



Waterloo Bridge to 2020

INTERNATIONALIZATION

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Executive summary

In an increasingly interconnected and complex world, infusing global perspectives into decision-making and catalyzing collaboration across borders are vital to societal well-being. However, recent global trends – such as the rise in nationalism, xenophobia, and sectarianism – have served to encourage narrow-mindedness and insularity. Thus, the gap between what is required and what exists is large and widening.

Given this, the need for universities to make a contribution is perhaps more important now than ever. It is critical that universities commit – wholeheartedly – to the ways in which internationalization can serve to advance their core mission of teaching, research, and service for the public good. Not only does the world need the graduates, discoveries, and contributions that would result from these activities, but the world also needs this example of global engagement and leadership, so that others can be inspired.

Evolution of internationalization in higher education

Globally, early internationalization efforts of governments and universities were narrowly focused on education abroad and mobility of students and faculty. Individual faculty members pursued the bulk of international engagement with limited institutional support, resulting in an ad-hoc, organic internationalization strategy at a very modest scale. More recently, some national governments have “ramped up” their levels of interest in internationalization – focusing upon the attraction of talent from abroad, and offering resources for global research collaboration.

In Canada, the main international education policies of federal and provincial governments emphasize the development of a “Canadian brand” for the recruitment of students and the acquisition of skilled labour. These efforts have been quite successful and, combined with recent geopolitical events, have made Canada one of the top four destinations in the world for international education; the number of Canadians heading abroad, by contrast, remains relatively low.

The value proposition of internationalization in higher education

Increasingly, a number of world-class universities are recognizing the ways in which internationalization – through international and intercultural experiences on the part of their students, staff, and faculty – can advance their goals.

- **Learning:** Internationalization better prepares the student for a globalized world, as well as providing the individual with skills like effective communication, flexibility and resilience, and cognitive dexterity and depth,
- **Research:** Diverse perspectives and insights, as well as a larger pool of financial, infrastructural, and educational resources, provide a strong foundation from which to pursue research,
- **Service:** Public universities are obliged to contribute to issues of significance to their stakeholders, many of which are largely inseparable from global challenges,
- **Strategic:** To help a university advance its strategic goals, internationalization can be a stimulus to innovation, and it can be a gateway to resources. Moreover, in an increasingly competitive global market for education, top-tier universities recognize internationalization as a key strategy to distinguish themselves amongst their peers, through formally enhancing their rank, and informally broadening their reputation.

Contemporary components of internationalization

There are three key components to the contemporary landscape of internationalization in institutions of higher education. These are referred to as: Internationalization on Campus (IoC), Internationalization Abroad (IA), and International Partnerships (IP). The term IoC is offered to capture the multiple international dimensions on the home campus, with focus on incoming international students and internationalizing all students' experiences. Current challenges to a successful IoC program include determining and securing the ideal ratio of international to domestic students, avoiding over-reliance on one key market for incoming international students, identifying and allocating appropriate resource supports for international students, and integrating diverse communities on campus so as to reap the benefits of a global population. Successful strategies to address these challenges include country-of-origin diversity in international student recruitment, anticipating – and funding – support requirements for international students, and intentionally designing, resourcing, and evaluating intercultural initiatives, both curricular and co-curricular, on campus.

IA is a term used to refer to the mobility of the university population across international borders. With respect to student mobility, the term encompasses a broad range of initiatives: short and long-term semesters abroad, research internships, service-learning, work, joint academic programs, and dual and cotutelle degrees. It is still unclear as to whether particular types of experiences – with particular durations and locations – are more valuable than others; or whether some minimum criteria across these characteristics should be in place in order to define “an international experience”. In any case, the safety and well-being of those abroad continue to rise up institutional and public agendas, with recent geopolitical events serving as ever-present catalysts in this regard. Additionally, international experiences are often prohibitively expensive, or come at the cost of other paid opportunities for students (or are difficult to arrange, for academic reasons). Many institutions in Canada and around the world are looking to increase the number of students participating in IA initiatives, seeking to understand “best practice” and experimenting with new strategies.

IP refers to cross-border linkages with institutions, alumni, industry, governments, and other stakeholders. Many of these linkages are primarily concerned with collaborative research activity. Currently, highly-regarded strategies for IP emphasize the development of fewer, strong strategic partnerships, networks, and alliances to meet institutional goals for internationalization and grow the global impact of research. Factors to consider when prioritizing partnerships include value added for the particular university's faculty and students, relative ranking of the prospective partner, existing linkages, location, and type of partnership (research and/or educational). Additionally, significant financial and time resources must be devoted to outreach, partnership maintenance, and evaluation of outcomes over time. International alumni can play a crucial role in advancing an institution's internationalization goals, as ambassadors, champions, and facilitators for partnerships, as well as talent recruiters, and providers of market intelligence more generally.

