

Mid-Cycle Review Final Report

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Key Messages

- In 2011-12, the University of Waterloo engaged in a Mid-Cycle Review of its Sixth Decade Plan. The purpose of this effort was to review the goals developed in 2006, reflect on progress towards these goals, and to create an accountability framework and refreshed strategic plan.
- Strategic planning activities undertaken in 2011-12 will be integrated into the next stage of strategic planning: in refreshing the university's strategic plan, and moving forward in developing its accountability framework. Work on the next stage will integrate results from the 2011-12 Mid-Cycle Review consultations, as well as summer and fall 2012 strategic planning activities.
- In the Summer and Fall of 2012, several strategic planning activities were undertaken. These included:
 - o The development of the University's Strategic Mandate Agreement (SMA), submitted to the Ontario Ministry of Training, Colleges and Universities. The SMA outlines the University's Mandate, Vision Statement, and Priority Objectives: Research Enabled Learning, Innovation Enabled Learning, and Technology Enabled Learning
 - o The Board of Governor's retreat
 - o A review of uWaterloo's performance indicators
 - o Feedback on uWaterloo's values, and strategic areas moving forward
- The Mid-Cycle Review consultations identified the three key goal areas: Enhance Student Opportunities and Experience, Advance Research Excellence & Impact, and Advance Quality of Education.
- In June of 2012, action planning sessions took place to facilitate the development of action plans in these three key goal areas.
- Participants expressed a desire to build on key initiatives and successes in each of the three key goal areas. Main messages for each goal are:
- Enhance Student Opportunities and Experience:
 - o Build on recent initiatives related to student needs, career preparedness and entrepreneurship, and student success office initiatives.
 - o Critical work needs to build an understanding of what student life balance and student-focused mean to students.
 - o We need to understand what student employers want and need, and we need to define experiential learning as distinct from co-operative education.
- Advance Research Excellence and Impact:
 - o Recent initiatives have established successful multi-disciplinary and multi-unit graduate programs as well as large research centres and institutes with industry connections.
 - o Accomplishments in specific research areas are not well communicated across campus.
 - o Critical work moving forward should focus on: establishing collaborations, supporting multidisciplinary work, facilitating and increasing research funding, and measuring research productivity. It will be important to investigate and understand discipline-appropriate measures of research productivity.

- Advance Quality of Education:
 - Build on recent initiatives related to the following strategic areas: teaching and learning, graduate studies, online and interdisciplinary initiatives.
 - In teaching and learning, recent initiatives have created new positions aligned with teaching excellence (Teaching Fellow program, Student Success Coaches), and recommendations from the task force on Innovative Teaching Practices to Promote Deep Learning. We need to work toward a common understanding of what a quality outcome is in teaching quality. We need to better coordinate the communication of best practices learned from Faculty initiatives.
 - Next steps include: creating a university wide teaching / learning charter, developing a strategy for open courses, developing a set of best practices for supervision of students, investigate the student life cycle from recruitment to graduation, and develop a forum for multi-disciplinary networking and awareness.

Executive Summary

- 2011 marked the mid-point of the University's strategic plan, the Sixth Decade Plan.
- The Sixth Decade Plan was developed in 2006-2007 as a strategic planning document for the University. It set out a series of ambitious goals, some achievable, some aspirational.
- In the fall of 2011, the University undertook a Mid-Cycle Review (MCR) to consider those goals delivered in 2006, reflect on our progress, realign our plan for the next five years, and introduce an accountability framework with action plans and measures of success.
- During this time (2011), six foundational pillars, core components of the Sixth Decade Plan, were articulated: academic excellence, research excellence and impact, co-operative education, graduate studies internationalization, and entrepreneurship.
- The MCR process consisted of a two-stage series of consultations to gather input from uWaterloo stakeholder groups, as well as the university community at large.
- In Stage One, over 40 consultations and an online survey were conducted with five key stakeholder groups (undergraduate students, graduate students, faculty, staff, and alumni). Stakeholders were asked to respond to the following questions:
 - o What would we see if we were one of the globally recognized and respected universities?
 - o What might hold us back from getting there?
 - o What recommendations do you have?
 - o What priorities do we need to focus on?
- The resulting qualitative data was analyzed and a set of 73 priority statements were identified.
- At the end of January 2012, 75 representatives of stakeholder groups sorted and rated these priorities according to importance and feasibility. With additional input the President's Advisory Committee, Faculties, and the Leadership Forum (directors of administrative units) the emerging priorities informed the development of eight goals. Three of those — our key goals — are strategic in nature and clearly reflect our foundational pillars.

The **key goals** are:

- Advance research excellence and impact;
- Advance quality of education; and
- Enhance student opportunities and experience.

The remaining five are **enabling goals**, which will improve our collective capacity to pursue those strategic directions.

- Increase visibility and outreach
- Improve Waterloo environment
- Ensure clear and effective leadership
- Improve resources and funding
- Advance image and philosophy

- Five priority objectives were identified for each key goal area. The five objectives for each goal were those that rated highest on both feasibility and importance in the original 73 statements. Further consultation with each of the Faculties in the spring of 2012 helped to refine the definition of certain objectives.
- Stage Two consultations took the form of action planning sessions, with the goal of beginning the development of action plans and an accountability framework. Students, faculty and staff with expertise in the three goal areas and their corresponding objectives attended the three six-hour action planning sessions June 19, 20 and 21, with each day focused on a different key goal.
- Key results from the MCR Action Planning sessions include:
 - Enhance Student Opportunities and Experience:
 - o Build on recent initiatives related to student needs, career preparedness and entrepreneurship, and student success office initiatives.
 - o Critical work needs to build an understanding of what “student life balance” and “student-focused” mean to students.
 - o We need to understand what student employers want / need, and we need to define experiential learning as distinct from co-operative education.
 - Advance Research Excellence and Impact:
 - o Recent initiatives have established multi-disciplinary and multi-unit graduate programs as well as large research centres and institutes with a sector approach.
 - o Accomplishments in specific research areas are not well communicated across campus stakeholders.
 - o Critical work moving forward should focus on: establishing collaborations, supporting multidisciplinary work, facilitating and increasing research funding, and measuring research productivity. It will be important to investigate and understand discipline-appropriate metrics of research productivity.
 - Advance Quality of Education:
 - o Build on recent initiatives related to the following strategic areas: teaching and learning, graduate studies, online and interdisciplinary initiatives.
 - o In teaching and learning, recent initiatives have created new positions aligned with teaching excellence (Teaching Fellow program, Student Success Coaches), and recommendations from the task force on Innovative Teaching Practices to Promote Deep Learning. We need to work toward a common understanding of what a quality outcome is in teaching quality. We need to better coordinate the communication of best practices learned from Faculty initiatives.
 - o Next steps include: creating a university wide teaching / learning charter, developing a strategy for open courses, developing a set of best practices for supervision of students, investigate the student life cycle from recruitment to graduation, and develop a forum for multi-disciplinary networking and awareness.
- In the Summer and Fall of 2012, several strategic planning activities were undertaken. These included:

- The development of the University's Strategic Mandate Agreement (SMA), submitted to the Ontario Ministry of Training, Colleges and Universities. The SMA outlines the University's Mandate, Vision Statement, and Priority Objectives: Research Enabled Learning, Innovation Enabled Learning, and Technology Enabled Learning
- The Board of Governor's retreat
- A review of uWaterloo's performance indicators
- Feedback on uWaterloo's values, and strategic areas moving forward
- Results from the action planning sessions, along with the strategic planning activities undertaken in the summer and fall of 2012, will inform the University in operationalizing objectives, actions and measures of progress for each strategic area.
- Next steps will integrate results from the 2011-12 Mid-Cycle Review consultations, as well as summer and fall 2012 strategic planning activities to produce the University's Strategic Plan and associated Accountability Framework.

