HEQCO / College Dialogue on Learning Research
–
Present and Future

Report on the Meeting Sponsored by the
Higher Education Quality Council of Ontario

October 17th, 2007

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1. Introduction

On October 17th, 2007, the Higher Education Quality Council of Ontario invited provincial college academic and institutional research leaders to a meeting in Toronto to discuss learning research, findings, evidence and improvements driven by these findings. This first meeting between colleges and the Council was intended to begin an ongoing dialogue in support of HEQCO's goal of enhancing "… all aspects of postsecondary education including quality, access and accountability …" supported by thoughtful research and evidence.

In their welcome the Council's, Founding Chair, the Hon. Frank Iacobucci and President and CEO, Dr. James Downey, recognized the colleges' commitment to understanding and enhancing their students' learning experiences and outcomes. They stressed the importance, in this phase of the Council's work, of mutual collaboration and a systematic and credible program of research into learning quality.

2. The Meeting Program

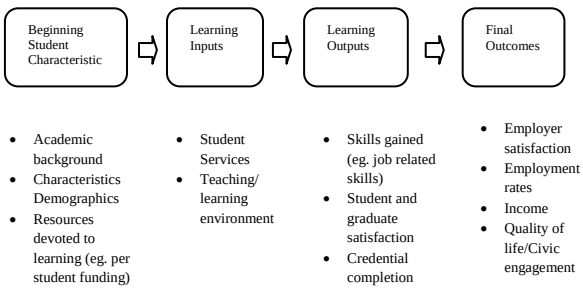
The agenda was developed to provide a current overview of the current state of the college system's learning-related data gathering and research, to highlight best practices in college learning research and to consider future research that could contribute to the enhancement of higher education.

Ken Norrie, Vice President, Research, HEQCO, contextualized the meeting's focus on learning research and challenged participants with five critical questions that framed discussions:

1. What do we think we know for sure about learning in higher education and its measurements?
2. What evidence confirms these conclusions?
3. How have these findings been used by the colleges?
4. What else do we need to know about learning?
5. What promising directions of future research should be pursued?

The agenda was divided into 5 components:

First, Ursula McCloy, Research Director, HEQCO, outlined the **current status of the college system's learning-related data gathering and research** and discussed how data currently collected could fit within the following 4 component "learning process model" outlined by Ken Norrie:



College data that reflect "beginning student characteristics" can be drawn from the Ontario College Application

Survey, the Ontario College Student Engagement Survey (OCSES), the Student Satisfaction Survey (KPI), Ontario College Application Service (OCAS) application and registration data and a number of institutional surveys and studies.

"Learning inputs" can be measured and tracked through the College Financial Information System, the College Compensation and Appointments Council annual data collection and reports, the Colleges Ontario analyses of trends and jurisdictional comparisons, the Student and Graduate Satisfaction Survey (KPI) and the Ontario College Student Engagement Survey (OCSES).

"Learning outputs" data can be collected through OCSES, Graduate and Employer Satisfaction Surveys (KPI), graduation rates, the Program Quality Assurance Process Audit related processes and historic analysis of licensing and certification exams. Individual colleges have developed fairly rich outcomes tracking processes including those to validate program-specific learning outcome attainment.

"Final outcomes" can be tracked through Graduate and Employer Satisfaction Surveys (KPI), employment rates and graduate earnings.

The presentation was enriched by the perceptions of a panel: Cindy Hazel, Vice President, Academic, Seneca College, Kevin Mullan, Vice President, Administration and Finance, Conestoga College and Bill Summers, Vice President, Research and Policy, Colleges Ontario. The panel's comments and concerns are captured in section 3 below.

Second, two colleges, **Cambrian and Fanshawe, offered samples of learning related research and the changes in college practice that they have driven**. Presenters Betty Freelandt, Vice President, Student Services and Strategic Initiatives, Cambrian College, Sonia Del Missier, Vice President Academic, Cambrian College, Joy Warkentin, Senior Vice President, Academic, Fanshawe, and Greg Weiler, Dean, Centre for Applied Research, Innovation and University Partnerships, Fanshawe College, outlined samples of data gathering processes that contribute to colleges' broad self-understanding, measurement, Board reporting, accountability, planning and continuous improvement processes. Both presentations described the use of evidence to develop relevant interventions to enhance student fit, engagement and retention. Next steps involve measurement of the effectiveness of each intervention.

