

RESEARCH AND TEACHING INTERDEPENDENCE WORKING
GROUP

Operational Priorities

Supporting, Valuing, and Celebrating Research and Teaching
Integration: Embedding the experience of research and scholarship in all
academic endeavors



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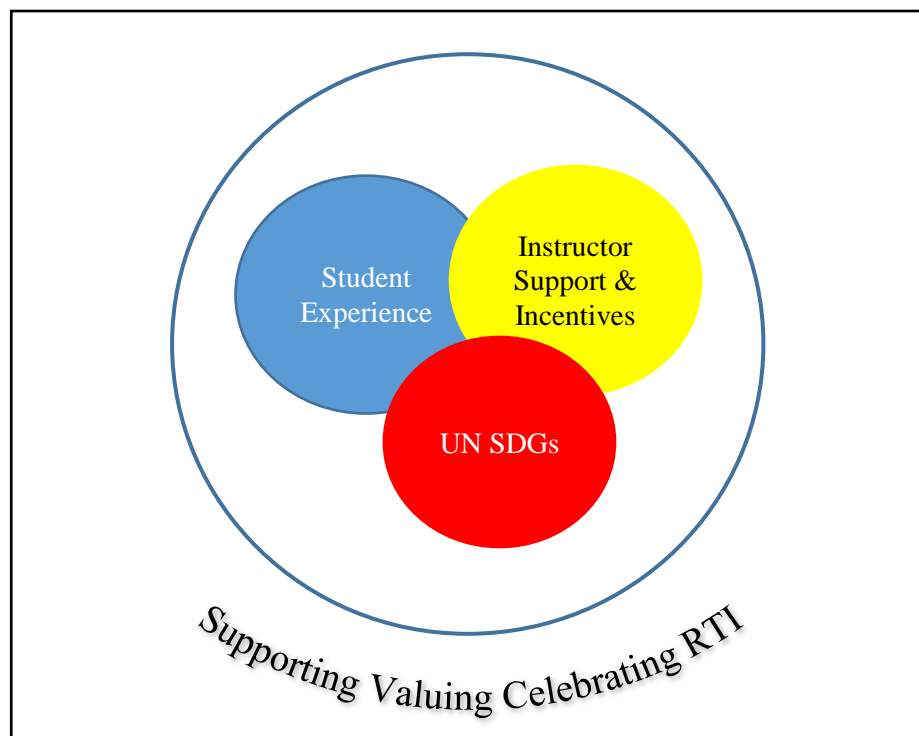
Strategic Goal #3:

“Enhancing the interdependence of research and teaching, with emphasis on [1] greater integration of research in the undergraduate experience, [2] an increase in the ratio of graduate to undergraduate students, and [3] a program to attract, support, and more effectively integrate postdoctoral fellows.”

Preamble

The goal of the working groups is to articulate high impact ideas. This can be accomplished by providing actual initiatives or laying the groundwork for such initiatives.

Working Group 3 recognized that successful initiatives for research and teaching interdependence would occur when i) the experience of all learners, undergraduate to graduate students is prioritized; ii) instructors were supported and incentivized; and iii) the research context was viewed as impactful and purposeful as illustrated by its connection to an overarching theme, such as that provided by the United Nations Sustainable Development Goals and other aspirational frameworks. The required groundwork for this goal recognizes the overlap of these three foundational elements within an institutional culture that values and celebrates the interdependence of research and teaching.



The groundwork ensures that:

- Undergraduate students experience research as a foundational and embedded part of their academic program, have opportunity for additional research enrichment outside the classroom, and are able to recognize and articulate the skills fostered through their research experiences.
- Faculty, postdocs, graduate students and teaching fellows recognize the importance of research and teaching integration, receive support to build capacity for this integration, and are celebrated for outstanding achievements in this area. Graduate students, post-docs and undergraduate students are recognized as learners, researchers, and essential members of Queen's research community.
- The research integrated into the undergraduate student experience is viewed as impactful, relevant, and meaningful. Research contributes to improvements in our community both locally and globally in our quest to achieve the UN Sustainable Development Goals. We have articulated our vision of the intersection of research and teaching, and see this work closely aligned with two other working groups (Group #1 Research Impact and Group #2 Student Learning).

Acknowledgements and Limitations

We acknowledge, with thanks, the comments of faculty, staff, and the School of Graduate Studies in response to earlier drafts of this document. Articulated by these stakeholders and consistent with our working group discussions are concerns about the opacity of point 2 of the working group's mandate: an increase in the ratio of graduate to undergraduate students. Because it is not immediately apparent how an increase in the ratio of graduate to undergraduate students would contribute to enhancing the interdependence of research and teaching, members of this group decided not to propose specific action items related to this point. We can, however, think of various ways to increase graduate student enrolment as an end in itself, including diversifying the pool of international students, allowing flexible entry dates, offering co-ops, creating innovative graduate programs, and fostering undergraduate research talent.

Summary of principles, goals, and action items

We propose that at Queen's University, research and teaching integration (RTI) be a hallmark of the experience of undergraduate and graduate students, and postdoctoral fellows (PDFs) while building capacity for instructors to enable and facilitate RTI.

Principles

1. Create an ethos and culture to normalize RTI (Research and Teaching Integration) across the

University. Emphasize a positive nexus between research and teaching, presented as mutually inclusive, and promote the scholarship of teaching and learning among all members of the university.

