

# College Student Achievement Project



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## CSAP Provincial Forum

Research without thoughtful and creative deliberation can merely add to the body of knowledge sitting on the shelf. Correspondingly, deliberation uninformed by research can become anecdotal and trading of opinions. The CSAP forum is therefore an integral part of the overall *deliberative inquiry* model and is designed to lead towards feasible and evidence-based ways forward. Accordingly, CSAP brought together over 125 representatives from schools, colleges, universities, government and other agencies for the day on October 24, 2014 to reflect on the CSAP research and to consider what we are presently doing well and what we need to do better. Participants were presented with a presentation on preliminary research (which will essentially create the first four chapters of our upcoming final report for 2014) and worked at tables of 8 people – each table being selected to contain a cross-section of stakeholders.

The forum was introduced by Mary-Jean Gallagher (Assistant Deputy Minister and Chief Student Achievement Officer, Ministry of Education) who stressed the Ministry's commitment to raising levels of student achievement. She called on forum participants to better understand each other's roles and realities, to celebrate their successes, and to contribute to the quality of the CSAP final report through their discussions.

Following this introduction, the CSAP evolution, history and research was presented and table discussions focused on specific questions arising from the research. Effective use of technology enabled participants to "tweet" their personal thoughts to a continuously running Twitter stream and for each table to submit their conclusions and responses to questions at the end of each discussion period. This will enable the CSAP team to analyse the contributions of all participants.

This year the CSAP team showcased the Learning Outcomes Development Project, the Assessment Development Project and the CSAP Database. Participants were encouraged to 'test their math skills' by taking the mathematics

assessment test, speak to the CSAP team regarding what a common learning outcome looks like and generate data reports through the interactive online database.

## **CSAP Assessment Development Project**

The ADP is now nearly complete with the development of both English and French versions of two types of basic mathematics test either of which can be used in three different ways. The on-line tests include a short (45-60 minutes) test of basic numeracy – giving a single numeracy score – and a longer (90-120 minutes) full diagnostic test – from which a score is generated for each of the 9 mathematics topics. The tests can be used by a college to test whole groups of students, by a college instructor or secondary school teacher to conduct a prior learning assessment for a single class, or by secondary school students or adults who are thinking about going to college and who want to check their own mathematics skills. Coupled with the tests are a set of remedial modules which can be accessed by students who feel the need of help in any particular area.

The tests are the result of extensive field trials by over 5000 college and secondary school students and of psychometric analysis of every test item. This psychometric analysis enables us to find out how each item is “working” within the test as a whole. For example, we discard items that everyone gets right or wrong and items that high-achieving students tend to get wrong but that lower achieving students get right. This analysis also enables us to construct a huge variety of tests made up of different items but with the same overall difficulty level. So while there are 400 items presently in the item bank, there are literally thousands of ways of combining them into tests.

The most useful comments however have come from students who have tried out the tests. While many students find basic operations (like calculating a percentage) hard without the use of a calculator, many have also told us how useful it has been to discover topics they once learned but have now forgotten. Teachers too have found the field trials helpful as it has shown them topics which students in their classes are having trouble with and they can adjust their teaching accordingly. Thank you to everyone who has participated in these field trials.

Overall, our goal is to enable these tests to support students’ learning and to help more students be more successful when they enter college. The field trials are ending now but we are working hard to make the College Mathematics Assessment Program (CMAP) available throughout Ontario before the end of this school year.

## CSAP Database

The College Student Achievement Project (CSAP) collects data on student achievement in first-year college mathematics and language courses and publishes annual reports containing analyses of this data on a provincial basis. It also provides an interactive online database for colleges and school boards to access information relating to their own institutions.

Members of both college and K-12 communities can use the CSAP database for a variety of research analyses. For example, a college community may wish to compare how their students' achievement compares with the provincial aggregate or conduct a detailed analysis of a particular academic program by 'drilling down' past the broad program cluster to the program code level. Similarly, a school board may wish to compare which mathematics pathway provides their graduates with the most success in college or see how the graduates from each secondary school are distributed across college programs.

Access to this information is provided to users authorized on an annual basis by vice-presidents, academic (for college users) and by superintendents (for school board users). Further information is available on the CSAP web site (<http://csap.senecacollege.ca>, click on the 'Research Database' tab and complete the online form).

## CSAP Learning Outcomes Development Project (LODP)

*[Bridging the Mathematics Gap through Learning Outcomes](#)* is a learning outcomes package developed by the Learning Outcomes Development Project (LODP) and the College Student Achievement Project (CSAP) teams, supported by the Ministry of Training, Colleges and Universities (TCU) for use by all Ontario colleges. The LODP team focused on writing learning outcomes for pre-technology, pre-business, and business diploma mathematics courses that follow a framework similar to those used in the TCU program and EDU curricular documents. Eight principles were developed to guide and facilitate the writing of the learning outcomes. They provided rationale for writing the learning outcomes to reflect the mandate of the CSAP project.

Draft learning outcomes and a feedback questionnaire were distributed to stakeholder groups (individual colleges, Assessment Development Project (ADP)/LODP Advisory Committee, Ontario College groups including HOT, HOB, HoIS, OCMC and the CCVPA) in Spring 2014. The input provided by all stakeholders during the feedback process contributed significantly to the final product. The feedback was analysed, revisions made to the learning outcomes, and the final report will be released this week.

These sets of learning outcomes represent minimum common standards for first semester/year mathematics courses, and colleges could add them to meet their particular needs. The LODP recognizes the autonomous nature of colleges and their ability to make independent curricular decisions. Nonetheless, the adoption of these sets of learning outcomes and their related materials have the potential to help students bridge the mathematics learning gap from secondary school to college classrooms, strengthen mathematics teaching and learning in Ontario college classrooms, and provide consistent educational opportunities for students transferring between colleges. In these ways, success in student mathematics learning and college programs could improve. Course outlines were obtained from every college and the learning outcomes and topics were analysed by the LODP team. The team then developed a framework for writing the common learning outcomes and objectives, designed to ensure relevancy to secondary school and college instructors. While drafting the outcomes, the team considered ways to measure the outcomes in multiple ways; e.g., projects, case studies, in addition to quizzes, tests and exams that are the mainstay of assessment in college mathematics courses.

The report has been distributed to the system and we have asked each college, through the office of the VPA to endorse the outcomes as appropriate to their institution.

To join the CSAP mailing list and receive regular email updates about the project, send us an email at [csap@senecacollege.ca](mailto:csap@senecacollege.ca).

The Seneca logo is written in a bold, red, sans-serif font.

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