Mid-Cycle Review Action Planning Report

Introduction

In 2006, our Sixth Decade Plan set out a strategic plan for the University of Waterloo. In 2011, at the mid-point of the Sixth Decade Plan, the President identified the need to assess our progress and realign our goals as we seek to earn our place among the world's most respected and recognized institutions. At that time, we began a Mid-cycle Review of our Sixth Decade Plan. As a community, we were invited to consider those goals presented in 2006, reflect on our progress, realign our plan for the next five years, and develop an accountability framework with action plans and measures of success. Six Foundational Pillars were crystalized from the Sixth Decade Plan, to support our strategic planning as we move forward; the six pillars are: Academic Excellence, Research Excellence and Impact, Co-operative Education, Graduate Studies, Internationalization, and Entrepreneurship.

Substantial work has been carried out in the past five years towards achieving some of the specific goals outlined in the Sixth Decade Plan. We met our goal of achieving significant growth in undergraduate enrollment, and we have been successful at attracting first-year students with 90% plus averages. We have also been able to ensure that 75% of first-year students are eligible for scholarship support and we have ensured that we are able to meet the financial needs of all qualified Canadian students. We have improved our evaluation of co-op terms by using a mix of measures to facilitate and evaluate students' critical reflection relating work term experience to academic learning. We have highlighted the importance of achieving and sustaining high standards related to academic integrity, by developing and implementing initiatives to educate and sensitize students, faculty, and staff about academic integrity issues and appropriate behavior. We have increased co-op opportunities, and received consistently high ratings of our co-op students by employers. However over the past five years much has changed in the world, in our province, in our community and within the University of Waterloo. We need to realign our goals in the context of these changes.

Process to date

The Mid-Cycle Review involved a broad consultation across the campus community to ensure that the realigned goals reflect the input of all students, faculty, staff and alumni. Specifically, the goals of the Mid-Cycle Review were to:

- review and realign strategic goals delivered in 2006,
- engage students, faculty, staff and alumni,
- create actionable goals for the next five years (to 2017),
- introduce an accountability framework with action plans and measures of success,
- guide the development and integration of faculty, academic support and administrative support unit plans, and
- inform other initiatives (for example, student success, strategic workforce planning, multi-year integrated resource planning, and internal communications).

A two-stage consultation process was initiated in the fall of 2011. In Stage One, over 40 consultations and an online survey were conducted with five key stakeholder groups (undergraduate students, graduate students, faculty, staff, and alumni). Participants were asked to respond to the following four questions: a) What would you see for the University of Waterloo as one of the globally recognized and respected universities? b) What might hold us back from getting there? c) What recommendations do you have? and d) What priorities do we need to focus on? In Stage one, over 3,400 respondents contributed their ideas. The resulting qualitative data was analyzed and a set of 73 priority statements were identified. At the end of January 2012, 75 stakeholder representatives sorted and rated these priorities according to importance and feasibility. With additional input from the President's Advisory Committee, Faculties, and the Leadership Forum (directors of administrative units), the emerging priorities informed the development of eight goals. Three of those — our **key goals** — are strategic in nature and clearly reflect our foundational pillars.

The **key goals** are:

- Enhance student opportunities and experience;
- Advance research excellence and impact; and
- Advance quality of education.

The remaining five are **enabling goals**, which will improve our collective capacity to pursue those strategic directions.

- Increase visibility and outreach
- Improve Waterloo environment
- Ensure clear and effective leadership
- Improve resources and funding
- Advance image and philosophy

Stage Two consultations took the form of action planning sessions, with the goal of beginning the development of action plans and an accountability framework. Students, faculty and staff with expertise in the three goal areas attended the three six-hour action planning sessions June 19, 20 and 21, with each day focused on a different key goal. Results from these sessions will be integrated with other strategic planning activities undertaken in the Fall of 2012, and will inform the development of high-level actions plans and measurable indicators, under the leadership of Waterloo's Provost and Vice-President Academic. This report outlines participant feedback from the three key goal sessions.

Key Goal: Enhance Student Opportunities and Experience (June 19, 2012)

How did we get here?

Participants were asked to think about activities and accomplishments in the last five years within the Key Goal: Enhance Student Opportunities and Experience. Work in five main areas was identified: a) strategic planning and organizational reviews, b) university-wide student-focused activities, c) faculty-specific student-focused activities, d) facilitating student careers and entrepreneurship, and e) satellite campuses. The Sixth Decade plan provided the impetus for some Faculties and academic support units to begin their own strategic planning. Engineering has just completed the second cycle of their strategic vision (Vision 2010 in 2006 and Vision 2015 in 2010), and most other Faculties are in the process of developing their strategic plans. Additionally, the library, Graduate Student Association (GSA) and co-op underwent reviews in 2011. Several key university-wide student focused activities have been initiated in the last five years. In particular, the student success office was launched in 2011, and several initiatives relating to student needs were undertaken (survey on student needs, 2011; student mental health review, 2011; success coaching service, new student life 101 program, 2011). Each Faculty carried out key student-focused initiatives (student design centre, 2010; Arts education office, 2008; Math Faculty mentoring, 2011; redesign of environmental science curriculum, 2007). Lastly, important work supporting student career preparedness and entrepreneurship has taken place in the last five years (Accelerator Centre, 2006; Velocity, 2008; CECA re-org, 2011; review of co-op, 2012).

What are we building on?

There is momentum in this area. There is the will to move forward, and people are trying to understand the needs of the student body. We care about our students, and we understand that student success is more than an academic measure. We heard that positive student experience cultivates not only successful students, but also engaged alumni. Barriers to overcome in this area include finding ways to successfully communicate successful initiatives within different units; collaboration campus-wide, including the satellite campuses, on best practices is essential. We need to explicitly move in the same direction, guided by a common, overarching framework.

Initial Steps

The action team on Student Opportunities and Experience recommended the following action steps:

Overarching next steps:

- Identify a team of champions to move strategic planning in this area forward

Objective 1: Enable students to have a balanced life

- Create a task force to initiate a study or survey to define “balanced life”. This should include relevant material from existing studies.

Objective 2: Create a student-focused university

- Create a task force to consult on common purpose (share understanding and expectations)
- Identify opportunities or key areas of success in this area

Objective 3: Ensure students are prepared for their careers

- Obtain external input in the understanding of what employers want / need

Objective 4: Increase school spirit / Showcase school pride

- Agree to change “increase school spirit” to “showcase school pride”

Objective 5: Provide more co-op opportunities

- Strike a committee to define experiential learning vs. co-op (environmental scan)

Objectives

1. Ensure students have a balanced life – changed to Enable students to have a balanced life

Participants

Shelia Ager

Wayne Loucks

Christina Romualdo

Desired Accomplishments

Participants felt that we need to start with: a) a common definition of “balance” and what it means for students, b) proceed with developing a reliable metric to measure balance, and then c) a plan to identify and implement various interventions that will enable student balance at uWaterloo. A suggested sequence of actions is outlined in Appendix A.

The group suggested creating a task force to: initiate a study or survey to define “balanced life”, relying on the relevant material from existing studies.

Suggested key participants in the next steps include: Provost, Shelia Ager, Wayne Loucks, Christina Romuldo, Faculty, staff, extensive student engagement, IAP.

Supporting Information

Several recent initiatives have generated data, information and actions to support this objective. The Student Mental Health Review (2011/12) has generated a number of recommendations based on the assessment of current and emerging needs of students, and our capacity to meet them. A new set of actions to address this objective will therefore need to rely on the data from the review and to be integrated with other actions that stem from the report. We would also need to ensure integration of the new initiatives with the previous ones such as the Counseling Satellite Model (2006), the Living Learning Program (2008), and the more recent work on improving integration between all health offices, including counseling services, as well as the integration between academic and non-academic aspects of student success through the Student Success office. These interventions have potentially formed a good foundation for addressing the issue of balance in students’ lives and as such can provide relevant quantitative and qualitative evidence of improvements.

Some other specific interventions that participants identified as contributors to the improved balance include the following:

- Introduction of the reduced loads (in some programs);
- New scheduling system;
- Improvements in providing time management guidance and expectations;

- Improved advising;
- Co-curricular transcripts (there was no agreement on this issue as the group on career preparedness explicitly rejected co-curricular transcripts)

Once we confirm a desired definition of 'balance', it would be important to revisit this list of interventions and develop metrics for those that are relevant to that definition.