Integration

“Comprehensive Internationalization” has increasingly been adopted as a framework for internationalization at universities, seeking to align and integrate policies, programs, and initiatives to position universities as more globally-oriented and internationally-connected institutions. This strategy considers all the IoC, IA, and IP dimensions of internationalization through a combination of top-down and bottom-up collaborative approaches. Moreover, emphasis is placed on developing more qualitative measures of internationalization in addition

to current quantitative metrics, and building fewer, deeper relationships with other global institutions.

Internationalization and Waterloo

A strong international outlook and vibrant international engagement are vital to Waterloo's global excellence. Well-known for its transformative research, innovation and entrepreneurship, and co-operative education program, these qualities, as part of the University's overall brand, can be leveraged and considered for strategic planning of international initiatives.

Moving forward, Waterloo must look inward: reflecting on internationalization in its overarching ethos, and considering both the amount and quality of intercultural opportunity available to students, staff, and faculty. However, the University must also look outward: finding synergies with other institutions, and developing strategic outreach priorities. A series of questions is presented in the paper to stimulate campus-wide discussion.

The world is indeed complex and interdependent. Given this context, risks are inevitable, and the University must be vigilant and continue to adhere to and promote the values of academic freedom, reciprocity, quality, and access. In its international engagement, it will have to address challenges concerning academic integrity and freedom, quality assurance, institutional autonomy, ethics, brain drain and exchange, developing sustainable partnerships, improving international student experience, and engaging in regions and countries with diverging value systems. Means to evaluate and to act upon such risks will have to be in place.

Although internationalization brings such challenges, there are also a great many opportunities, such as use of technology and online platforms for collaboration and participation, access to talent, research funding, and other resources, and the opportunity to address complex problems through innovative and interdisciplinary approaches utilizing diverse perspectives. The world needs its top universities to internationalize thoughtfully, meaningfully, and forcefully.

1. Introduction and purpose

This internationalization issue paper is part of an overall process to develop Waterloo's next Strategic Plan, 2020-2025. To begin this process, the president, provost, deans, and other members of the Executive Council identified broad themes and issues that are vital to strengthening and advancing the unique value proposition for the University of Waterloo. The themes were explored through a series of brief issue papers that will inform the strategic plan consultations. Internationalization is one of these areas of focus. The ultimate purpose of this paper is to provide a series of questions to stimulate the consultation process. Through a series of four meetings between January and May of 2018, the group defined the issue, developed literature search strategy (for further details on literature search strategy refer to Appendix A), summarized the literature, provided input to the drafts, and developed the consultation questions. This paper reflects the process engaged by the issue group and is not intended to be a comprehensive overview of the issue of internationalization.

The Internationalization Issue Paper Advisory Group also considered information collected from a variety of other sources:

- university data on internationalization, analyzed and reported by Waterloo's Institutional Analysis & Planning unit;
- a summary of interviews with peer university stakeholders to address key issues within internationalization, developed by the Educational Advisory Board (Please refer to Appendix C for the research questions and Appendix D for a summary of the interviews); and
- a literature scan and synthesis based on questions developed by the Internationalization Issue Paper Advisory Group and conducted by Waterloo's library staff.

This report also examines the context in which this information applies to the University of Waterloo, including insights and data on the University's current types and extent of international engagement.

International engagement of institutions of higher education (IHE) occurs across various settings: on home campuses, abroad, and with respect to research or educational partnerships. As such, this issue paper will be organized according to the following three categories:

- Internationalization on Campus (IoC)
- Internationalization Abroad (IA)
- International Partnerships (IP)

The paper begins with a brief review of the academic and grey literatures on the internationalization of higher education. This literature review includes a general background section regarding the historical context, definitions, and motivations behind internationalization, followed by a selection of best practices in the IoC, IA, and IP categories from various institutions. Within each respective section is a brief synopsis of "best practices" from comparator institutions collected by interview (Summary available in Appendix D) and analysis of policies available online, and an overview of key challenges and opportunities. In addition, the paper incorporates Advisory Group members' knowledge of other leading institutions in the internationalization space including the University of Toronto (UofT), University of British Columbia (UBC), University College London (UCL), National University of Singapore (NUS), and Massachusetts Institute of Technology (MIT), among others. The paper concludes with a summary and set of questions for consideration. Waterloo-specific data

regarding internationalization are found in Appendix B. A full list of acronyms used in this issue paper can be found within the notes section.

