experience and career exploration for youth considered “at risk.”

## **Resources**

Resources linked with success in the STW transition include family, school, and individual resources. Practically speaking, supportive families provide physical means for youth to assist transitions. For example, Jones, O’ Sullivan, and Rouse (2004) found success for work-bound youth often involved being allowed to live in the parental home. Supportive families also act as a resource for youth who experience disruptions in life, in that many students struggling with STW transitions come from unstable families that are unavailable for emotional and psychological support (Blustein et al., 2002).

Schools vary greatly in the amount of career resources they offer students. Schools that offer greater opportunities for career exploration encourage positive STW transitions (Blustein et al., 2002; Fouad, 2007). Some schools incorporate sophisticated School-to-Work-and-Life (STWL) models of career development (Solberg, Howard, Blustein, & Close, 2002). STWL models attempt to make students better learners and help them see barriers as challenges, both important qualities for success in the workplace. An example of curricula used in STWL schools is Achieving Success Identity Pathways (ASIP). ASIP helps students identify goals, define challenges, and encourage good relationships with teachers. ASIP training results in a number of positive outcomes; “Exposure to ASIP curricula contributed to a 137% improvement rate in attendance, 52% improvement rate in end of semester grades, 36% improvement rate in credits earned, and 33% improvement rate in the percentage of classes passed” (Solberg et al., 2002, p. 716). Such career resources clearly play an instrumental role in preparing students to adjust successfully to the workplace.

Individual resources also account for successful STW navigation. Research on students pursuing apprenticeships in Germany demonstrates the importance of goal setting in STW transitions. Haase, Heckhausen, and Koller (2008) found the likelihood of girls achieving apprenticeships greatly increased if they were highly engaged with a career goal. Despite structural barriers that exist for females to obtain apprenticeships in Germany, girls focused on their career goal met with success. In this fashion, individual goal setting may counteract structural barriers. However, goal setting needs to be realistic and reflect an honest appraisal of academic achievement to ensure apprenticeships are awarded (Tomalisk et al., 2008). Likewise, Maatta, Nurmi, and Majava (2002) investigated achievement and attributional strategies employed by students in successful STW transitions. Adaptive achievement strategies consisted of expectations of success and active coping, with a lack of internal attributions after failure being indicative of a positive attributional style.

Globalization and the widespread use of technology are increasing the number of jobs that require postsecondary education. The competitive nature of the job market makes it challenging for students following a direct path from high school to the workplace to find stable, meaningful work. This is especially true given that the profile of work-bound youth tends to mirror that of students “at risk” of school failure; work-bound youth have lower academic performance, are from lower SES families, have an external locus of control, have lower self-esteem, and have lower academic and career aspirations (Rowjeski & Kim, 2003). The needs of work-bound youth must be addressed to ensure their successful transition to the workplace. Government and school board officials should invest in the following intervention areas to promote successful STW transitions: relational support (increasing family support, training caring guidance counselors, providing mentors, fostering networks with people in higher SES categories), effective skill development (developing basic skills, equipping students with work-related experience, ensuring opportunities to participate in extra-curricular activities that facilitate skill development), and resource support (promoting family mental health so parents can invest in their children appropriately, offering effective career guidance in schools, helping students develop positive psychological resources – resilience, goal setting, internal locus of control, etc.).