With respect to challenges and barriers, the participants felt that dealing with the issue of balance requires that we create a better understanding of the current culture among students, examine relationship with academic success, and understand how reduced course loads may create space for students to accomplish other things. The participants acknowledged that there is an emphasis on carrying full course loads in some programs, that there is some complexity in dealing with reduced loads in relation to the current tuition structure, and finally that pursuing this objective may require a cultural change among students and faculty.

2. Create a student-focused university

Participants

Sean van Koughnett

Mike Mahahnouk

Andrew Noble

Robert Henderson

Desired Accomplishments

Participants felt that initial steps included: creating a committee, chaired by Geoff McBoyle and Chris Read, to create a project charter to further examine what a "student-focused" university is.

Initial steps include:

- Creating a task force to consult on common purpose (share understanding and expectations)
- Identifying opportunities or key areas of success in this area

Suggested key participants in the next steps include: undergraduates, graduates, faculty, staff, AP students, Sean van Koughnett (SSO), Mike Mahahnouk (GSA), Andrew Noble (FEDS), Robert Henderson (GSA).

Supporting Information

Current initiatives supporting this objective include the launch of the Student Success Office (2011), the launch of Student Life 101 (2011), Success Coaching (2011), a student needs survey in 2011, and U101 (2011). Work in this area should consider and integrate with these student support services. Several other initiatives have been created in support of students within the faculties, including the creation of a student relations manager in 2006, Math faculty mentoring (2011), creation of the Arts Education Office

in 2008, a student space survey review in Arts in 2011/12, and work on this objective should build explicitly on best practices learned, and useful data generated from this type of work.

A potential barrier identified by participants was that research focused faculty members may not be interested in an institution with such a heavy focus on students.

3. Ensure students are prepared for their careers

Participants

Kerry Mahoney

Riley Metzgar

Martha Foulds

Susan Routliffe

Renishaki Kamalanathan

Desired Accomplishments

Participants identified the following actions for this objective: a) identify mechanisms for external input into understanding what employers want; b) investigate what else is needed for graduate student career preparation for academic and non-academic careers; c) create a more collaborative personal/academic/career advising support structure; d) create a flexible and inclusive career preparation matrix of participation; e) investigate the option of offering post degree diploma/certification programs at Waterloo (potentially in collaboration with Colleges).

Initial steps include:

- Obtaining external input in the understanding of what employers want / need

Suggested key participants in the next steps include: Provost, Kerry Mahoney, Riley Metzgar.

Supporting Information

Support structures that are currently in place to address this objective include: academic and curriculum development, academic advising (particularly for graduate students), library programs, CTE, the OHD leadership program, the co-op program, and the various employment counseling and career counseling opportunities available on campus. Co-op recently underwent a review (2012), and the Centre for Career Action underwent a re-organization in 2011 - lessons learned from these actions will help inform best practices in career preparedness and how to deliver these services effectively and efficiently.

Participants felt that barriers to overcome in achieving this objective include overcoming the perception that as a University, we are here to help students learn and advance academically, not prepare for their careers. Participants felt that regular students may be perceived as second class citizens, and that it was important to acknowledge that the next step for some undergraduates may be graduate studies or professional school. WatPD was met with mixed feelings, and there was acknowledgment that optimizing the student to staff and student to faculty ratio is key to achieving this objective. There was also a desire to capture non-academic accomplishments of students, but concern with a co-curricular

transcript. A final barrier was the difficulty that students encounter when transferring programs and faculties.

4. Increase school spirit changed to Showcase school pride

Participants/Champions

Bill Chesney

Tina Roberts

Jason Coolman

Robin Jardin

Stephen Woods

Desired Accomplishments

Participants proposed that in five years, we should aim for: a) visible improvements to campus (cleaner, signage and wayfinding, doors), b) a clearly articulated idea of pride and how to showcase it, c) more indoor and outdoor spaces for groups to gather for social and academic purposes, d) a comprehensive ID, including webpage and logo, e) the concept of warrior, with traction from grass roots that is widely applicable to all on campus.

Initial steps include:

- Agreeing to change “increase school spirit” to “showcase school pride”

Suggested key participants in the next steps include: Bill Chesney, Tina Roberts, Jason Coolman, Robin Jardin, Stephen Woods.

Supporting Information

Participants identified some initiatives and strategies already in place that help connect us across campus; e.g. Waterloo rebranding, lanyards, Faculty colours and other swag, “Glad to be a (Future) Grad”. However, in order to move forward, participants saw a need to define “school pride / school spirit”, and decide how to share and showcase uWaterloo sense of belonging within the both the university community and the broader community. The Board of Governors has heard from alumnus that positive student experience cultivates alumni engagement.

Challenges that participants identified in achieving a sense of pride and spirit at uWaterloo included the physical appearance of the campus, including signage, goose droppings, ugly and tired buildings.

Participants also felt that student isolation was a barrier to achieving school spirit and school pride; this extended to the satellite campuses and how to maintain engagement with other uWaterloo campuses.

Participants also raised the idea of re-branding Warrior as encompassing uWaterloo students participating in uWaterloo activities, going beyond athletics and winning teams. Comments to consider before engaging in further work on this topic included revisiting the wording of this objective.

Participants noted that the word “pride” aligns better with “engagement” and “post-degree feelings”, while “spirit” is antiquated.

5. Provide more co-op and experiential opportunities (Experiential added by Sallie at meeting)

Participants/Champions

Jonathan Witt
Barry Ferguson
Ron McCarville
Wayne Parker
Marc Gibson
Chris Read

Desired Outcomes

In five years, participants identified a goal to complete a pilot program of experiential learning that is distinct from co-op. To get there, participants indicated that we will need to examine the definition of experiential learning and how it is different from co-op. We should assess the interest from faculty in non-co-op experiential education and what opportunities may exist (for example, with not-for-profit companies, volunteering in hospitals, etc.), as well as develop an approach and criteria where departments critically assess their needs in regards to experiential learning and co-op, and the benefits of a possible experiential approach. In helping departments to assess their experiential and co-op needs, a framework for departmental assessment should be developed. In the mid-term, initial departmental assessments should produce reports which would address: interest, need, implementation timeline and request Senate approval. Based on Senate approval, a single department could be used to pilot an experiential work term, and results of that pilot should inform whether this type of work term should be considered for wider implementation on campus. In the area of co-op, participants felt we should pilot an 8 month co-op term as a first step. If the 8-month co-op term is successful, then it could be rolled out to other programs and adapted as required, then to other faculties.

Initial steps include:

- Striking a committee to define experiential learning opportunities and how it is distinct from co-op; including an environmental scan of current experiential learning activities
- Developing a pilot 8-month work term under the umbrella of co-op

Suggested key participants in the next steps include: Bruce Mitchell, Scott Davis or Rocco Fondacaro. (or another CECA representative), and other key stakeholders as determined by the Provost.

Supporting Information

Several recent initiatives have generated data, information and actions to support this objective, particularly in regards to co-op. Co-op has recently undergone two strategic reviews (2011 and 2012) and the results of those reviews will help inform actions going forward.

Participants clearly underscored the need to define experiential opportunities outside of co-op (unpaid, volunteer, etc.). Tight definitions, with appropriate oversight and clear timeframes were identified as

key actions in pursuing this work. This is a new area for which work is just getting underway and the Centre for Career Action should be considered a key stakeholder in work on this initiative. Concern was expressed that developing experiential opportunities may detract from co-op and make it harder for uWaterloo to secure paid employment terms for students. Participants identified that one of the potential barriers may be the need to find the resources (particularly cost) to develop this program. Participants also indicated that clearly defined and rigorous needs assessments and feasibility studies at the departmental level, with internal oversight including a strong evaluation component, would be needed in order to successfully determine whether experiential initiatives are feasible.