The contents presented here are intended to offer an overview of the most current debates surrounding internationalization at IHE, and to provide a starting point from which further discussion and consultation can follow regarding the strategic planning of internationalization at the University of Waterloo. The Advisory Group hopes that the Waterloo Community will embrace the internationalization imperative and provide feedback and recommendations towards an integrated strategy and framework.

A. Research questions

Research questions that guided the work of the advisory group can be found in Appendix C. They guided the interviews undertaken by the Education Advisory Board (full details in Appendix D), as well as the literature reviews conducted by members of the Advisory Group. These questions, however, did not constrain conversations (in the case of the interviews) or explorations (in the case of the literature review and associated reviews). Perspectives, insights, and activities that could not easily be slotted into one of the categories referenced by the questions were nevertheless recorded and, as appropriate, integrated into this report.

B. Limitations

A selection of the most highly-cited and current literature had to be taken and thoroughly examined within a short time frame, neglecting other potentially relevant materials for this process. Moreover, these time constraints impacted the depth of examination that could take place surrounding the issues regarding internationalization at IHE, of which there are many.

The literature regarding internationalization at IHE comes from various regions of the world, and from case studies of a select few universities. Universities in North America, Europe, and Australia, from which much of the literature is derived, have different cultural and socio-political contexts, which may shape how their universities pursue and experience internationalization. Additionally, comparator institutions are predominantly from North America, overlooking potentially valuable perspectives from other regions of the world.

Insights derived from the experiences of different institutions or fields may not align with the unit-level or institutional goals of the University of Waterloo. It is important to acknowledge this, and to situate “lessons learned” within the University’s particular institutional context.

For all these reasons, the concluding questions presented here are broad; moreover, they encourage careful reflection with respect to the particularities of Canada’s, as well as the University of Waterloo’s, goals for international engagement.

2. Context

Information regarding internationalization in higher education is presented herein across four sub-sections, covering historical and contemporary literature, definitions and motivations, discussions of the three key methods of internationalization (IoC, IA, and IP), and finally best practices.

A. Historical evolution and Canadian context

For universities, early internationalization efforts focused on international education: student and faculty mobility (e.g., the Fulbright Program dates from 1946, the Colombo Plan from 1950, and the Commonwealth Scholarship and Fellowship Plan from 1959). Over the past several decades, however, IHE around the world have broadened their focus beyond human mobility, while nevertheless preserving student and faculty experiences as key components. Increasingly, globalized industry, research, and knowledge networks are shaping higher education, forcing institutions to choose the pathways and extent of their international interactions.¹

Specifically, internationalization of higher education refers to the merging of global, intercultural factors into the values and deliverables of higher education², though this definition will be further elaborated in following sections. The benefits of this process are widely acknowledged in the literature, motivating institutions to develop experiential programs and curricula for students on home campuses and abroad, while fostering international research and educational collaborations. Each institution's international strategy is shaped by several factors:

- its history, including existing partnerships and international linkages;
- its culture, institutional mission, objectives, and ethos; and
- its existing resources and institutional priorities.

There is a rich body of literature regarding internationalization at IHE, comprised of theoretical debates and empirical case studies of its challenges and best practices. The literature that informed this issue paper is a selection of the most highly-cited authors and current-thinking within the field of internationalization, listed in the bibliography (Appendix A).

Canada's higher education system, like those the world over, is rapidly internationalizing. What was once mostly organically developed is now supported and championed by IHE, and the provincial and federal levels of government.

Canadian institutions are integrating international initiatives within their overall strategic mission, emphasizing curriculum development, partnership formation, and outbound student mobility. In contrast, provincial and federal policies market a "Canadian Brand" for international student recruitment and retention, with a strong impact on rates of international student recruitment and expansion of international demographics within faculties. More international students enroll at Canadian IHE than Canadian students head abroad.³

Canada has become a leading destination (in the top four) for international education, due to a combination of federal efforts, increased institutional focus, and recent geopolitical events in the United States, United Kingdom, and other parts of the world. Within Canada, Ontario has become a hub for international students, particularly around the Greater Toronto Area.

The University of Waterloo has a strong history of attracting international students. For example, it ranks among the top three institutions within Ontario regarding percentage of total on-campus international undergraduate and graduate students: between 20-29.9 percent.⁴

The 2014 survey of institutional internationalization, conducted by the then Association of Universities and Colleges of Canada (AUCC) and now Universities Canada, found that 82% of their members placed "internationalization and/or global engagement [as] among the top five priorities of the strategic plan or long-term planning documents." Furthermore, 72% of institutions were working on internationalizing their curriculum, up from only 41% in 2006.⁵ Following student mobility, the two main internationalization priorities for institutions are

academic research collaborations and strategic partnerships with institutions for degree offerings. This broad range of internationalization activities supports Knight's suggestion that "...it is usually at the institutional level that the real process of internationalization is taking place."⁶