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## **APPENDIX C**

### **Table C1: Consultations & HEQCO Project Meetings**

**Table C1: Consultations & HEQCO Project Meetings**

<b>Date (2010)</b>	<b>Meeting/ Consultation</b>	<b>Purpose</b>	<b>Research Team Members/Study Presentation</b>
January 14	HEQCO <sup>13</sup>	Contract	Don Klinger
February 24/25	Raymond Théberge, ADM,EDU	Project Info; soliciting support	Don Klinger, John Freeman
February 25	Don Young, Mgr (IMB); Rob Brown (TDSB)	Project Info; soliciting support	Don Klinger, John Freeman, Hana Saab
March 5	Grant Clarke, ADM, (EDU)	Project info, soliciting support	Alan King
March 12	Ken Norrie (HEQCO)	Project progress	Don Klinger, Alan King
March 24	Jo-Anne Brady (Queen's University Registrar)	Project info, soliciting support & involvement of other University Registrars	Wendy Warren, Hana Saab
March 31 to April 30	MISA (Managing Information for Student Achievement); OERP (Ontario Education Research Panel)	Consultations with various School Board contacts	Don Klinger
April 6	Ontario University Registrar's Association (OURA)	Project info, soliciting support & involvement of University Registrars	Study description document with relevant questions
April 6	Ontario University Council on Admissions, (OUCA – Executive Committee)	Project info, soliciting support & involvement of University Registrars	Study description document with relevant questions
April 6	Chris Monahan, Director, Research & Planning Branch, TCU	Teleconference call re best approach to TCU ADMs, etc	Wendy Warren, Don Klinger
April 14	HEQCO Teleconference call	Project status, communication with TCU & EDU	Alan King, Don Klinger, Wendy Warren, Hana Saab
May 11	Fiona Deller from HEQCO, meeting at Queen's University Kingston	Project progress	Don Klinger, Alan King, John Freeman, Wendy Warren
June 1	TCU, HEQCO	Project presentation by Fiona Deller	Alan King, Wendy Warren

<sup>13</sup> Not all meetings and teleconference calls of the SPEG/Queen's research team with HEQCO are included.

**Table C1: Consultations & HEQCO Project Meetings (cont'd)**

<b>Date (2010)</b>	<b>Meeting/ Consultation</b>	<b>Purpose</b>	<b>Research Team Members/Study Presentation</b>
June 28	Joan Oracheski (Ottawa-Carleton DSB); Marilyn Kasian (Ottawa Catholic DSB); Phil Dawes (Upper Canada DSB)	Consultation re project & survey development	Don Klinger, Alan King
July 21	Erica Van Roosmalen, Greg Rousell (Halton Catholic DSB); Chris Conley (Durham DSB)	Consultation re project & survey development	Don Klinger, Alan King, Wendy Warren
July 29	Linda Franklin, Bill Summers, Suzanne Dwyer (Colleges Ontario)	Project info, soliciting support	Don Klinger, Wendy Warren
August 6	OUAC (Guelph)	Project info	Alan King
August 12	Fiona Deller, Harvey Weingarten (HEQCO)	Project status	Don Klinger, Alan King

## **APPENDIX D**

### **Table D1: School Engagement Surveys Reviewed**

**Table D1: School Engagement Surveys Reviewed**

<b>SCALE/SURVEY/MEASURES</b>	<b>AUTHORS</b>	<b>INTENDED USE</b>	<b>COMMENTS</b>
Department of Education School Student Survey for New Brunswick	New Brunswick Department of Education	High school students	74 questions with a 5 point Likert scale response for each, ranging from “I strongly disagree” to “I strongly agree.”
Department of Education Teacher Survey for New Brunswick	New Brunswick Department of Education	Teachers	Gives teachers an opportunity to respond to 64 items about their school. Responses are made on a 5 point Likert-type scale ranging from “Strongly disagree” to “Strongly agree.”
Double Cohort Surveys	King & Warren (Phases 1 to 4: 2001, 2002, 2003, 2005)	Grade 11 and 12 Students	The Double Cohort Surveys asked students e.g., about the courses they were taking, their ability to take the courses they wanted, their marks in academic courses, and their future aspirations and preparation for the future.
Education Longitudinal Study (ELS; USA), 2002: Base Year	Inter-university Consortium for Political/Social Research	Grade 10 questionnaire	Questionnaire Sections Are: Information for Follow-Up, School Experiences and Activities, Plans for the Future, Language, Money and Work, Family, Beliefs/Opinions About Self.
Goals and Perceived Abilities Subscales; Task engagement measures	Miller et al. (1996)	High School Students	Goals were learning goals, performance goals, obtaining future consequences, pleasing the teacher, and pleasing the family. Multiple regression analysis revealed that various goals, perceived ability, and some interactions accounted for significant amounts of variance in the task engagement measures (self-regulation, strategy use, effort, and persistence).
Grade 9 School Choice Survey LDSB	Limestone District School Board	Grade 9	Students indicate the degree to which outlined factors affected their choice of high school, ranging in a 4 point scale from “Very important” to “Not important”, plus “Not sure/Doesn’t apply.”