Key Goal: Advance Research Excellence and Impact (June 20, 2012)**How did we get here?**

Work in four main areas has driven work in research excellence at uWaterloo forward in the past few years: a) accomplishments in specific research areas, b) establishing collaborations and supporting multidisciplinary work, c) facilitating and increasing research funding, and d) measuring research productivity. Accomplishments in specific research areas include work from research centres in chronic disease prevention (CREMO, Propel prior to 2006), the Schlegel partnership in aging (2007), establishing the Centre for Applied Cryptographic research (prior to 2006) and the School of Pharmacy (2008), the newly constructed building for the Institute for Quantum Computing (2010-2012), as well as the Waterloo Centre for Automotive Research, WatCar (2006), the Waterloo Institute for Nanotechnology (2008), and the Waterloo Institute for Sustainable Energy (2008). Collaborations and multidisciplinary work has taken place through the establishment of multi-disciplinary and multi-unit graduate programs (2010), as well as the establishment of large research centres and institutes with a sector approach (since 2007), and an interfaculty student lecture series (2011). Several Faculties have doubled their research funding in the last five years (Engineering and Environment are two), grant review through the Office of Research and within the Faculties has also facilitated the increase of research dollars since 2006. Perimeter Scholarships were initiated in 2008. Other important initiatives include discussions regarding research productivity: publication venues were discussed in 2008-2009. uWaterloo also purchased InCites with the intention of examining bibliometrics at an institutional level in 2011. Other initiatives include: Research finance officers established (2009), Waterloo Math undergraduate review (2010), productivity improvement in connection with industry (2010-2012), improve collaboration with organizations in industry (2011).

What are we building on?

uWaterloo recognizes the value of research and how it relates to advancement in many places. The importance of doing world-class research is growing and needs to be emphasized. We need to set the bar high, facilitate effective processes and create structures which allow world-class research to flourish. It is time to start focusing on increasing our research impact and finding ways to measure this impact (awards, citations, publications, attracting graduate students, rankings). All faculties must be fully engaged in the effort to build and promote research impact. The Office of Research has been instrumental in promoting collaborations and facilitating research grants. Moving forward, it is essential that barriers to collaboration are minimized, that structures are put in place to allow efficient administration of research awards, and that high impact research on campus is effectively communicated. There are many unintended “best-kept secrets”, and hidden pockets of excellent research on campus. Researchers need to be aware of the breadth of research that takes place at uWaterloo. Undergraduate students need to be included in research where possible, and uW needs to engage the campus community and communicate clear high-level direction about where we are going as a research institution and how uW culture values the importance of research.

Initial Steps:

Overarching next steps:

- Identify a team of champions to move strategic planning in this area forward

Objective 1: Increase recognition of research

- Establish an event to promote research excellence
- Begin investigation of discipline-based evaluation metrics

Objective 2: Increase resources for research

- Definite allocation of indirect costs of research to Departments, Centres, Institutes
- Identify opportunities to increase multi-faculty grants

Objective 3: Increase partnerships at all levels, including international

- Establish a high level semesterly dialogue between all partnership parties (OR, Deans, Provost, CECA, Advancement)

Objective 4: Increase innovation

- Analysis of funding required for institutional matching of non-partnership scholarships & grants
- Plan for interdisciplinary mini-workshops
- Review of undergrad research courses

Objective 5: Define balance with teaching and administration

- Begin investigation of ways to reduce time & effort spent by faculty & ADRs on research administration (through improved services, centralized as appropriate)

Objectives

1. Increase Recognition of Research

Participants

Tim Kenyon

Jennifer Clapp

Tamer Ozsu

Andrew Barker

Mark Haslett

Desired Outcomes

Participants outlined a desire to promote research with high impact, as distinct from incremental research, as well as a desire to reward research excellence and define indicators of research success. They felt this could be partially accomplished by establishing a university wide awards nomination and data collection system where all academic units are encouraged to nominate its researchers for these special programs. This program should integrate with, or at least consider potential overlap with, the established (central) Awards Committee. Eligible researchers should include those with Waterloo linkages (retirees, collaborators). Participants proposed an event to promote research excellence. This event could start in within the Faculties, with Faculty- or Research Centre-based talks through year culminating in a larger annual university-wide event once a year. This event may incorporate chair-holder lectures, and annual poster sessions following the Perimeter Institute model for public lectures. The end product will be a high-profile lecture program highlighting our researchers that are well attended and catalyze synergies and awareness. The lecture program would include a media presence, feedback solicited from audience, and use of social media to increase understanding of what goes on in the university both within and outside of the university. It will provide infrastructure to create incentives for our researchers to strive for more excellent and impactful research.

A secondary goal that may be initiated in the short term is to consider ways to increase the number of major awards and recognition nominations at uWaterloo – there is an opportunity here to share best practices across campus and this could be relatively easily accomplished; already a university-wide major awards committee on campus and in some units.

Mid-term goals for this objective focused on ways to identify and evaluate research excellence and impact. Participants called for the University to develop a Policy on research evaluation that respects disciplinary differences (metrics / output differs by discipline). Measures could be partially based on bibliometrics / external evaluations, etc., and a policy could outline a set of high-level principles for how to use such tools. Progress on these measures could be tracked year by year with a view to adjusting the methodology. Successful establishment of well-considered research impact measures will ensure that uWaterloo leads in the establishment of generally acceptable criteria for recognizing research excellence

by discipline. We will have succeeded in establishing best-practices on use of bibliometric and other measurement tools for tracking excellence in research; this work should be integrated with uWaterloo's recent purchase of InCites and the associated working group on Bibliometrics.

Lastly, long-term goals for this objective identified the need to increase exposure to the excellent research taking place at uWaterloo. Participants suggested the creation of an online, institution-wide publication repository. The more our articles and publications are available, the more they will be used and cited. Participants proposed that all articles (publications) by all researchers should be included, and that graduate theses uploading may be used as an example of how to do this. The purpose of the repository would be to improve accessibility, outreach and exposure. Internally, this may constitute a performance measure which could be tracked over time. In order to achieve this goal, uWaterloo would need to develop the infrastructure for open access journals so that researchers who want to develop a journal have the ability / basic infrastructure to do so, for example: the Canadian Journal of Disability Studies or the Canadian Graduate Journal of Sociology and Criminology. Successful implementation of these actions will increase the exposure of uWaterloo articles and publications to broader audience and will improve impact by increasing awareness and citations to UW research. It will also raise the profile of uWaterloo research themes and groups.

Initial next steps include:

- Establishing an event to promote research excellence
- Beginning an investigation of discipline-based evaluation metrics
- Reviewing and enacting all or most of the recommendations of the task force on the Role of Senate Approved Research Centres and Institutes

Suggested key participants in the next steps include: Provost, IAP, Tim Keyon, Jennifer Clapp, Tamer Ozsü, Andrew Barker, Mark Haslett.

Supporting Information

In considering going forward with an event to recognize research excellence, we should be mindful that some units have committees/procedures already in place and we need to have appropriate coordination of central university awards committee and the unit initiatives. A program and procedure would need to be put in place for the committee. The advantage of such an event would help to increase both the number of nominations and percentage of faculty members nominated for external awards (need to find out data on past performance). Potential barriers identified included the organization and cost of a lecture series and annual event, but generally our researchers should be willing to participate.

In terms of research metrics, it will be important to clearly define the measures used, establish baseline numbers; agree on targets and track progress over time. Participants expressed the need to ensure that bibliometric tools are not abused or used too narrowly. This needs to be watched carefully, and considered as only one data point for identifying excellence in research at uWaterloo. We need to identify and lead the development of a suite of diverse data sources to measure research excellence.

We also need to ensure that all faculties are engaged in the effort to build and promote research impact. All faculty members need to be engaged in impactful research – 20% of the faculty should not be doing 80% of the research. One initial action to help promote research impact is to take immediate steps to enact all or most of the recommendations of the task force on the Role of Senate Approved Research Centres and Institutes.

Considerations in the development of an online, institution-wide publication repository and new online open access journals led by UW researchers include: copyright rules, cost, and organization (technical capacity needs to be in place). Questions that would need to be answered include: How it is implemented (is there staff to support it?), and what is the appropriate support that faculty members need regarding 'author's rights' on IP/copyright issues?

2. Increase Resources for Research

Participants

Jamie Forrest

Bill McIlroy

Rick Culham

Bruce Muirhead

Angela Roorda

Desired Accomplishments

Participants felt that we should start progress on this objective by providing a definite allocation of indirect costs of research to Departments, Centres and Institutes. We should then continue by increasing the number of multi-faculty grants for which we apply. Mid-term goals for this objective include: doubling funding from non-governmental sources, and placing in the top 5 in all or most tri-council grant competitions. The goal for 2017 is a top 100 world ranking, with multiple departments in the top 50.