Third, two presentations outlined **the current state of student engagement research in the universities and colleges**.

Chris Conway, Director of Institutional Research and Planning, Queens University, presented a report on the National Survey of Student Engagement (NSSE). He outlined the growing level of university interest the NSSE survey which provides a measure of student engagement against 5 'benchmarks': level of academic challenge, active and collaborative learning, student-faculty interaction, enriching educational experiences and supportive campus environment. While engagement does not measure outcomes, it offers correlates with learning that have proven

helpful in identifying needed interventions and assessing their impact. Universities use NSSE data to identify, study and measure concerns and to support reporting to government. About half of the provinces' universities report having incorporated NSSE into institutional processes including budget and program reviews.

Chris also introduced the HEQCO funded "*Ontario Engagement Interventions Project"* indicating that participating universities have entered into a process of evidence driven development of their institutional engagement responses.

Peter Dietsche, the William G. Davis Chair in Community College Leadership, OISE, University of Toronto, summarized the most recent findings of the Ontario College Student Engagement Survey (OCSES) based on 2006/07 data. The analysis linked 'student background and entry characteristics', 'student perceptions and experience' and 'outcomes' (based on college data). His findings generated a good deal of discussion.

Fourth**, break-out sessions**, one for the Vice Presidents, Academic, facilitated by Michael Cooke, Vice President, Academic Excellence and Student Success, George Brown College, and one for the leaders of institutional research, led by Catherine Drea, Vice President, Students, Access and Success, Mohawk College, pursued separate discussions focused on the questions framed by Ken Norrie. Their reports to the plenary session are captured in section 3.

Fifth, conclusions were drawn from the two breakout sessions and **'next steps**' were outlined by Ken Norrie.

3. Discussion of the Key Questions

3.1 What Do We Think We Know For Sure About Learning in Higher Education and Its Measurements? What evidence confirms these conclusions?

From the presentations and breakout discussions it is clear that the colleges know a good deal about student performance; particularly learning-related measures of applicant preparedness and interests, student persistence, performance and satisfaction and graduate satisfaction, salaries and employment.

Most institutions have well-established student feedback processes that evaluate faculty and courses. These provide faculty with an average of student perceptions about their teaching methods, the curriculum and the learning environment provided. The academic managers typically receive individual professor and aggregate reports, which offer additional information related to the link between the learning environment and learning.

Since the 1990's, the Key Performance Indicator (KPI) Reports have given colleges the tools to compare their own students' perceptions, graduates' satisfaction and success and employers' satisfaction with the provincial aggregate data. This has helped colleges further study correlates with key success indicators.

While individual colleges have collected student performance and perception data on each of their programs for decades, it is only recently that their program quality assurance processes have become subject to a regular audit and a public report. The tracking and comparing of programs has also provided colleges with additional insights into the characteristics of successful learning experiences.

Referring to both system and institutional data and the international literature on learning, college presenters and leaders identified some consistently demonstrable correlates with student learning. There appears to be general agreement that learning correlates with:

- student fit with the program and career of choice,
- time spent on the learning task,
- engagement of students on campus,
- academic challenge consistent with student abilities,
- timely constructive student feedback, and
- the availability of needed learning resources (particularly timely coaching, work placement opportunities and lab resources).

While the colleges have expressed some concerns about the Ontario College Student Engagement Survey (OCSES) and aspects of its administration, it is seen to have provided valuable insights into college student engagement. The Ministry's commitment to a review and refinement of the survey and the processes under which it is administrated is seen as an important step in addressing these concerns. Nonetheless, Colleges do not doubt the value of engagement as a surrogate measure that correlates with student learning and many use the OCSES reports in their continuous improvement processes. Peter Dietsche highlighted the findings from the most recent OCSES survey and student grades data:

- 41% of college leavers are academically successful
- The profile of Successful Leavers appears to be the same as Successful Persisters except they have less clear career goals, are less likely to feel that they are making progress in their program and are more likely to prefer a job over college
- The profile of Unsuccessful Leavers appears to be the same as Unsuccessful Persisters except they report being more concerned about finances
- The ability "to make friends easily" correlates with persistence
- Persisters are more likely to say most or all of their faculty were 'very good teachers'
- The most powerful attributes of good teaching that contribute to persistence relate to teacher/student relationships
- Very good teaching has the following impacts on students. Students:
    - believe they are achieving their goals
    - have a positive view of their courses
    - find their program interesting
    - develop good relationships with faculty
    - interact more with faculty outside of class

- say faculty have a greater influence on their interest in ideas
- interact more with faculty if they are perceived to value student's success
- interact more with peers in study groups

While participants noted the importance of "engagement" as a correlate with both "learning" and "retention", they cautioned against an uncritical and premature assumption that "retention" reflects "learning quality". They were particularly concerned about this assumption creeping into accountability discussions. Specifically, they stress that 'indirect' proxy measures of learning are not appropriate accountability measures.

College leaders suggested that while progress has been made in understanding the nature of the learning process, knowledge tends to be in relatively unconnected 'nuggets' rather than any generally acceptable learning model or definition of learning quality.

3.2 How have these findings been used by the colleges?

The research and academic leaders noted that colleges use their findings in a variety of specific ways. These include:

a. Strategic Planning at All Levels:

Information about learning correlates is used by colleges to evaluate the allocation and effectiveness of program resources, to improve student perception of and satisfaction with the quality of particular programs and to guide faculty hiring, assignment and professional development priorities. Some colleges measure programs against predetermined indicators, outcomes or goals and would utilize these data in program reviews. Others utilize these data to support strategic enrolment management processes.

b. Informational and Training Purposes:

Research findings are used in the orientation and development of staff, faculty and administrators. A number of colleges observed that findings from their learning-related research are systematically used to drive continuous improvement at a number of levels. For example, student and graduate satisfaction measures related to support services (from the KPI survey data) have been used to refine, align and better target student services. Similarly, related employer and graduate satisfaction data are used to refine programming, delivery methods and industry placements. Also, some colleges have used persistence data, the Freshman Integration and Tracking System (FITS)[1] and OCSES to provide timely support for at-risk students and refine

[1] The Freshman Integration and Tracking System (FITS) is an individual student engagement survey and analysis system designed by Dr. Peter Dietsche at Humber College.

overall processes for potential drop-outs.

c. To Guide Marketing Efforts:

Learning-related research data, including successful student profiles, tracking of at-risk students and remedial success rates, are also used to guide college recruitment efforts, student orientation and planning for the "freshman experience". Some colleges are systematically amassing longitudinal data for student tracking – a practice that is beginning to yield insights into the longer-term relationships among fit, engagement, the learning environment, student learning and graduate success.

d. Developing and Implementing Learning Initiatives and Improving Related Practices:

Colleges typically use their learning related data to generate a positive climate for change and inform, guide and drive improvement initiatives. These data are used to justify change initiatives and budget, to provide implementation teams with solid planning information and to assess the success of interventions.

Student retention and success tracking data can be powerful tools in influencing other institutions that must, or at least should, cooperate in delivering a student-centred "learning and credentialing continuum" (secondary, apprenticeship, certificate, diploma, baccalaureate, professional certification and graduate study). Colleges have participated in collaborative programs with regional secondary school panels specifically designed to enhance the alignment between high-school preparation and college study. Most of these initiatives have stressed student fit with the college and program of choice: academic preparation, career and program knowledge and support during the freshman year.

The OCSES tool and the resulting 'institutional' and 'system aggregate' reports are used by most provincial colleges to benchmark their own performance and to target improvement in their learning processes, faculty development and freshmen engagement strategies. They are communicated widely as part of a professional development and to inform and focus evidence-based continuous improvement.

e. Accountability:

A wide variety of learning output and final outcome measures are used to support each college's multi-year accountability reports. Additionally, colleges typically use specific measures in their reporting to the Board of Governors and, often, to their broader community.

f. System Self-Regulatory Program Quality Assurance:

Collectively, the colleges have unanimously agreed to a program quality assurance audit process driven by 5 criteria that a literature search confirmed "demonstrably contribute to, measure or correlate with learning". The process was unanimously approved by the system with the understanding that the audit criteria relate specifically to learning. This mandated self-regulatory Program Quality Assurance Process Audit (PQAPA) has required colleges to establish quality assurance processes that meet these learning-related criteria. Once established, colleges implement a self-study using available measures and statistical evidence of effectiveness. The VPAs stress the need for the PQAPA audit criteria to continue to be refined to reflect new findings about learning. More broadly, they underline the importance of continually refining the established quality assurance and accountability processes so they reflect demonstrable new findings about learning.