**Table D1: School Engagement Surveys Reviewed (cont'd)**

SCALE/SURVEY/MEASURES	AUTHORS	INTENDED USE	COMMENTS
Grade 12 Graduate Follow-Up (B.C.)	British Columbia Research Corporation Vancouver, B.C.	Grade 12 Graduates	Questions are about: Factors influencing decision to/not to go to post-secondary education, factors which would cause you to pursue post-secondary education, future post-secondary plans, employment; financing post-secondary education, when the decision to pursue post-secondary education was made; influences of others on the decision to pursue post-secondary education; information sources related to PSE; satisfaction with school; participation in school activities; family background (level of education, employment, heritage)
1998 Grades 7-9 Student Survey/1998 Grades 10-12 Student Survey for Edmonton Public Schools	Edmonton Public Schools (1998)	Grades 7 to 12	Approximately 30 items each, to which students reply "Yes", "No", or "Not sure." There is a section for students to provide comments.
Halton Youth Survey	Contact: Erica van Roosmalen, Chief Officer, Research, HCDSB	Grades 7 and 10 students	This 12 page survey is carried out every three years (last done in Spring 2010). The sections are: About You (17 items); Your Community (9 items); Your School (9 items including 2 re bullying); Your Friends (2 items); Your Family (1 item with 13 sub-items); Health (9 items); Mental Health (11 items); Cigarettes, Alcohol & other Drugs (10 items); About You (7 SES & parents' education items); and Our Kids hubs (2 items)
Health Behaviours of School Children (HBSC) School Setting – Optional Packages, including reliability and validity of items	HBSC International Protocol (2009/2010)	Grades 6 to 10	Optional Packages include sets of questions: academic self-efficacy; school engagement; effort, reward, achievement goal theory, competence/autonomy; relatedness (to school); classroom management; participation; student relations
Identification With School Questionnaire- 16 questions with which students respond on a 4 point Likert scale (strongly agree, agree, disagree, strongly disagree)	Voekl, K.E. (1996) *Married name is Finn	Grade 8 Students	Tested on a sample of 3,539 eighth-grade pupils; Confirmatory factor analyses of the data provided evidence that a unidimensional scale may better reflect the degree to which students identify with school than do separate measures of belonging and valuing.

**Table D1: School Engagement Surveys Reviewed (cont'd)**

SCALE/SURVEY/MEASURES	AUTHORS	INTENDED USE	COMMENTS
Law Access Student Survey (2003)	Sponsored by the Deans of five law schools in Ontario; study conducted by King & Warren (2003)	Law Students	This was a survey about accessibility to Ontario Law Schools. Students in all years of the law program were asked to complete questionnaires. The questionnaire was divided into the following sections: Student's Background, Education, Career Plans, Debt Loads and Impacts, and Financial Supports. At the end of the survey, there was a section for open-ended comments.
Longitudinal Study of Young People in England (LSYPE)	Department for children, schools, and families	Sample of young people started at ages 13 and 14	<p>Began in 2004 and scheduled to continue for 10 years. 21,000 students in the sample. Baseline data will be used to monitor the progress of the original cohort group. Information collected provides data about:</p> <ul style="list-style-type: none"> <li>• Family background</li> <li>• Parent's socio-economic status</li> <li>• Personal characteristics</li> <li>• Attitudes, experiences, behaviours,</li> <li>• Attainment in education</li> <li>• Parental Employment</li> <li>• Income and family environment as well as local deprivation</li> <li>• Information about the school(s) the young person attends/attended</li> <li>• Post 16 plans</li> </ul>
Longitudinal Surveys of Australian Youth (LSAY)	National Center for Vocational Education Research	Students start in the study at 15 years of age; The first cohort was in 1995	Questionnaire topics include: Demographics (student and parent); Education (school, school transition, and post-school); employment (current, job history and training, seeking employment, not in the labour force); social (health, living arrangements and finance; general attitudes); Individuals are contacted once a year for 10 years