B. Definitions and motivations

Internationalization is a broad concept, encompassing an array of attitudes, values, programs, and priorities that vary across institutional settings. With respect to higher education, internationalization refers to "the process of integrating an international, intercultural or global dimension into the purpose, functions (primarily teaching/learning, research, service) or delivery of higher education."⁷ Such a definition requires that internationalization strategies be continuously evaluated over time, and that motivations for pursuing internationalization be clearly articulated to all stakeholders.⁸

To encompass the large range of institutional settings in which internationalization plays out, Hudzik defines comprehensive internationalization as an institutional imperative that is "...confirmed through action, to infuse international and comparative perspectives throughout the teaching, research, and service missions of higher education."⁹ This definition emphasizes the integration of internationalization into institutional-level missions and values. Similarly, the American Council for Education's Centre for Internationalization and Global Engagement defines comprehensive internationalization as a strategic, coordinated process that "seeks to align and to integrate policies, programs, and initiatives to position colleges and universities as more globally-oriented and internationally-connected institutions,"¹⁰ outlined in further detail in Appendix E.

In addition to these definitions, there are external accreditation agencies that rank, define, and characterize institutional internationalization priorities. For example, the Times Higher Education (THE) ranks universities based on five categories, including one specific to international engagement called "international outlook". The specific metrics used by THE to measure international outlook are limited, however, overlooking organizations that may also engage in internationalization effectively, albeit in less quantifiable ways.¹¹ Nevertheless, in THE International Outlook, the performance indicators are grouped into five areas: teaching (the learning environment), research (volume, income and reputation), citations (research influence), international outlook (staff, students and research), and industry income (knowledge transfer). The University of Waterloo ranks 60th in the world for international outlook, and 7th in Canada.

Below are several motivators for internationalization that span geopolitical, economic, social, and reputational domains. Following this is a recognition of the potential challenges to internationalization initiatives, and how universities are meeting these challenges.

Geopolitical:

The internationalization of IHE has multiple positive geopolitical ramifications. Without being too idealistic, Deardorff outlines three value prepositions that are developed through international education and that, she posits, can assist in achieving global peace.¹²

- Respect, engaging in mutual relationships of co-learning
- *Ubuntu*, meaning to exercise empathy with respect to other cultures and ethical mores
- Neighbourliness, building real-life relationships with others outside the classroom.

Economic:

- Provincial and national economic development: contribution of international students through spending, as well as post-graduate participation in the skilled workforce.¹³
- Tuition fees: publicly-funded institutions benefit economically from international student recruitment through charging increased fees;¹⁴ revenue from international students is pertinent given the impact of broader political forces that can change how public dollars reach research institutions.
- Employment: increased desirability of candidate to potential employer upon undertaking an international experience, especially at initial hiring stages.¹⁵

Socio-cultural/reputational:

- *Benefits to research:* A diverse body of faculty and researchers increases the quality of research, knowledge capacity, and cultural understanding, in addition to providing more access to research funding and equipment.¹⁶
- *Benefits to institutional reputation:* Universities are able to attract extraordinary talent through pursuing increased international engagement and recruiting from a larger pool of prospective students. Growing international competition among IHE requires increased internationalization efforts that engage with global talent.
- *Individual development:* Engaging with different cultures at home or abroad can build intercultural competence, what Deardorff defines as: “effective and appropriate behavior and communication in intercultural situations ...”.¹⁷ Intercultural competence includes traits of critical-thinking, respect, curiosity, and empathy that are continuously developed over one’s lifetime. Studies have shown that the development of “global-ready citizens” leads not only to personal economic benefits (e.g., enhanced career opportunities), but also broader societal impacts (following the geopolitical benefits, noted above).
- *Academic debate:* Diverse voices add perspectives and viewpoints that contribute to cultural as well as intellectual debates on university campuses.

EAB interview institutions’ responses to the question about motivation for internationalization are outlined in Appendix D. Comparator institutions provided reasons for pursuing internationalization that were nearly identical to those found in the literature (listed above). One notable reason to pursue internationalization given by one institution was to contribute to the debate on free speech on campus.

Current challenges and opportunities

In today’s complex global context, risks are inherent, and universities must be vigilant and continue to support and to promote the values of academic freedom, reciprocity, quality, and access to academic opportunity. To do so, institutions must address challenges, such as:

- brain drain and brain train;¹⁸
- partnership sustainability; and
- engaging within different geographic contexts and their diverging value systems.

The most cutting-edge universities are attempting to do this through an integrated and focused approach. A combination of bottom-up and top-steered management, increasing senior leadership roles, new venues for international stakeholder engagement, fewer and more in-depth partnerships, and increasing alignment with university mission and goals has made internationalization efforts more inclusive and strategic.