Discussion also reflected on the concern that learning, institutional data and multi-year agreements would be linked to funding. This is seen as mixing quality measures (that must be used candidly to guide the continuous improvement of higher education learning processes) and accountability measures (that describe and defend conformance with approved mandates, which verify the attainment of priorities and that may affect funding). It was noted that the blending of quality and accountability processes becomes counterproductive when quality improvement is discouraged.

3.3 What else do we need to know about learning?

Breakout session participants defined learning quality in a variety of ways but agreed that there is no system-wide consensus on a definition and its operational components. The challenges of establishing a system-wide definition include:

- accommodating differences in institutional mandate;
- resolving the dichotomy of teaching (inputs) and learning (outputs);
- teasing out and measuring the relative impact of various interventions on different groups of a very diverse student population;
- addressing the apparent differences in expectations among students in the various credential streams of college education; and
- reconciling public policy expectations for the measurement for quality improvement and for accountability.

There seems to be a correlation between the quality of the relationship between teacher and student and the quality of student learning. A targeted study of this relationship, particularly an attempt to tease out causal relationships between

interventions and learning, might yield valuable insights into successful teaching. While the study of this relationship might be fruitful, it is understood that there are obvious challenges to mounting this form of study.

Because of the applied nature of college education, participants tended to see learning as occurring in the classroom, in applied projects, in the institution at large and in work placements. A better understanding of the relative influence of each learning environment on student learning would allow colleges to better balance the use of scarce resources and enhance the effectiveness of their use.

Participants underlined the great diversity of college student populations which reflect sometimes dramatic cultural, academic capability, aptitude, racial, linguistic and socio-economic differences. Colleges tend to accommodate the differences in academic capability and aptitude through streams ranging from remediation, through apprentice, certificate, diploma and degree transfer programs to baccalaureate and graduate certificate programs. College representatives tend to support the disaggregation of student research data by credentialing stream to better understand their separate needs, motivations, engagement, desires and learning experiences. The examination of these dynamics could lead to a better understanding of teaching/learning conceptualizations across institutions.

A number of college representatives commented on the strength of the HEQCO funded *Ontario Engagement Interventions Project"* and noted that some college participation in this initiative, or similar projects, might generate even richer results.

Discussions noted that HEQCO is in the preliminary stages of developing a workshop on learning and teaching from a multi-disciplinary perspective, including psychology of learning, neuroscience and pedagogy. The ongoing development of colleges' understanding of the learning process is seen as a critical step in improving the capacity to measure interventions with specific populations of students and to improve the quality of college learning.

3.4 What promising directions of future research should be pursued?

In the reports of the breakout discussions to the plenary session, facilitators Michael Cooke and Catherine Drea outlined areas which seem to have rich potential for collaborative research. Both expressed strong interest in college system cooperation with learning related research into these areas.

a. Establishing and Sharing Best Practices in Student Learning:

The representatives of many colleges feel that the sharing of those practices proven to facilitate learning would help each institution to more effectively design and target interventions and measure effectiveness. For example, researching the impact of different study environments or particular technology strategies on student engagement would provide useful guidance for planning and budgeting.

Measures of the 'optimum impact' of specific interventions would provide learning-centred guidance for each college's resource allocation, staff training and strategic decisions. However, as one participant pointed out, research may find that the success of learning strategies is highly individual making norms misleading.