Initial steps include:

- Providing a definite allocation of indirect costs of research to Departments, Centres, Institutes
- Identifying opportunities to increase multi-faculty grants

Suggested key participants include: the Vice-President, Research, Associate Deans, Research, Provost, and Ray LaFlamme.

Supporting Information

Work on this objective should integrate with the strategic planning at the Faculty and Department levels. It should carefully consider the people, material, and financial resources required to succeed. In terms of people, uWaterloo may consider increasing and effectively using our graduate students, post-docs, and research professors. In terms of materials, we should consider how to make better use of what we have; possibly make a database of equipment on campus and think about having campus wide

facilities with dedicated technical staff. In terms of financial resources, faculty and staff will both need to work harder to attract more funding: faculty will need to apply to more grants, institute directors will need to help find opportunities, and administrators at Needles Hall will need to minimize hurdles and use advancement to promote research. Participants also wondered how to make better use of Canada Research Chairs, and how to make finance and plan operations more efficient in order to facilitate effective administration of research grants.

3. Increase Partnerships at all levels, including international

Participants

Alfred Menezes

Marc Gibson

Hassan Nasir

Ross McKenzie

Russ Johnson

Desired Accomplishments

Participants felt that we should start with: a) establishing a semesterly dialogue at a high level between all partnership partners (OR, CECA, Faculty Deans, Advancement, Provost / President), b) we should then ask all Faculties set firm goals for partnerships across local, national, and international (set against 6th decade plan), c) next steps include implementation of an accessible CRM system; establishing an internal communications vehicle for all OC stakeholders. Longer-term goals are: to have a resource structure in place that ensures focus on the front line linkage on partnerships between relevant stakeholders, and to have realized an incremental increase in uW's share of tri-council research funding over 5 years through 2017 to a target percentage (to be established).

The small group who discussed this objective, defined partnerships as encompassing: internal, local, national, international, industry, other Universities, government, policy and programs, funding. The proposed action plan includes a goal to increase uW share of partnership programs. They identified a need to develop a strategy for communicating research at all levels and engage beyond local activities, and to engage co-op students from financial departments (math, accounting), as well as future students for undergraduate research programs and international graduate students.

Broad accountability will be required to achieve these targets, and it will be important to: recognize collaboration as an indicator of success (i.e., not to penalize collaboration), and to make better use of Institutes and Centres.

Initial steps include:

- Establishing a high level semesterly dialogue between all partnership parties (OR, Deans, Provost, CECA, Advancement)

Suggested key participants in the next steps include: Provost, Deans, Associate Deans, Research, Faculty, Advancement, VPs Advancement and University Relations, the Office of Research (VP or Associate VP),

the CECA Executive Director. A sub-committee was suggested consisting of: ADRs or equivalent, the VP, University relations, Advancement, the Office of Research, CECA Executive Partnerships Team, and representatives from each of the Faculties (e.g. Marc Gibson from Science).

Supporting Information

Several initiatives and actions have generated support for this objective. Research managers and Industrial Liaison Officers who work alongside researchers help to facilitate partnerships, and assist in messaging to industry partners. Participants acknowledged that there is an increased professional interest in the “whole package” of research and partnerships. Participants felt it would be important to establish internal best practices for internal communications on campus, process consistency in terms of establishing and maintaining partnerships, including a coordinated proactive outreach approach. Participants identified the lack of a process for internal communications as a barrier to establishing and maintaining partnerships, since it is difficult to know who from the University has already contacted or established a partnership with various partners. Participants also identified a need to increase internal awareness of the various partnership stakeholders.

4. Increase Innovation

Participants

Trevor Charles
Sean Hunt
Richard Simms

Desired Accomplishments

Participants outlined a proposal to develop internal funding base to match successful tri-council grants. Work on this initiative would begin with an analysis of the funding that would be required for institutional matching of non-partnership scholarships and grants, and would culminate in a 1:1 ratio of matching funding for successful tri-council applicants. A parallel initiative would establish a plan for a series of interdisciplinary mini-workshops. A third short-term action to be initiated was a review of undergraduate workshops with the goal of developing undergraduate research in all units. These three goals would: increase the flexibility of research funding, increase teaching opportunities for students through the mini-workshops, encourage presentations by students and incorporate valuable research opportunities at the undergraduate level.

Initial steps include:

- Initiating the analysis of funding required for institutional matching of non-partnership scholarships and grants
- Developing a plan for interdisciplinary mini-workshops
- Initiating a review of undergraduate research courses

Suggested key participants in next steps include: Provost, Vice-President, Research, Office of Research, Associate Deans, Research, APGS, Graduate Studies

Supporting Information

Initiatives that may support the success of this objective include 4th year undergraduate research projects, undergraduate teams for interdisciplinary academic problems, and government funding for industry partnerships. Initiatives that may assist success in achieving this objective include a course on how to do research for undergraduates. Barriers to success include siloed knowledge within the University community, the amount of fundraising required to achieve matching funds for successful grants, and a cultural difference between research and learning. Going forward with this objective, participants asked that the following be considered, in particular when considering matching funds for successful tri-council grants: a) Amount of matching funds to be available would be substantial – how much would be required? b) Why only successful tri-council grants?, and c) should SEED funding be overly-focused on matching programs?

5. Define balance with teaching and administration

Participants

Martha Foulds

Eric Helleiner

Desired Accomplishments

Participants felt that we need to start by reducing the time and effort spent by faculty and Associate Deans, Research on research administration and that this could be achieved through improved services, centralized as appropriate. A second short-term goal was to establish a rich pool of graduate students to support research and teaching. This will need to be supported with competitive funding packages within the field or discipline. Mid-term goals included: enriched opportunities for synergy between research and teaching (in class, in the research environment, and in the community), as well as appropriate recognition and reward for changing interest and focus (research / teaching / service) over the career of a faculty member. Expectations regarding research, teaching and service should be made very clear to junior faculty members and new hires. The typical research/teaching/service ratios should allow for flexibility over the career of a faculty member and current interests and demands. The long-term goal was for top researchers in the world to choose Waterloo, in part because we offer a workload balance that is competitive with our peers.

Initial steps include:

- Begin an investigation of ways to reduce time and effort spent by faculty and ADRs on research administration (through improved services, centralized as appropriate)

Suggested key participants in the next steps include: the Office of Research, Associate Deans, Research, Provost, Graduate Students Office, Faculty Association of the University of Waterloo, and the Faculty Deans.

Supporting Information

The participants in this group identified the following current structures in place to inform work on this objective: a) the current standard research / teaching / service ratio is: 40/40/20; b) some units have specific professional staff in place to help facilitate the administration of various research awards. Participants felt it would be valuable to find out some practices that are currently working well to effectively administer research both within the Faculties and within central administration. A barrier to successfully achieving this objective was the current process. The Provost encouraged the to consider emphasizing that there is no contradiction between outstanding teaching and outstanding research, to emphasize how best to streamline administrative processes and increase transparency in how teaching / research / service balance is determined for individual faculty members.

Key Goal: Advance Quality of Education (June 21, 2012)

How did we get here?

Participants were asked to think about activities and accomplishments in the last five years within the Key Goal: Advance Quality of Education. Work in four main areas was identified: a) teaching and learning, b) graduate studies, c) online, and d) interdisciplinary initiatives.