In this next phase of internationalization, many universities are moving or have moved towards comprehensive internationalization supported by strategic institutional initiatives, focused on specific regions, institutions, targets, and metrics. This coordinated institutional international strategy has the tools, mechanisms (committees and councils), and resources (seed funding, strategic partners fund, etc.) to support it.

C. Key components of internationalization

In this section, we survey the contemporary landscape of internationalization in IHE by reviewing three of its key components individually. For each, we – as appropriate – define it and describe it fully; we also make reference to some “thought-provoking practices” observed around the world and from comparator institutions. We then use the literature and our Advisory Group members’ experiences to highlight some challenges and opportunities for each topic. Finally, the reader is sensitized to some relevant University of Waterloo-specific data (which are fully presented in Appendix B).

i. Internationalization on campus

We offer the term “internationalization on campus” (IoC) here to capture multiple dimensions of international elements on the home campus. In particular, we focus upon two distinct aspects, which are nevertheless connected: incoming international students, and internationalizing all students’ experiences.

Incoming international students

International students are key stakeholders with respect to internationalization initiatives on campuses, contributing to the diversity of the student body, while also benefiting from various IoC programs themselves. Canadian institutions, like their peers in Australia, United Kingdom, United States, France, and Germany, have seen a steady growth of international students on their campuses. This has been driven by intentional institutional and federal/provincial strategies over the last 10 years as well as geopolitical events in the last two to three years.

Best practices

Recruitment: Recruitment strategies for international students are varied. Traditional methods include the use of recruitment agencies with local contacts in different countries, direct face-to-face engagement between prospective students and university personnel, and leveraging existing or potential institutional partnerships. Other initiatives highlighted in the literature and EAB comparator institutions (Appendix D) include hiring recruitment specialists or managers, with or without specific geographic areas of expertise; utilizing alumni networks and chapters; English language pathway programs; high school summer camps; internship programs for high-achieving international students; and digital marketing. Online tools such as pay-per-click advertising, multi-lingual and accessible webpages, virtual tours, and virtual hangouts are also all effective and emerging recruitment strategies. Waterloo-specific data for international student recruitment numbers for 2016/2017 are outlined in Table 1, Appendix B.

Student experience: As international student populations and their associated fees grow, there has been an emphasis across Canadian institutions, including Waterloo, to enhance their student experience through programs and services delivered on campus. These programs can be arranged into two themes:

- Logistical services: English language development programs, academic integrity workshops, documentation (e.g., visa and immigration) assistance, and pre-university preparation programs
- Financial and supportive resources: cross-cultural counselling, mental health counselling, enhanced residence programs, financial aid, and scholarships in targeted countries for international students.

Current challenges and opportunities

Diversity: Much of the international student inflow to Canada, as is the case for leading institutions in Australia, United Kingdom and United States, is from China. In Canada, international students make up 10-30% of the overall undergraduate enrolment, with anywhere from 50-80% of those students arriving from the People's Republic of China. Given the importance of diverse perspectives in the classroom, institutions across the country are focused on diversifying the source countries of international students. Furthermore, engaging within a diverse pool of source countries mitigates the risks of drawing from only one dominant market source.

There are a few interesting strategies that comparator institutions highlighted, regarding increasing the diversity of the international student body (Appendix D, Table 1). One institution created a funding program for students from underrepresented countries. Other strategies included leveraging existing institutional partnerships, and increasing online marketing and recruitment efforts.

Local-global tensions: IHE have always been conscious of competition for admission between domestic and international students. However, it is important to not dichotomize domestic vs. international priorities, as universities engage across multiple geographic scales simultaneously, at different intensities.¹⁹ The target for international-to-domestic student ratios should nevertheless be negotiated at institutional and Faculty levels.

Accessibility: While international students are a significant source of income for universities, institutions risk overlooking talented students that may lack the financial means to be able to pay international student tuition fees. It is critical that the negative impacts of unaffordable education – for instance, missing out on prospective student talent, lacking diversity amongst the student body, and potential elitism – be avoided to the greatest extent possible.

Cross-cultural experience: Increasingly, institutions are attempting to build opportunity for intentional dialogue and exchange between international and domestic students, to enhance intercultural learning and overall student experience. At Waterloo, the lowest score for international student experience for the years 2013-2015, based on the International Student Barometer survey, was making friends with domestic students. Waterloo currently hosts two English conversation circles, run through the Federation of Students as well as the Student Success Office.

Internationalizing all students' experiences

The other key aspect of the internationalization on campus element is the effort to ensure that all students – including that majority of students that may not have an experience abroad as part of their university education – become more globally and culturally-aware. This is often referred to as the “internationalization at home” (IaH) agenda (which here we present as part of the broader IoC agenda).