**Table D1: School Engagement Surveys Reviewed (cont'd)**

SCALE/SURVEY/MEASURES	AUTHORS	INTENDED USE	COMMENTS
Loneliness and Social Dissatisfaction Questionnaire for the School Setting	Parkhurst and Asher (1992)	Middle school students	24 items with a 5 point Likert scale response for each, ranging from “That’s always true about me” to “That’s not true at all about me.”
National Center for School Engagement Student Questionnaire	National Center for School Engagement (Denver, CO), 2006	Elementary; Middle and High school	Assessed emotional, cognitive, and behavioural engagement in three different school sites; Five years were invested in the development of this tool; reliability and validity measures available.
National Education Longitudinal Study of 1988	U.S. Department of Education, Center for Education Statistics	8 <sup>th</sup> Grade	There are nine parts to the questionnaire, which include questions about the following: General Questions, Background, Language Use, Family, Plans for the Future, Jobs and Chores, School Life, Schoolwork, Activities.
National Longitudinal Survey of Children and Youth (NLSCY)	Statistics Canada	Child/Youth Questionnaires	NLSCY is a long-term study of Canadian children and youth that follows their development and well-being from birth to early adulthood. The study collects information about factors related to a child’s social, emotional, and behavioural development (see Table B-1).
Ontario Secondary School Student Survey (1984)	Sponsored by the Ontario Secondary School Teachers’ Federation; conducted by King & Warren	High school students	The survey was designed to obtain information about how students felt about school and important social issues. The information was used to improve the quality of secondary school education in Ontario. The resulting report was <i>The Adolescent Experience</i> (King, 1986).

**Table D1: School Engagement Surveys Reviewed (cont'd)**

SCALE/SURVEY/MEASURES	AUTHORS	INTENDED USE	COMMENTS
Ontario Secondary School Student Survey (1989)	Sponsored by the Ontario Secondary School Teachers' Federation; conducted by King, Peart, & Warren	High School Students	The survey was designed to obtain information about how students feel about high school in an effort to improve the quality of secondary school education in Ontario. Survey sections included information about: Student's Background, Extracurricular Activities, Student Services/Guidance, and School Atmosphere. The resulting report was <i>The Good School</i> (King & Peart, 1990).
Paths on Life's Way: Transitions of British Columbia Young Adults in a Changing Society	Lesley Andres	Completed by the Class of '88 (all high school graduates), Four phases to the study (1989, 1993, 1997 and 1998)	Only longitudinal study of its kind in British Columbia and one of the few longitudinal studies of youth in Canada. The research spans 15 years and is designed to provide a detailed examination of students' lives, choices, and post secondary education and work experiences across different points in time and in relation to changing social and cultural conditions.
Post-Secondary Plans Survey: Grades 11 & 12 & Year 5 Students	Study conducted for Colleges Ontario by King & Warren (2005-06)	Grade 11, 12 and Year 5 Students	The survey was designed to discover who pursues and who doesn't pursue postsecondary education. Asked students what courses they were taking, their reason(s) for taking the courses, the number of credits they completed, their overall average, their ability to take the course they wanted, parental expectations about post-secondary education, attitudes towards post-secondary education, knowledge about opportunities after high school, and future aspirations. Results were produced in the report, <i>Transition to College: Perspectives of Secondary School Students</i>

**Table D1: School Engagement Surveys Reviewed (cont'd)**

SCALE/SURVEY/MEASURES	AUTHORS	INTENDED USE	COMMENTS
Research Assessment Package for Schools (RAPS)	Institute for Research and Reform in Education (1998)	Elementary and Middle School Assessments	84 items with a 4 point Likert scale response, ranging from "Very true" to "Not true at all." Questions are about relationship with teachers, other students, parents, attitudes towards school, self-esteem, self perceptions/motivations, etc. There is a 146 page manual, including scoring and interpretation.
Scales from the <i>Child Development Project</i> : <ul style="list-style-type: none"> <li>• Student Perceptions of, Feelings About Classroom and School</li> <li>• Academic Motivation</li> <li>• Social/Interpersonal Skills</li> <li>• Personal Feelings/Self Assessments</li> <li>• Social/Moral Orientations</li> </ul>	Developmental Studies Center (Oakland, CA)	Grades 3 to 6	Normative data is available for subscales. Likert-type items ranging from 1 to 5 (1= Disagree a lot to 5=Agree a lot). Developmental Studies Center (DSC) is a nonprofit organization dedicated to children's academic, ethical, and social development. The Child Development Project (CDP) – a research-based, multi-faceted school-change program focused on creating caring, supportive learning environments that foster students' sense of belonging and connection to school.
School Climate Survey- includes questions about equity and inclusive education; bullying/harassment	Ontario Ministry of Education (2009)	Grades 7 to 12	42 Questions followed by a page for students to write comments; Section 1 is on Equity and Inclusive Education (1-14) and Section 2 is on Bullying/Harassment (15-42). Questions relate to school climate and treatment of students by peers and teachers.
The School Liking and Avoidance Questionnaire	Ladd and Price (1987); Ladd (1990)	K to Grade 3	14 items; 9 of which tap into school liking, 5 are used as indicators of children's expressed desire to avoid school. Items contained in each of these two subscales have consistently produced moderate to high consistency coefficients.

