College Student Achievement Project

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The beginning of 2014 has seen a continuation of the high levels of activity referred to in our last issue of CSAP News (December 2013). The final report of the first cycle of CSAP (with data relating to students who entered college in Fall 2011) has been completed and we look forward to its publication in the spring of this year. Analysis is now beginning on the data collected for Cycle 2 (relating to students who entered college in Fall 2012) and we plan to have a preliminary research report completed by the end summer for deliberations during the fall of this year.

As mentioned in our fall newsletter, CSAP has taken on two additional projects this year – the Assessment Development Project (ADP) and the Learning Outcomes Development Project (LODP) – and this issue of CSAP News contains updates on both of these.

Finally, readers of the last CMP report (published in May 2012) will recall a qualitative comparative analysis of mathematics topics in college and secondary school course curricula. Following the publication of that report, the CSAP team was asked to conduct a similar analysis for language or communications courses in both college and secondary school curricula. That research is now complete and this newsletter contains an article based on that report, which is also planned to be published this spring.

Assessment Development Project (ADP)

The ADP is developing an on-line diagnostic test of foundational mathematics skills for use in two ways: by colleges in assessing the readiness of newly admitted students for diploma-level mathematics courses; and by students prior to applying to college who are wondering if their mathematics skills match the expectations of colleges. In relation to this latter use, on-line remedial instructional modules are also being developed. The overall assessment system including the instructional modules will be developed in both English and French.

To date, the ADP team has assembled a set of 200 items based on tests submitted by colleges and other resources available in the public domain. These items are already being field tested by students in English-language secondary schools around Ontario (with the French-language field tests planned to begin in May). The tests are being administered on line *without the use of calculators* – a feature that is proving to be a challenge for some students. Meanwhile the team is developing further items to match the CSAP assessment framework and the learning outcomes being developed by the LODP team (see separate report) and these will also be field tested prior to decisions

concerning the makeup of the final item pool.

In the fall, the final tests will also be beta-tested in both schools and colleges along with the remedial modules. Schools or colleges wishing to participate in the field trials (and receive an honorarium of $500) are invited to apply by emailing csap@senecacollege.ca.

Learning Outcomes Development Project (LODP)

This project is designed to develop a common set of learning outcomes for college mathematics courses in three program areas: pre-business foundation; pre-technology foundation; business diploma. For more background to the project, readers may wish to review the feasibility study conducted during 2012-2013 and available on the CSAP web site (http://csap.senecacollege.ca).

The project team has developed comprehensive topic lists for mathematics courses in each of the three areas, based on a review of the CMP 2011 final report, the CSAP 2012-13 feasibility study, and course outlines submitted by colleges in Fall 2013. The key principles guiding this development are that the topics should be:

- Comprehensive:
    - Provide the structure or framework for the learning outcomes and learning objectives.
    - Encompass the demands and expectations of pre-business and pre-technology mathematics.
- Exhaustive, yet efficiently written:
    - Support college faculty needs when choosing learning outcomes
    - Provide a framework for a one-semester course
- Detailed:
    - Add definition and clarity to the learning outcomes and learning objectives.

There are 6 major topics for pre-business and 8 for pre-technology as follows:

Pre Business	*Pre-Technology*
Integers	Integers
Fractions, Decimals &Percentages	Fractions, Decimals & Percentages
Ratio and Proportion	Ratio and Proportion
Exponents, Roots & Order of Operations	Exponents, Roots & Order of Operations
Algebra	Algebra
Graphs of Linear Equations	Functions & Graphing
	Measurement
	Geometry & Trigonometry

While there are topics and sub-topics common to the pre-technology and pre-business subjects, the learning outcomes will be differentiated through the contexts in which these topics are set. These topic lists were given provisional endorsement by the LODP/ADP Advisory

Committee at its March 2014 meeting but validation of the learning outcomes will take place at each college at a later stage of the project.

Learning outcomes and learning objectives are now being written.   Materials for instructional support are also being developed:

a.   Outlines for the use of calculators, graphing and spreadsheet software, and other devices;

b.   Strategies for learning mathematics and for countering mathematics anxiety;

c.   Collated student learning activities and case studies;

d.   Reviews of relevant websites (e.g. EduGains, CLiPS, Ministry of Education, SCWI).

Qualitative Analysis of Language Curricula

This purpose of the *Language Gap Analysis Report* is to compare the learning outcomes of the Grades 8 – 12 secondary school curricula to the language skill expectations colleges have of incoming students to determine if secondary school graduates will have been taught, will have practised and been assessed on the skills required for success in first year college language courses.

The first section of the report provides context by demonstrating, through a case study, how language skills are taught in two different college programs at four colleges, both in discrete courses and through content embedded in vocational and general education courses.

First semester language courses are analysed in the second section. Most colleges teach expository writing courses using readings, both fiction and non-fiction, to develop reading skills and provide topics for analytical or persuasive essays. Students are also taught information literacy skills. Much emphasis is placed on writing that is correct, free of grammar, spelling and mechanical errors. Some colleges use a vocational writing approach teaching students the formats and style of business and/or technical writing. Although the approaches vary among colleges, this analysis demonstrates that there are more similarities than differences in the intent: teaching students how to produce clear, coherent, cohesive and correct writing that addresses the audience and purpose and that, when required, correctly incorporates primary and secondary material. This conclusion leads to a recommendation in the *CSAP Final Report 2013* that colleges should consider developing common learning outcomes for these language courses (as the LODP is doing for mathematics).

The third section of the Report expands on information provided in two of the Appendices. In Appendix E, all learning expectations in the Reading, Writing, and Oral Communications strands for Grades 8 – 12 are presented, some with sample activities or assessments that have been provided by three experienced English teachers from the Durham District School Board, and others with the sample activities and Teacher Prompts that are included in the curriculum documents.

Appendix F contains a "gap analysis" comparing these learning expectations to the topics in the college course analysis to determine where potential gaps might exist, in the opinion of one teacher.

In secondary school, students move into either applied or academic courses in Grades 9 and 10 and college, workplace or university destination courses in Grades 11 and 12. For tzhe purposes of the Language Gap Analysis Report, workplace courses were not included. The learning expectations for each level and type of courses are similar. Differences emerge, however, when the examples and teacher prompts provided in the curriculum documents are analysed or anecdotal information gathered from teachers. The analysis provided in the final section attempts to explain how and why these differences may impact student preparedness for and success in college communication courses; and provide insight concerning the data in the CSAP Final Report 2013, which demonstrated that students coming from the university destination courses were much more successful in college communication courses, in both English-speaking and French-speaking colleges, than those from the college destination courses.

The report also contains information about colleges' post-acceptance assessment practices and the remedial and developmental courses offered at some English language colleges.

The Language Gap Analysis Report will be published this summer.

To join the CSAP mailing list and receive regular email updates about the project, send us an email at csap@senecacollege.ca.

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