Internationalization initiatives on campus seek to: “redefine classrooms and campuses as environments and experiences that are intentionally designed to promote intercultural, international and global learning”.²⁰ IaH activities can include, but are not limited to: “...the teaching learning process, research, extracurricular activities, relationships with local cultural and ethnic community groups, as well as the integration of foreign students and scholars into campus life and activities.”²¹ There are multiple discussions regarding appropriate definitions of the term, “internationalization at home”.²² Moreover, there are two venues for IaH program development:²³

- *Curricular*: Move beyond simple lecture material, to active engagement with diverse perspectives, and immersion within different cultures or values.
- *Co-curricular*: Co-curricular programs such as: service-learning, community meal-sharing, book or cultural clubs, multi-stakeholder debates, foreign film showings, and intramural sports, among other examples, are effective venues for intercultural exchange and meaningful interaction.

Best practices

Comparator institutions have numerous opportunities, incentives, and priorities for on-campus international engagement (Appendix D, Table 1). Several institutions host international weeks, cafés for domestic-international student socializing, international speaker series, and academic accreditation for engaging in international programs. Other institutions place almost exclusive focus on internationalizing the curriculum, through increased diversity of language courses as well as international-themed majors. In the context of the University of Waterloo, an inventory of current activities and engagement in this area will help refine strategies and initiatives that may be considered for further developing this aspect of IaH.

Current challenges and opportunities

Measuring impact: Gathering robust quantitative data regarding IaH initiatives is a challenge, given the lack of clarity surrounding what constitutes an “international experience”, as well as the subjective nature of such experiences. Literature recommends that an array of tools be used to assess curricular and co-curricular learning, including: surveys, interviews, oral presentations, and summative projects.²⁴ Moreover, it is suggested that program evaluation occur on an ongoing basis, with multiple qualitative, quantitative, indirect, and direct methods used, such as: e-portfolios of work over the term, evaluation of self-created learning contracts, instructor observation, critical reflection, and submission of key experience-related deliverables.²⁵ Institution-wide student surveys could be useful in generating robust, statistical qualitative data regarding international student experience and support.

There are several undergraduate programs at Waterloo that significantly incorporate intercultural dimensions into their learning objectives, including the Global Business and Digital Arts program, and Global Engagement capstone seminar. Waterloo also hosts many co-curricular internationalization initiatives, run through Waterloo International, the Student Success Office, and the Federation of Students. These programs include: International Education Week, a fund for innovative “internationalization-themed” projects, and a Global Experience Certificate, in addition to forty student-led cultural clubs on campus.

ii. Internationalization abroad

Internationalization Abroad (IA) is a term used to refer to the mobility of individual university members – students, staff, and faculty – across international borders. In this section, we focus upon the student experience. Before that, however, note that the value of international experiences for staff members (beyond those in international offices or international-related functional areas) is increasingly attracting attention in both theory and practice.²⁶ Indeed, the University of Waterloo – through development of the Staff International Experience Fund – has contributed to this discussion, and it is critical to any strategy for Comprehensive Internationalization. Faculty members, moreover, often engage in international travel, and we return to this issue in the discussion around international partnerships (in the next section). Here, however, our focus is upon outbound student mobility.

IA for students encompasses a broad range of programs and initiatives, from the traditional student exchange programs, to faculty-led short term study abroad, work placements, research internships, and summer programs. Longer-term academic courses and programs (2+2 or 3+1 years) at the undergraduate level, or dual degrees or joint supervision at the graduate level, are other examples of IA experiences. Increasingly, students are demanding non-traditional education abroad opportunities to complement their education at home. However, there are many financial, academic, cultural, personal, and logistical barriers to studying abroad.

Best practices

Globally, several IHE are setting targets and programs to increase international student mobility. The National University of Singapore, for instance, already has a 70% participation rate in outward-bound student mobility and is looking to increase this number to 100% of students who wish to have an international opportunity during their undergraduate years. The United Kingdom and Australia are looking at national targets of 20-50% participation.

Institutions in Canada are also setting specific growth targets to increase student international mobility; moreover, many are increasingly providing incentives for student and faculty participation. Institutions such as UBC and U of T have 16-23% participation rates and have increased their targets for outward mobility for 2020 to 22-30%. In addition to quantitative targets, institutions are working on developing qualitative measures to assess learning outcomes, and degree programs that incorporate international study, work, and language acquisition. Examples of such programs include the University of Toronto Scarborough Campus's Management and International Business program, in addition to the University of Waterloo's Master of Arts in Intercultural German Studies. Other institutions have developed outbound programs of different lengths, supported to various extents. For example, short-term immersion programs may be offered in addition to traditional exchanges, at no or minimal cost to students. Advertising such opportunities is critical for successful student engagement. Furthermore, accreditation initiatives, such as certificates or receipts of global engagement, incentivize student participation.