Work in the past five years in teaching and learning has included both the creation of new initiatives, as well as the creation of new positions both to encourage innovative teaching practices, as well as to recognize excellence in teaching. New positions aligned with teaching excellence include: the establishment of a Teaching Chair in Mechanical and Mechatronics in Engineering from 2006-2010, the Teaching Fellow program established in 2012, and the introduction of Success Coaches in 2011. New initiatives focused on advancing the quality of education include: CEC integration of academic with work experience (before 2006), the development of the WatPD model of course delivery (2007), the Opportunities and New Directions (OND) conference launched in 2008 which showcases excellence in teaching and teaching methods, LIF/PIF/LITE grants, established in 2008 to facilitate and enable innovative teaching and teaching methods, CTE liaison Model which brings instructors together to discuss ways to enhance students learning experience (2011), Learning outcomes assessment and integration (2011), Task force on Innovative Teaching Practices to Promote Deep Learning which produced a report of best practices in teaching practices in 2011, FETS students doing course evaluation research (2012), and a peer teaching review committee in 2012. In recent years, the University has also moved to address gender equity issues in the professoriate. This is relevant to the quality of teaching because equitable recruitment/retention facilitates excellent recruitment/retention, and therefore increases teaching quality. Moreover, gender equity in the professoriate means more positive role models for women in disciplines in which they're underrepresented, something shown to have positive pedagogical outcomes. Each of these initiatives will provide information and actions to support the alignment of teaching and learning and innovative teaching practices.

Foundations to build from in graduate studies include: the enhancement of graduate scholarship infrastructure completed in 2008, the central guidance in terms of the Graduate Studies Office (GSO) in 2009 which helped to formalize the process to establish / implement new graduate programs with other administrative support units. The University of Waterloo also supports graduate students through professional skills development opportunities for graduate students and postdoctoral fellows, work completed in 2010-2011, and through the work of the support students TA task force in 2012 which produced TA training, TA handbook, and a TA hours worksheet. Individual faculties have launched innovative new programs including a series of online professional Masters, and new collaborative interdisciplinary programs such as: a Masters of Math for Teachers established between 2006 and 2010, and a quantum information collaborative graduate program established in 2010.

In terms of the foundation for online work, participants noted that the Correspondence program began in 1968 and has evolved to be a premier distance / online program nationally. As technology evolved from tapes and notes, the supports available to faculty have also evolved. The Centre for Extended

Learning team now includes instructional designers, instructional digital media developers, quality assurance specialists, and others (over 45 staff in all) who are dedicated to supporting faculty and students in online learning development and delivery. The Instructional Technology and Media Services department has also evolved with the technology, and supports a robust technology infrastructure for instruction, including the University's learning management system, Desire2Learn (LEARN).

Interdisciplinary work was also highlighted: Engineering has four undergraduate and one graduate interdisciplinary programs, as well as the Student Design Centre which was established in 2010 to facilitate interdisciplinary student-led initiatives. The "Water Institute", established in 2010 was also highlighted as an interdisciplinary institute.

What are we building on?

The topic of how to advance the quality of education at the University of Waterloo has benefited from a lot of thought and activity the last three years. Good work has been done on improving teaching quality and how to optimize and make teaching effective (for example, the deep learning task force). The MCR process represents an opportunity to come to a common understanding of what a quality outcome is in teaching quality, and to align our expectations. It is an opportunity to measure what we mean, define what we mean and see where we are compared to others. Challenges in this area include a lack of dissemination of successful local Faculty initiatives – if we could better coordinate the communication of best practices learned from local initiatives, then Faculties wouldn't need to "re-invent the wheel" when considering new initiatives. We need to solve the challenge of how to flow results through in a meaningful way, and connect academic and administrative side of the house so both sides benefit from knowing what's been learned (best practices). We need to foster academic and administrative staff working together efficiently.

With respect to quality online education, uWaterloo is building on an established set of processes and supports including Quality Guidelines for developing and teaching online courses, and a suite of services for students online and at a distance (with support from the Library, the BookStore, the Registrar's Office, and many others). In 2010, a subcommittee of the Teaching Excellence Council, chaired by Geoff McBoyle (AVP-A), introduced an online course evaluation instrument to be used across all Faculties, and continuous improvements have more than doubled response rates to almost 40%.

What are the immediate next steps?

Overarching next steps:

- Identify a team of champions to move strategic planning in this area forward

Objective 1: Increase the quality of teaching

- Collect benchmark data on teaching quality (further student Quality Forum data, CTE); define what's good teaching
- Increase internal dialogue about teaching / disseminate good stories
- Strike a committee to create a university wide teaching / learning charter

- Consider whether IAP should assess & collate course evaluation data

Objective 2: Enhance online learning opportunities

- Develop strategy for design of and delivery of open courses for undergraduate and graduate students
- Examine existing opportunities to deliver open/freely available courses and courseware; determine what benefits exist for uWaterloo to become engaged in this activity

Objective 3: Ensure excellence in supervisors and mentors

- Strike a task force to develop a set of UW best practices for supervision of graduate and undergraduate students

Objective 4: Optimize the ratio of students to support (faculty, staff, TA's, instructors, secretarial, registrar, etc.)

- Strike a task force to investigate the "student life cycle from recruitment to graduation" and identify opportunities for interventions at key stages

Objective 5: Increase support for graduate students

- Consider developing a strategy for increasing / establishing seed funding and expand new faculty funding (no funding source was identified)
- Consider building on and extending experiential learning components for graduate programs (career preparedness)

Objective 6: Increase inter and "trans"-disciplinarianism

- Develop a structured forum for cross-disciplinary networking, awareness, hosted by Centres (e.g., nano, water), Institutes
- Identify cross-disciplinary opportunities for student engagement (senior to junior)
- Develop a cross-disciplinary sponsored guest speaker program (course, seminar)

Objectives

1. Increase the Quality of Teaching

Participants

Donna Ellis
Troy Vasiga
Adam Garcia
Kelly Anthony

Desired Accomplishments

Participants wondered if we need to “increase teaching quality” or more “promote the importance of and our commitment to teaching quality”. The former assumes a problem; the latter suggests a shift in culture and values. Participants in this group also considered how to define the terms “teaching”, “learning”, and “education”. They suggested that teaching helps people learn and become educated, and that teachers facilitated learning. They further suggested the following structures support good teaching: a multi-faced communications campaign, both internal and external about the value of good teaching; improved evaluation of teaching through centralized course evaluations and transparency, and through peer review of teaching, both to identify “success stories” and also so others can replicate what works; supporting a university-wide teaching and learning statement; incentives for good and improved teaching to show that uWaterloo cares about teaching, about how to identify and recognize good and improved teaching and also to attempt to begin to address poor quality teaching; and lastly increasing and valuing student input in determining what “teaching quality” is.

Participants in this group felt that several short-term actions should be considered. These included: collecting benchmark data on teaching quality in order to help define what is good teaching (this may take the form of further student Quality Forum Data, or data from CTE); increasing uWaterloo’s internal dialogue about teaching and disseminating good stories; striking a committee to create a university wide teaching / learning charter; and assessing whether IAP should collect and collate course evaluation data.

Mid-term actions included: piloting a peer review of teaching systems (TF’s + CTE); a mandate from Senior Administration of one course evaluation instrument, and the completion of a University-wide teaching / learning charter to be disseminated. Longer-term actions were to articulate incentives for good and improved teaching, and to begin attempts to address poor quality teaching. The last action the group suggested was to launch an external marketing plan to highlight what we have accomplished in this area by 2016.

Initial steps include:

- Begin collecting benchmark data on teaching quality (further student Quality Forum data, CTE); define what’s good teaching
- Increasing internal dialogue about teaching / disseminate good stories
- Striking a committee to create a university wide teaching / learning charter
- Considering whether IAP should assess & collate course evaluation data

Suggested key participants in the next steps include: Centre for Teaching Excellence (CTE), Institutional Analysis and Planning (IAP), Department Chairs, a Student Advisory Group, and the recently-appointed Teaching Fellows in each of the faculties, instructional designer from the Centre for Extended Learning.

Supporting Information

Participants identified several support units and structures that are currently in place to support this objective. They included: the Centre for Teaching Excellence, the Centre for Extended Learning, the grant program (LIF/PIF/TIF) to support innovative and excellent teaching, teaching awards for outstanding teachers, and an annual on-campus teaching conference. Student evaluations and peer review of teaching in some units are also already in place and will support work on this objective. The re-weighting of faculty responsibilities to include more time for teaching, research or service is also already in place but could be rolled out further.

Initiatives that are planned in support of this objective are the recently-appointed Teaching Fellows, new faculty programming related to teaching, as well as plans of Communications and Public Affairs to capture more teaching stories for the revised website and plans to highlight teaching excellence at Senate.