**Table D1: School Engagement Surveys Reviewed (cont'd)**

SCALE/SURVEY/MEASURES	AUTHORS	INTENDED USE	COMMENTS
Scottish School Leavers Survey (SSLS)	Scottish Government	First surveyed in the 4 <sup>th</sup> year (the end of compulsory education) at age 16/17 and several times after	Self-completion postal survey sent to youth at their homes. It collects information about: <ul style="list-style-type: none"> <li>• Experience and views of secondary school</li> <li>• Educational, employment and related activities after leaving school up to their mid 20s</li> <li>• Ethnicity, parental education and social status, personal and family circumstances and housing tenure</li> </ul>
Student-Teacher Relationship Scale	Pianta (1992)	Intended for primary/junior teachers	This scale is intended for teachers, but some concepts could be adapted for student use, especially at the high school level.
Student Engagement in Instructional Activity	Marks, H.M. (2000)	Elementary and High School Students	Engagement in instructional activity is constructed as a factor containing four component measures: student effort, attentiveness, lack of boredom in class, and completing class assignments
Youth in Transition Survey (YITS)	Statistics Canada and Human Resources and Skills Development Canada	Two cohorts, ages 15 and 18-20, surveyed every two years	Designed to examine the patterns of, and influences on, major transitions in young people's lives, particularly with respect to education, training, and work. YITS is developed in consultation with provincial and territorial ministries and departments of labour and education. Measures include formal education experiences and labour market experiences, achievement, aspirations and expectations, and employment experiences.

## **APPENDIX E**

### **Grade 10 Survey (as of November 4, 2010)**

# Ontario Longitudinal Student Survey (OLSS)

## Grade 10

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(Date \_\_\_\_\_ Cohort 1 – Grade 10)

(aussi disponible en français)

FOR OFFICE USE ONLY	
School name:	
School Identification number:	<i>label area</i>
Student number:	
School's student number:	

### To the Student:

We are asking you to complete this questionnaire for the Ontario Longitudinal Student Survey. The purpose of this study is to see how young people make educational and career decisions as they progress through secondary school and beyond.

Your contribution is significant to the success of this study. However, your participation is voluntary.

When you have completed the questionnaire (it should take you between 15 and 20 minutes), do not sign it. The numbers on this cover page will allow us to link your responses with other information to be collected in the future. Your personal information, however, will be kept confidential.

We appreciate your involvement in this important study. If you have any questions, please ask your teacher.

### March (anticipated administration)

**NOTE: This version of the questionnaire is organized for the reviewers, not student respondents. The ordering of items will change to be more appropriate and facilitate students responding to them (e.g., all Likert items will be placed and randomly ordered in one section).**

**Instructions:** Please read and answer each question carefully. For a few questions, you may write your response in the space provided.

When you have completed the questionnaire, place it face down in front of you, and wait for your teacher’s instructions.

**BACKGROUND**

1. Are you male or female?

- Male
- Female

2. When were you born? *For example, if you were born on September 8, 1996, you would write*

0	8
---	---

*in the boxes beside ‘Day’,*

0	9
---	---

*in the boxes beside ‘Month’, and*

9	6
---	---

*in the boxes beside ‘Year’.*

- a. Day
- b. Month (Jan = 01, Feb = 02, etc.)
- c. Year

1	9		

3. Where were you born?

- Canada
- Other: *(please specify)* \_\_\_\_\_

4. Where were your parents<sup>14</sup> born? (If your parents were born in different countries place a checkmark [√] in the box **under each one.**)

	<i>Mother</i>	<i>Father</i>
Canada	<input type="checkbox"/>	<input type="checkbox"/>
Other	<input type="checkbox"/>	<input type="checkbox"/>
<i>(Please specify)</i> _____	_____	_____

5. Are you of Aboriginal background?  Yes  No

(If "No", go to Question 6; if "Yes", which of the following describes you?)