Across many EAB comparator institutions, outbound student exchange was viewed as a significant priority, especially with respect to institutional partnership development. Strategies employed by comparator institutions are outlined in Appendix D. Waterloo-specific data regarding domestic student mobility are presented in Appendix B, Table 2.

Current challenges and opportunities

Definition of “international experience”: International experiences are hard to define. For example, students may interact with others of a different culture, or engage in international-themed courses or academic units on their home campuses, without traversing a border. Additionally, factors such as type of experience (e.g., exchange, co-op work term, or course), duration of experience (e.g., years, months, weeks, days, or even hours), and location (e.g., regional, national, continental, or cross-continental) influence the transformative potential of the international experience.

The Canadian Bureau of International Education defines International Education as: 1) learning activities (curricular, co-curricular or extra-curricular) which focus on other countries or cultures; 2) any educational activity (full-degree or short-term) which occurs outside the student’s home country. A University of Waterloo specific definition for international experience was not found, though Waterloo’s International Experience Award has a list of “eligible international experiences”.

EAB comparator institutions similarly expressed lack of clarity regarding a definition of “international experience”. Examples of international experiences ranged from intercultural food festivals and volunteering in the International Office, to multi-semester internships or study abroad opportunities. Only one school quantified international experience, as a period of contact of over 39 hours (based on a three-credit course being approximately 39 hours of instruction). Similar to Waterloo, another institution offers a certificate in international learning, although students can receive this designation without travelling outside the country.

Accessibility: There are several barriers for students to access international opportunities. First, international experiences are expensive: often prohibitively-so. Additionally, international experiences may come at the expense of other paid opportunities, requiring students to prioritize their university experiences. Institutional-wide funding schemes, as well as the generation of target numbers for participation, is a topic for further debate and discussion. Other barriers are institutional in nature. For example, while the co-op program is a widely-successful source of student mobility at Waterloo, it also makes other programs such as exchange more logistically challenging given graduation requirements. Additional concerns include ensuring the safety of those students that travel abroad.

iii. International partnerships

Universities are increasingly focused on developing strategic partnerships, given limited access to resources, the prominence of global-scale research questions, and the emergence of greater socio-economic opportunity through cross-border collaboration. While faculty members continue to engage around the world for research, scholarship, and educational opportunities, institutions are beginning to develop a more targeted approach to partnership formation. Institutions leverage previous histories of institutional engagement, align themselves with other institutional cultures, and prioritize partnerships to meet faculty, student, and disciplinary needs. This leads IHE to place focus on specific regions, countries, institutions, and thematic areas.

Furthermore, partnership formation has shifted from IHE pursuing many ‘weak’ partnerships, to fewer “strong” partnerships. This has occurred as numerous institutions, including several within Canada, have recognized the value in building mutually-beneficial partnerships with similar caliber institutions.²⁷ Such strategic partnerships are made at the institutional level, with

formal agreements. These partnerships are centrally-funded and span a range of activities and departments.

The next four subsections examine the motivations for strategic partnerships, how to prioritize partnerships, how to maintain partnerships, and how to engage international alumni to support partnerships. Waterloo-specific data regarding partnerships and alumni engagement are catalogued in Appendix B, Table 3.

Why pursue strategic international partnerships?

In “[Internalization and Action](#)” (pdf, 239KB), Gatewood and Sutton outline a multitude of reasons for the pursuit of strategic international partnerships:²⁸

- *Academic and reputational*: increased student access to intercultural experience contributes to global learning and employability, as well as to university rankings.
- *Research and funding*: given recent pushes for large-scale interdisciplinary research to tackle global issues, institutions require greater research capacity and funding, without individually having to make prohibitive investments. Funding agencies also have a role in streamlining global collaborative opportunities. For example, NSERC has partnered with the German DFG to provide funding for coordinated proposal submissions.
- *Institutional development and service*: expanding markets is necessary to meet educational and experiential demands; additionally, institutional partnerships foster international diplomacy.

Other benefits from creating strategic international partnerships include access to new target markets and expanded teaching capacity. The partner may act as: an anchor for a key region, linking institutions to the regional ecosystem or the local ecosystem; a key international partner in one or more strategic research initiatives (e.g. Canada First Research Excellence Fund); and a key partner in transforming learning opportunities for students in accordance with the strategic plan.