The group also considered the following when discussing what initiatives might move this objective forward: how to market good teaching stories and our mission around teaching and learning – e.g., write letters to the editor, best ways to include student input, ways to discourage poor teaching and reward good teaching, a review of course evaluation systems, University-wide peer review of teaching (both formative and summative), and ways to recognize those who do well with their teaching and those who have shown development.

With respect to challenges and barriers, participants felt that there may not be agreement about what constitutes teaching – by teachers, by students which makes it hard to identify characteristics of “good” teachers. Participants also noted that, historically, the reward system hasn’t rewarded good teaching – research has been rewarded first and that uWaterloo wants to be a top notch research intensive institution. It was further noted that our national education system doesn’t hold up teaching as being equal to research, which had contributed to “bad” teaching being ignored in some cases. Another potential barrier was a general resistance to change, including the tradition of a 40/40/20 workload, as well as student and faculty expectations about changing pedagogical strategies. Participants also flagged that it is nerve-racking to address questions by gov’t and others about what we’re doing at uWaterloo. If we don’t justify ourselves well, there could be negative repercussions. Lastly, participants highlighted a need to consider how action in this area will fit with global expectations to balance teaching and research excellence.

Several important comments were raised for this objective. The first comment asked participants to consider what the value would be of a common course evaluation instrument and whether focus should perhaps be on quality of learning, since that is the meaningful end goal of teaching. The group heard that, if a standardized instrument were to be developed, it should include questions about Teaching Assistants. Additionally, participants discussed that there is no reason why there can’t be 4-6 core/central/common questions and then customized ones (perhaps from a pool) for Faculties/departments. Subsequent discussion highlighted that developing a new course evaluation

instrument represents opportunity to change the questions. uWaterloo may consider changing the focus of their course evaluations from ratings of teaching behaviours to ratings of students' perceptions of their learning experience in courses. A new course evaluation instrument may be developed based on solid evidence, and link evaluation questions to uWaterloo's institutional learning priorities (which could be identified as part of the teaching and learning "charter" or framework that was suggested). As well, course evaluations are currently one existing metric that we have to assess students' perspectives on teaching quality and yet uWaterloo has no centralized data to be able to understand whether there is a problem with teaching quality or not. Course evaluation results are contentious at Waterloo, so it may be one way to level the playing field and shift the focus from teaching to learning would be to launch a new system and instrument. Any such change would likely need to be mandated from the top.

Participants also raised the point that teaching and research are not currently on equal footing (tenure and promotion procedures do not weigh teaching and research equally), and that there may be an opportunity to work towards changing the faculty reward system.

Another question to consider was whether to make the outcomes of our students' learning public, to articulate and publish student outcomes, and to learn better how to measure Undergraduate Learning Expectations since this is the meaningful end goal of teaching. This measurement should influence the course curricula, and therefore indirectly influence the quality of teaching through helping teachers learn more about designing meaningful assessments of learning.

2. Enhance ~~the number of~~ online learning opportunities

Participants

Sue Horton
Cathy Newell Kelly
Pascal Calarco
Brian Forrest
Jesse McGinnis

Desired Accomplishments

Participants felt this objective should be modified to state "Enhance online learning opportunities". Group participants suggested that we begin by examining the currently evolving MOOC movement (massive open online courses that are freely available to the public) to determine how best for uWaterloo to proceed. It was believed to be important for uWaterloo to develop some open online graduate-level courses, as well as develop an online method for delivery of open online undergraduate courses. Also important, we should develop online training and resources for Teaching Assistants and instructors as well as establish standards for quality teaching online, including establish metrics of student satisfaction with their online learning opportunities and promoted standards / guidelines for the quality of teaching online (instructor presence, ratios, response times, etc.). Mid-term goals for this objective were for each faculty to develop a strategy for both undergraduate and graduate online learning including a champion in each Faculty, and for more faculty to effectively use innovative technology for teaching (both full and blended). Long-term goals were to increase the number of online international students by a specific percentage (based on an increase from the current percentage), and that uWaterloo be known nationally as one of the top 3 institutions in online programming.

Initial steps include:

- Examine existing opportunities to deliver open/freely available courses and courseware; determine what benefits exist for uWaterloo to become engaged in this activity
- Develop a strategy for design and delivery of open courses for undergraduates and graduates

Suggested key participants in the next steps include: the Centre for Extended Learning (Cathy Newell Kelly), and a Faculty designate from each Faculty and the Colleges.

Supporting Information

Several things are already in place to support this objective. They include: e-journals and other library resources, e-reserves, well supported technical infrastructure including D2L and ITMS, the Centre for Extended Learning (instructional designers and multimedia developers), and online training for TA's and instructors. Initiatives that are planned to support work towards this objective include: enhanced training and resources for instructors to help them understand possibilities and expectations, the open courseware pilot currently underway with Faculty of Math, and the creative commons / open resources. In order to succeed in achieving this objective, uWaterloo may need to put in place open technology to support open courses and data; we may need to revamp older courses, and we will need to consider modernized copyright law and investigate more creative commons resources. Barriers and challenges that participants identified were: adequate resources (time and money), being able to keep up with changing technology and platforms, and a resistance to accepting open resources as appropriate for particular topics. Participants felt that guidelines or policies regarding quality online teaching which spell out principles for teacher presence and support should be considered in initiatives moving forward, as well as shared best practices for student engagement in technology enabled learning.

3. Ensure excellence in supervisors and mentors

Participants

Bruce Mitchell

Shannon Dea

Gordon Stublely

David Rose

Desired Accomplishments

Participants felt that short-term work towards this goal should begin by putting together a task force to develop best practices for both supervisors and mentors. These best practices should be housed in a central repository. Building on the identified best practices, a second short-term goal was to develop a supervisory skills workshop to be targeted towards good practices in graduate supervision for new faculty. The final goal articulated by participants was for units to complete a value statement for the role of supervision in graduate education within each discipline. Participants also expressed the desire to cultivate a collegial environment in which to discuss student milestones.

Initial steps include:

- Striking a task force to develop a set of uWaterloo best practices for supervision

Suggested key participants in the next steps include: the Centre for Teaching Excellence, the Graduate Studies Office, the Graduate Students Association, the Associate Deans, Graduate Studies, Distinguished Supervisor awardees, and FEDS (representation from undergraduate students).

Supporting Information

Several activities are already in place, which support work towards this objective: mentoring and supervision does take place in each department, whether “formal” or informal, the Centre for Teaching Excellence currently offers a program which addresses graduate supervision, and also offers training for new AHS and Engineering faculty. Also currently in place is a Graduate Supervision award which recognizes excellence in graduate supervision. Lastly, each faculty is in the process of hiring Teaching Fellows who will provide leadership in teaching to foster learning outcomes for students, including the development of best practices in teaching. New initiatives that may support this objective include enhancing peer review of teaching, developing a learning community, and an exit survey for graduates. A challenge that participants identified in encouraging excellence in supervisors and mentors was the potential paucity of good role models for supervision, since as students we are generally only supervised by a maximum of three people. Possible references brought forward included: CAGS. Graduate studies: a Practical Guide, and A Guide for Graduate Research and Supervision at the University of Waterloo.

In moving forward with this objective, it will be important to ensure that all campus community members (undergrads, grads, faculty, etc.) are aware of what supervision / mentorship is and how to identify when it is occurring. It will also be important to include an evaluation process of supervision and to include them as part of individual performance appraisals.

4. ~~Decrease~~ Optimize the ratio of students to support (Faculty, staff, TA’s, instructors, secretarial, registrar, etc.)