- First Nation ('Status' as registered under the Indian Act)
- Métis
- First Nation ('non-Status')
- Inuit
- Other: *(please specify)* \_\_\_\_\_

a. Do you live on a reservation?  Yes  No

<sup>14</sup> Questions that state “parents” also refer to a single parent, guardian(s), step-parent(s), and foster parent(s).

6. What is the language **most often spoken** in your home?

- English
- French
- Other: (please specify) \_\_\_\_\_

a. What other language(s) are spoken in your home (please specify below; if none, write "none")?

\_\_\_\_\_

7. In what language do you feel most comfortable?

- English
- French
- Other: (please specify) \_\_\_\_\_

8. How many years have you lived in Canada?

- I was born in Canada
- Less than 1 year
- 1 to 2 years
- 3 to 5 years
- 6 to 10 years
- 11 or more years

9. Do you belong to a visible minority?  Yes  No

If "Yes", please specify (e.g., Chinese, Caribbean Black, Persian, East Indian)

\_\_\_\_\_

10. What level of education has **each** of your parents achieved?

(If you share living with two sets of parents, answer this question about your birth parents. You will end up with **only two** checkmarks [√].)

	<i>Mother</i>	<i>Father</i>
Did not complete high school	<input type="checkbox"/>	<input type="checkbox"/>
Completed high school	<input type="checkbox"/>	<input type="checkbox"/>
Trades Certificate (e.g., plumbing, electrical)	<input type="checkbox"/>	<input type="checkbox"/>
Some college credits	<input type="checkbox"/>	<input type="checkbox"/>
Diploma/Certificate from College/CEGEP/Institute of Technology	<input type="checkbox"/>	<input type="checkbox"/>
Certificate from Private Career College (e.g., Business/Technical Institute)	<input type="checkbox"/>	<input type="checkbox"/>
Some university credits	<input type="checkbox"/>	<input type="checkbox"/>
University Degree (e.g., BA, BSc)	<input type="checkbox"/>	<input type="checkbox"/>
Advanced University Degree (e.g., LLB, MD, MA, PhD)	<input type="checkbox"/>	<input type="checkbox"/>
Other: _____	<input type="checkbox"/>	<input type="checkbox"/>
Do not know	<input type="checkbox"/>	<input type="checkbox"/>

11. With whom do you live?

- Mother and Father
- Part time with Mother and Part time with Father
- Mother Only
- Father Only
- Mother and Stepfather (or partner)
- Father and Stepmother (or partner)
- Other: (e.g., grandparents; please specify) \_\_\_\_\_

12. How many children, other than you, are there in your family?

- I am the only child
- |                        | # of children |
|------------------------|---------------|
| Older than you         | _____         |
| Younger than you       | _____         |
| Same age as you (twin) | _____         |

13. How well off do you think your family is?

- Very well off
- Quite well off
- Average
- Not very well off
- Do not know

14. Do you currently have a part-time job(s) for which you are paid?

- Yes
- No

a. If you answered "Yes", indicate the number of hours you usually work in a week.

	# Hrs/week usually
During the week	_____
On the weekend	_____

## EDUCATIONAL ISSUES

15. Do you have any impairment, handicap or disability (e.g., poor hearing, physical disability, learning disability)?

- No  
 Yes (please describe) \_\_\_\_\_

a. If "Yes", does your disability limit any of your school-related activities?  Yes  No

b. Do you have an Individualized Education Plan (that is, an IEP for your special needs)?

- Uncertain  
 No  
 Yes (please describe) \_\_\_\_\_

16. Do you use a computer at home?  Yes  No

a. If "Yes", how much time in a day do you **usually** spend using the computer? (Please specify in hours and/or minutes.)