Clearly, there is a critical mass of interest among college leaders to pursue collaborative data gathering and analysis that would refine our understanding of the links between teaching and learning.

b. More Effective Use of Current Student Learning Data and Data Gathering:

Breakout discussions noted the range of data that the colleges currently collect and suggested that it could be better used. For example, there is some feeling that better results could be drawn from the colleges' data if framed into well crafted long term, comparative, longitudinal and quantitative studies. It was argued that a universal student identifier would permit the tracking of students throughout their 'educational trajectory' including post-graduation learning. This step would enhance the efficiency and productivity of analysis of data already collected.

c. Pursuing Learning-Related Research into the Different Needs of Different Student Populations:

Participants felt that research into best learning practices needs to consider the very diverse student populations in colleges. It was noted that the different college credential streams (sometimes ranging from remediation to baccalaureate) are in place to accommodate divergent student interest, aptitude and preparation. They anticipate that each college credential stream would generate different conclusions about learning quality. Because of a perception that universities accommodate a narrower range of student aptitude and preparation and pursue somewhat different mandates, the VPAs also conclude that colleges' best learning practices may differ from the universities'. This approach to the separation of learning quality findings by stream is expected to be particularly helpful in facilitating the design, implementation and measurement of relevant interventions.

Beyond the recent OCSES conclusion that students define their success in terms of grades and graduation, there is particular interest in further probing the definitions of 'success' used by the learners and graduates of the various college credential streams.

d. Pursuing Learning-Related Research into Student Success Predictors:

There is a good deal of interest in the development of 'successful student profiles' reflecting individual differences, interests, aptitudes and learning styles. These would have a value in student recruiting, advising, planning student support and designing programs ultimately leading to the goal of optimizing "learner/program fit". Additionally, success profiles could constitute a planning framework for the development of effective and relevant 'freshmen experiences'.

e. Pursuing Learning-Related Research into the Benefits of College Education to Society:

In prioritizing the place of higher education in society, public policy makers frequently refer to correlations between economic and educational measures. These include the apparent 'investment capital attraction' of a well educated regional labour force; the positive correlation between graduate education participation and innovation and the negative correlation between well trained construction journeypersons and the cost of building. Average income correlates directly with level of education thus implying a positive impact of higher education on socio-economic opportunity. However, the demonstration of direct causal affects of higher education on societal development and economic growth appears to be elusive. Regardless, policy decision makers and legislators would benefit from the results of research initiatives designed to demonstrate cause and affect relationships between higher education and societal and economic development.

Discussions reflected a cooperative spirit in furthering the system's understanding of the learning process. Participants expressed a strong interest in pursuing opportunities for collaborative research into learning excellence among colleges, between colleges and the universities and, most specifically, with the Council.

4. Conclusions

The meeting was seen as a successful opportunity for college academic and research leaders to share college learning-related and engagement findings, best practices and further research interests. The presentations and discussions clearly show that the colleges have a strong record of tracking student learning and success-related data collection and analysis. Colleges have access to a rich suite of system and institutional data bases used to probe the relationships among freshman characteristics, learning inputs, learning outcomes and final outcomes. The OCSES and KPI surveys are examples of a range of survey instruments which, combined with each institution's own data and study tools, provide insights into learning and support continuous improvement. College leaders could point to a number of useful conclusions about effective learning and improvements in processes made as a result. But, at least at this stage, colleges have not found a generally acceptable model or definition of learning quality.

Some concerns were expressed. While colleges recognize the value of various survey instruments, including engagement, they are concerned about the potential of over reliance on any one tool or measure and about survey fatigue among students. Also, accountability measures and processes should be kept separate from the continuous quality improvement processes because of their very different public policy and strategic purposes. While 'correlates with learning' give insights into the teaching process, proxys should not be misused as institutional accountability measures. Meeting participants tended to agree that the diversity of college students, particularly their preparation and interest differences, demands that research initiatives separately track data from each credential stream. The benefit of tracking learning by credential stream may also provide for relevant comparisons between colleges and universities where similar or overlapping streams exist.

College academic and research leaders have expressed a strong interest in collaborating with the Council and with the universities in learning research initiatives and preliminarily suggested a number of areas of particular interest: i) establishing and sharing best practices in student learning; ii) more effectively using current student learning data and data gathering; iii) pursuing learning-related research into the different needs of different student populations; iv) pursuing learning-related research into student success predictors; and v) pursuing learning-related research into the benefits of college education to society.

In his closing comments, Ken Norrie thanked the participants, speakers, panellists and facilitators for their participation in the meeting and for their various contributions to the success of this first HEQCO/colleges meeting. He expressed the Council's interest in continuing this dialogue and pursuing collaborative initiatives in priority areas of research that would further the shared goal of enhancing the learning quality of higher education in Ontario.