Participants

Martha Foulds
Carey Bissonnette
Mary Lynn Benninger

Desired Accomplishments

The group felt this objective should be re-worded to state “Optimize the ratio of students to support (Faculty, staff, TA’s, instructors, secretarial, registrar, etc.)”, since decreasing the ratio may not be most effective. Re-wording this objective allowed the group to focus on ways to facilitate and optimize the student experience. Participants felt that a key starting point would be to develop a “student life cycle” from recruitment to graduation which would help to identify opportunities for appropriate interventions and the supports that should be put in place at each stage of a student’s life cycle. Reviewing the student life cycle would allow uWaterloo to identify key “events” that can occur during that cycle from admissions to graduation. Events could then be classified by the frequency with which they would be

experienced by the student population, and the importance of the event to the student. Students should participate in this exercise. This would enable ranking of the events. Then the cross-functional teams could be assigned, in ranking order, to develop strategies around each event. Implementation would be rolling, so “low hanging fruit” could be realized quickly, with more complicated events reviewed and changes implemented in the longer term. An example was outlined: students’ academic standing determines their progression in the degree program at the end of each term (an EVENT). But we don’t have consistent academic standings across faculties, progression rules differ significantly and the rules are often complicated. Could this be streamlined? Could the EVENT outcome be made clearer to the student? Is this important to students? Mid-term goals for this objective included implementing the strategies identified and creating goals with initial measures to track our progress towards these goals. Longer-term goals for this objective were to refine our strategy and report on the benchmarks developed. Participants expected that achievement of these goals would help increase retention, increase co-op evaluation results, help students achieve their maximum potential, increase staff and faculty satisfaction and encourage the open sharing of best practices around the “student life cycle”.

Initial steps include:

- Striking a task force to investigate the “student life cycle from recruitment to graduation” and identify opportunities for interventions at key stages

Suggested key participants in next steps include: the VP Academic, Provost, and multiple academic support units (specific units not identified) as well as Faculties.

Supporting Information

Several measures are already in place to increase support to students. Student mentorship programs are in place in AHS, Science and Engineering. Structured reviews of programs, both academic and support, provide an opportunity for uWaterloo to examine and optimize whether students are getting the support that they need. In order to achieve the actions articulated for this objective, it will be important to identify meaningful measurement standards at each stage in the student life cycle, to be applied across the University. It will also be important to consult students and find out where they feel support is needed. To optimize the ratio of students to support, the administration of programs should be streamlined and program review should be meaningful and should include student input. Barriers currently in place to achieving the actions identified included that no measurement standard for what the optimal ratio of students to support exists, and that a better understanding of the variation in duties and in support across campus is needed.

5. Increase support for graduate students

Participants

Pearl Sullivan

Marc Gibson

Feisal Rahman

Lynn Judge

Desired Accomplishments

Participants felt that work towards this objective should start by identifying a strategy for increasing / establishing seed funding for graduate students, and then expanding this to include new faculty funding. Another short-term action was to consider an experiential learning component for some graduate programs to assist graduate students in preparing for their careers. Next, participants thought International Master's and Doctoral Student Awards (IMSA) should increase to the full fee differential value and that all graduate students should be required to attend a course on academic integrity. Mid-term goals were to double uWaterloo's capacity for NSERC Industrial Postgraduate Scholarships (IPS) and other industrial programs, to enhance career preparation and skills programs for graduate students, and from there to increase uWaterloo's percentage of tri-council grants and other scholarship holders. Longer-term goals were for uWaterloo's reputation in graduate student career preparedness to be comparable to our undergraduate co-op reputation, and for uWaterloo to have a rich pool of graduate students who have made a successful transition to their careers as measured by time to graduation.

Initial steps include:

- Consider developing a strategy for increasing / establishing seed funding and expand new faculty funding
- Consider developing an experiential learning component for grad programs (career preparedness)

Suggested key participants in the next steps include: Sue Horton, Provost, Deans, VP, Research, CECS, and ODAA.

Supporting Information

uWaterloo currently undertakes the following in support of this objective: a professional skills program is in place, a task force is in place, uWaterloo guarantees all Master's and PhD students minimum levels of funding, and uWaterloo offers a Certificate in University Teaching. Additionally, all Faculties pursue research funding, including tri-council and other awards which support graduate students directly or indirectly. One planned initiative that participants identified was the expansion of international agreements for admission and/or funding of high quality international students. New initiatives to consider were: offering supervision support, research skills development, help in thesis preparation and training for teaching assistants. Participants noted that a simple industry mentor program (e.g. meet for lunch twice per year) might be a very valuable small step and that where industry or other external engagement is relevant, uWaterloo should actively support and encourage. Alumni engagement beyond donors could be helpful here too. However, the group also noted that tying graduate funding to industrial partnerships must be approached with considerable caution, to avoid the potential with these funding opportunities to reproduce existing inequities between curiosity driven and applied research. Lastly, the group cautioned that in considering an experiential learning component for graduate programs, the current co-op program for undergraduate students can't be "cut-and-pasted" at the graduate studies level; in many cases graduate students can't stop competitive research to do weakly related work in industry.

6. Increase inter and “trans-disciplinarianism”

Participants

Michele Mosca
Rocco Fondacaro
Katherine Lithgow

Desired Accomplishments

Participants identified several actions that could be put in place in the short-term towards this objective. These included: developing a structured forum for cross-disciplinary networking and awareness, hosted by one of the Centres or Institutes (for example, Nano, Water). Additionally, cross-disciplinary opportunities for student engagement should be identified in the short-term, and a cross-disciplinary sponsored guest speaker program could be developed. In the mid-term, participants felt uWaterloo should support the creation of new cross-disciplinary initiatives in teaching and research (including formal cross-disciplinary breadth courses and humanities / science samplers, some of which may be taught by graduate students or qualified staff), and should put in place a reward and incentive mechanism for cross-disciplinary teaching and research initiatives. Longer-term objectives were to achieve recognition as an institution as being the leaders in new specialized knowledge areas, and for uWaterloo to be the “go-to” institution for leading in finding solutions to complex issues and specialized challenges facing the world (for students to learn, and for the community and the government to seek our help).

Initial steps include:

- Identifying a team of champions
- Developing a structured forum for cross-disciplinary networking, awareness, hosted by Centres (e.g., nano, water), Institutes
- Identifying cross-disciplinary opportunities for student engagement (from junior to senior students)
- Developing a cross-disciplinary sponsored guest speaker program (course, seminar)

Suggested key participants in the next steps include: the Centre for Teaching Excellence, CECA, the VP, Research, and the Graduate Studies Office (Sue Horton)

Supporting Information

Initiatives that are currently in place to support this objective include uWaterloo’s existing cross-disciplinary programs, and our strong connections with the community through the co-op program and initiatives that foster entrepreneurship such as VeloCity and the Accelerator Centre. Improvements to the co-op employer evaluations, and expanding our tools for co-op evaluations to work taking place in other experiential learning contexts will also support movement toward this objective. Participants noted that the challenges to achieving this objective are “common outcome challenges”, that history measures outcomes from outside research that are often not immediately apparent while the work itself is taking place. Other barriers to achieving this objective included cynicism about the value of this goal, and differences in work ethos and values across disciplines. The group felt that establishing

discipline-based champions across the executive to facilitate cross and multi-disciplinary work would help to facilitate initiatives in this objective. They also identified that researchers and students who participate in cross and multi-disciplinary initiatives should be rewarded. Going forward, work on this objective will need to consider what the optimal balance is between integrating work and the passion of researchers who do very specialized work. Work on this objective also needs to clearly distinguish among the terms: cross-disciplinary, multi-disciplinary, inter-disciplinary, trans-disciplinary. These are different models with different implications. It was noted that the inter- and trans-disciplinary models are the ones to which uWaterloo should aim, as they offer much deeper and richer understanding, although they are more challenging to actually implement. A final question to consider in work going forward was how to best support the student's responsibility to integrate experience to meet their life goals?

Conclusion

Results of the action planning sessions will be integrated with other strategic planning activities to inform further work in finalizing uWaterloo's 2012-2017 strategic plan, and in the development of an accountability framework. The strategic plan will articulate uWaterloo's mission, vision and values. It will integrate and consolidate the feedback received from campus-wide consultations undertaken in the Mid-Cycle Review, and the additional consultations undertaken in the Fall of 2012 to present uWaterloo's strategic directions, goals and objectives. It will outline actions for the strategic areas, and present an accountability framework which will ensure transparent and timely reporting towards our goals.

Appendix A

The tables in this appendix present the information gathered from both the large group discussions that incorporated in each day's session on accomplishments from 2006-2012 and desired outcomes for each of the objectives. The detailed five-year measurable accomplishments for the objectives are also presented. Detailed five-year measurable accomplishments were not discussed by every small group, so only a sub-set objectives are presented here.