2. Make RTI a signature of the Queen's undergraduate educational experience by the development of research-oriented curricula. Encourage and support intentional inquiry-based learning with explicit connections to cross-pollinating inquiry as a research and learning skill. We describe inquiry as a dynamic, iterative, and developmental process whereby students engage in asking and researching questions of interest as they build and strengthen their inquiry skills and work towards disseminating their work. Students are partners in knowledge-creating practices.
3. Frame research questions around the 17 UN SDGs and beyond, to "unite us in a common purpose" in education for sustainable development and continued decolonization.
4. Ensure that principles of EDII guide review and development of policies and programming as they relate to integrating research and teaching.
5. In an effort to decolonize curricula at Queen's, include Indigenous perspectives on the nexus between research and teaching. These efforts need to be Indigenous-led and informed by meaningful consultation and partnership with Indigenous communities.

Goals

1. Undergraduate: All students have curricular research experiences during their degree programs.
2. Graduate students and PDFs: Every doctoral student and PDF who wishes to explore teaching and or co-teaching opportunities should have the option, with appropriate mentorship, funding, and, if necessary, graduate students should be given an option to "stop the clock" on time to completion.
3. Faculty: All faculty have the support and resources, to embed research experiences in their courses, and to involve undergraduate and graduate students in their research.
4. Faculty: Research supervision at the undergraduate, graduate, and post-doc levels is acknowledged as an integral component of the research and teaching nexus. Fostering impactful supervision is encouraged, celebrated and supported with assistance from the Centre for Teaching and Learning in collaboration with SGS, allowing graduate students ample voice in the development of research mentorship at Queen's.
4. Highly trained research personnel, including staff scientists, librarians, archivists, software specialists and the like, be hired and supported. These individuals play a crucial role in enabling

the research experiences of undergraduate students. They enhance the research environment for graduate students and post-doc fellows, increase their efficiency, and offer a competitive advantage in their recruitment.

4. Cross-University: Raise the profile of and support for RTI activities, programs, and opportunities.

Action items

1. In addition to existing research methods courses in the disciplines, require that every undergraduate course include a component of research, with an emphasis on building the research experience from first to fourth year. We adopt the goal, as articulated by Jenkins and Healey (2009) “to move more curricula in the direction of developing students as participants in research and inquiry.” Identify where research and information skills are introduced and reinforced throughout a program, including the learning sessions provided by librarians and archivists. Some examples of research experiences include lectures on a major research question relevant for the course; guest presentations by graduate students working in a related area; an inquiry-based assignment or activity; a report on a major publication in the field and these and similar inquiry activities should be further encouraged, enhanced, supported and given wider attention. There should be opportunities for students to present and disseminate their work in public fora and to be part of the community of researchers.
2. Review, categorize, and enumerate all research-inclusive, research-focused undergraduate courses and tag in calendars. Address barriers, such as prerequisites, that prevent students from enrolling in research-oriented courses. Recognize opportunities for research-oriented courses to enhance fluidity of degrees (i.e. cross-referenced between undergraduate and graduate levels)
3. Increase the number of undergraduate research fellowships/positions, ensuring that they pay a living wage. Ensure equitable access for all faculty members by not requiring matching funds. Create new undergraduate research fellowships/positions that do NOT require matching funding.
4. Create teaching fellowships for doctoral students and PDFs in all disciplines so that those who wish can take advantage of this opportunity. Provide mentorship and training, and investigate the possibility of extending funding for doctoral students if warranted.
5. Review and where practical integrate the language of RTI into the terms of reference for PDFs, prizes in teaching and research university-wide, and competitions for prestigious faculty positions (QNS, CRC), etc.

6. The Principal, VPTL, CTL and the Office of the VP-Research collaborate on creating an annual Queen's-wide event featuring the theory and practice of RTI that would engage undergraduate and graduate students, postdoctoral fellows, faculty, University Counsellors, Trustees, and members of the larger Queen's community.
7. Embed RTI reporting within the Cyclical Program Review, and where possible, other academic processes.
8. Undertake a university-wide outreach campaign to articulate the benefits of RTI.
9. Promote the scholarship of teaching and learning especially as it relates to RTI.

Notes

- **Supporting RTI for undergraduate students**

We suggest that Queen's University promote and support undergraduate research and inquiry as has been described by Childs et al. (2007), that is, "student engagement [should be] from induction to graduation, individually and in groups, in research and inquiry into disciplinary, professional and community-based problems and issues, including involvement in knowledge exchange activities". Jenkins and Healey (2009) note that definition is inclusive, and explicitly links research and inquiry and knowledge exchange.

- **Helping students to make sense of their research experiences**

While many students will be excited by our recommendations, we recognize that not all of them will appreciate the opportunity to and the benefits of engaging in research. We note that in a study of 28 university-level courses, students reported benefits of targeted development of research skills, including that they are transferable to employment, aid in developing critical thinking, are transferable to society and sparked further interest in research (Willison, 2012). Further, we encourage the use of available tools and platforms such as the Queen's Skills Cards, developed by Student Affairs, and ePortfolios via onQ to assist students make sense of their experience. Finally, providing an array of opportunities for dissemination of research, through departmental, university-wide (I@Q Conference and Journal), national (venues to come from the early stages of the Canada-Wide Conversation on Undergraduate Research) and international (CUR, The Global Undergraduate Awards) fora, completes the cycle of research as is recommended by Spronken-Smith et al. (2013).



References

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