	<i>Hrs / Min</i>			
For schoolwork purposes	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
Other	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

17. Have you received extra help **with** your **learning** since you have been in high school?

(Select **all** that apply.)

a. In school:

- Resource teacher  Homework Help  
 Peer tutoring  Student Success Teacher  
 Referred for credit recovery/Credit Rescue  
 Other: (please specify) \_\_\_\_\_

b. Out of school:

- Private learning institute  Private tutor  
 Other: (please specify) \_\_\_\_\_

**Courses** (*Ministry of Education file, but could be used here to produce more rapid report in fall 2011*)

18. What English and Mathematics courses did you take in Grade 9?

	<i>Academic</i>	<i>Applied</i>	<i>Locally Developed</i>
English	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mathematics	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

19. Did you pass all of your Grade 9 courses?  Yes  No

20. Indicate the English and Mathematics courses that you expect to take in Grade 11.

	<i>University (U)</i>	<i>University/ College (M)</i>	<i>College (C)</i>	<i>Workplace (E)</i>
English	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mathematics	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

21. To which of the following have you applied for next year (*select all that apply*)?

- Specialist High Skills Major (SHSM; e.g., *Construction, Arts and Culture, Health and Wellness*)
- Cooperative Education (Co-op)
- International Baccalaureate (IB)
- Ontario Youth Apprenticeship Program (OYAP)

22. Are you taking, or have you taken the following courses?

	<i>Yes</i>	<i>No</i>
English as a Second Language (ESL)	<input type="checkbox"/>	<input type="checkbox"/>
English Language Development (ELD)	<input type="checkbox"/>	<input type="checkbox"/>

**Achievement**

23. Approximately, what was your overall average in Grade 9?

- < than 50%
- 50% to 59%
- 60% to 69%
- 70% to 79%
- 80% to 89%
- > than 90%

24. Overall, how do you think your marks compare with other students in your class?

- Above Average/better than most
- Average/similar to most
- Below average/lower than most

25. Since last year, have your overall marks:

- Improved?
- Stayed the same?
- Dropped?

26. On average, how many **hours per week** do you usually spend on homework?

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## SCHOOL ENGAGEMENT

### (1) School

27. Please show how much you agree or disagree with each statement.

	<i>Strongly Agree</i>	<i>Agree</i>	<i>Neither agree nor disagree</i>	<i>Disagree</i>	<i>Strongly Disagree</i>
a. My school is a nice place to be.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. I feel I belong at this school.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. I like school.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. I feel accepted in this school.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e. Most of my friends like school.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f. I wish I could go to another school.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g. I feel safe at this school.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
h. My school has a reputation as a good school.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
i. I am doing the best I can at school.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
j. This school is meeting my educational needs. [Grade 12 only?]	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

28. What I like most about school is ... (e.g., school subjects – Mathematics, Art; school sports; clubs, time with friends. Indicate first and second choices).

1<sup>st</sup> choice: \_\_\_\_\_

2<sup>nd</sup> choice: \_\_\_\_\_

29. Sometimes I feel left out in school because of: (Select **all** that apply.)

- I do not feel left out
- My gender
- My disability
- My cultural or racial background
- My appearance (how I look)
- My religion or faith background
- My grades or marks
- My family income level (high, middle or low)
- Other reason(s): \_\_\_\_\_



### (3) Relationship with Teachers

36. Please show how much you agree or disagree with each statement.

	<i>Strongly Agree</i>	<i>Agree</i>	<i>Neither agree nor disagree</i>	<i>Disagree</i>	<i>Strongly Disagree</i>
a. I feel that most of my teachers care for me as a person.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. When I need extra help at school, I can get it.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Most of my teachers treat me fairly.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. I feel I can talk to at least one teacher about things that are bothering me.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e. Most of my teachers encourage me in my school work.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f. Most of my teachers expect too much of me.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g. At least one adult cares about me in school.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

### (4) Relationship with Peers

37. Please show how much you agree or disagree with each statement.

	<i>Strongly Agree</i>	<i>Agree</i>	<i>Neither agree nor disagree</i>	<i>Disagree</i>	<i>Strongly Disagree</i>
a. Other students accept me as I am	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Students in my class(es) treat each other with respect	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. I can talk easily with my best friend(s) about things that really bother me	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. Most of my friends go to my school.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e. Students in this school do not like others who are different.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

### (5) Relationship with Parents

38. Please show how much you agree or disagree with the following statements.

	<i>Always</i>	<i>Most of the time</i>	<i>Some of the time</i>	<i>Rarely</i>	<i>Never</i>
a. My parent(s) understand me.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. I have a happy home life.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. My parent(s) expect too much of me.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. I have a lot of arguments with my parent(s).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e. My parents trust me.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f. There are times I would like to leave home.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g. What my parent(s) think of me is important.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
h. I feel comfortable talking to my father.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
i. I feel comfortable talking to my mother.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
j. When I need extra help with schoolwork, I can get it from my parents.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
k. My parent(s) attend events at my school.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
l. My parents show an interest in my work at school.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

### (6) Community Involvement

39. Do you take part in any of the following types of activities **outside of school**: (Please place a checkmark [✓] to the right of **all** activities that apply and indicate the typical number of hours you spend in a week when you are involved.)

a. Arts (e.g., visual arts, drama, dance)	<input type="checkbox"/>
b. Music (e.g., piano lessons, band, choir)	<input type="checkbox"/>
c. Youth organizations (e.g., Scouts/Girl Guides)	<input type="checkbox"/>
d. Church or religious group activities	<input type="checkbox"/>
e. Competitive Sports (e.g., swimming team, rep hockey)	<input type="checkbox"/>
f. Recreational Sports (e.g., house league hockey, soccer)	<input type="checkbox"/>
g. Volunteer activities (e.g., with the elderly, food bank)	<input type="checkbox"/>
h. Other: (please specify) _____	<input type="checkbox"/>
i. I am not involved in any kind of activities, clubs or organizations outside of school	<input type="checkbox"/>

## SELF-CONCEPT (Emotional Well-Being)

40. Please show how much you agree or disagree with the following statements.

	<i>Strongly Agree</i>	<i>Agree</i>	<i>Neither agree nor disagree</i>	<i>Disagree</i>	<i>Strongly Disagree</i>
a. I have trouble making decisions.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. I have confidence in myself.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. I often wish I were someone else.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. I would change how I look if I could.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e. I often feel left out of things.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f. I like myself.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

## POST-SECONDARY PLANS

41. Which of the following best describes what you expect to do right after high school?

- Leave before graduating from high school
- Go directly to work
- Go directly to college
- Go directly to university
- Go directly to an apprenticeship program for a skilled trade (*e.g., to be an electrician, plumber or hairdresser*)
- Take time off before continuing on to university [Grade 12 only]
- Take time off before continuing on to college [Grade 12 only]
- Take time off before going to work [Grade 12 only]
- I am unsure
- Other: (*e.g., private career college such as a business institute, serve in the Armed Forces, go to Bible School; please specify.*)  
\_\_\_\_\_

42. What do your parent(s) expect you to do after high school?

- Take an apprenticeship
- Attend college
- Attend university
- Go directly to work
- Uncertain
- Other: \_\_\_\_\_

a. To what extent do you feel pressure from your parent(s) to achieve this goal?

- A lot
- Some
- None at all

43. Please show how much you agree or disagree with the following statements.

	<i>Strongly Agree</i>	<i>Agree</i>	<i>Neither agree nor disagree</i>	<i>Disagree</i>	<i>Strongly Disagree</i>	<i>N/A</i>
a. I am concerned about the costs of attending university or college.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. I would prefer to attend a university or college near my home.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

### SOURCES OF INFORMATION

44. How would you describe your knowledge (*i.e., options, costs, requirements*) of the following?

	<i>Good</i>	<i>Fair</i>	<i>Poor</i>
University programs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
College programs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Apprenticeship programs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Work opportunities after high school	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

45. Have you spoken to a high school Guidance Counselor about your educational and career plans?

Yes                       No

46. How important have each of the following been in influencing your educational and career plans?

	<i>Very Important</i>	<i>Somewhat Important</i>	<i>Not very Important</i>	<i>Not at all Important</i>
Parent(s)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Teacher(s)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Guidance counselor(s)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Friend(s)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Someone you admire who does the work you would like to do	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Career information ( <i>e.g., from TV, internet, newspapers, brochures</i> )	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other (please specify) _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**This is the end of the survey.**

THANK YOU VERY MUCH FOR YOUR PARTICIPATION.