With respect to research, it is increasingly argued that the most highly-cited, publicly-recognized inquiry is created through international collaboration. According to a recent commentary in *Nature*, research has entered a “Fourth Age”, with international collaboration leading the way.²⁹ Today, one in five of the world’s scientific papers are co-authored internationally, and in Canada over 47% of scientific papers have an international co-author. According to the British Council, “80% of countries’ research impact is explained through their collaboration rate, i.e.: the higher the international research collaboration rate, the higher the impact of the research output.”³⁰ The citation impact for Canada’s internationally co-authored publications is considerably higher than its domestically co-authored publications.

Shrinking government resources for research and education have also led universities to increase recruitment activities and secure resources through collaboration with international governments, industry, alumni, and foundations. Through internationalization efforts, universities are pooling resources to create joint labs, collaborative funding proposals to funding agencies, and are also exchanging highly qualified talent in what is being termed “brain chain”. Indeed, according to Edelstein and Douglass, it is increasingly difficult to identify any area of study that does not in some way require global relationships and connections.³¹

Partnership prioritization

As IHE increasingly engage with each other across national boundaries, it is important to critically evaluate the type, location, and degree of partnership that is built. Undertaking this prioritization process will foster the most meaningful and mutually-beneficial partnerships.

Best practices

Comparator institutions outlined several strategies for partnership formation (Appendix D). Existing Faculty research contacts were widely used to leverage more formalized, strategic agreements. Additionally, most institutions stressed the importance of comparability between institutional goals. One institution's targeted approach - which methodically reached out to potential institutions from all regions of the world – stands out, as it diversifies regional connections.

Current challenges and opportunities

Prioritization process: The literature suggests that, prior to selecting and prioritizing partnerships, universities should evaluate how research partnership goals align with institutional goals and values. These goals may be reputational, economic, student-centered, or social-justice in nature. Selection of potential partner institutions is based on a top-down as well as a bottom-up approach, cognizant of institutional-level and disciplinary needs.

Common factors to consider when selecting potential partners include similar rank and reputation. Taylor observed, through interviews with senior leaders in various IHE, that they view partnerships with institutes of greater standing as higher quality.³² However, the relative standing between potential institutions and departments should be taken into consideration when prioritizing partnerships, as some partnerships are more realistic (closer in relative standing) than others.

Other factors to consider include mutual interest between faculty at both institutions, considering the extent to which there is interest from multiple Faculties and the potential identification of faculty champions, as well as alumni and donor opportunities. Some institutions also incorporate student input into determining the location, type, and focus of partnership.

Location: Potential partnership institutions may also be strategically selected based on their geographic region. Economically, tapping into new markets may be beneficial for an institution. Additionally, internationalization efforts might benefit from acknowledging the government's economic and international development priorities, through increased access to research funding and governmental support. There is a growing shift from the "Atlantic Axis" to Asia and other parts of the world due to the rise of emerging scientific powerhouses in these regions.³³ Finally, studies on institutions within the United States observe tendencies toward building partnerships with institutes in Western Europe, and more recently within Asia, Sub-Saharan Africa, and Latin America, while neglecting areas of the Middle East, Northern Africa, and East-Central Europe.^{34,35} Though Canadian institutions may have different geographic biases, this research highlights the importance of critically evaluating partnership foci to determine over- and under-represented geographic areas and academic fields, based on institutional and departmental priorities.

Partnership type: The activities with which each partner institutions engages is largely contingent upon their decision as to what type of partnership they wish to pursue, varying across an array of research, academic, and student mobility programs. There are numerous activities with which partner institutions may engage:

- one-way or two-way student and faculty mobility;
- collaborative education and research opportunities;
- research fundraising;
- creation of jointly-owned institutions;
- capacity-building projects: research and teaching training;
- cooperative and collaborative degrees;
- collaborative, intercultural teaching, and academic operations;
- build relations with other non-local stakeholders, including businesses or communities near the partner institution; and
- political lobbying.

Partnership outreach and upkeep

Given the increasing interest toward developing stronger, more in-depth strategic partnerships, it is important to reflect on best practices toward procuring and maintaining those relationships. This is done through a combination of regular communication, resource allocation, and continuous tracking and evaluation of partnership outcomes.

Best practices

There are several individuals and innovative programs that could be considered throughout this process of partnership-formation: ^{36,37}

- At the institutional-level, it is recommended that senior level positions be established for oversight of specific partnerships, the development of new relationships, and the maintenance of university-level goals.
- International offices might benefit from providing consultation services to faculty and departments regarding international collaboration.
- Established campus-wide databases can track potential collaborative opportunities.
- Mainstreaming international partnership formation into institutional goals ensures that academic rigor is upheld at-home and abroad, and that the overall mission of the university is included within partnerships.
- Taylor outlines a series of strategic components for IHE to follow in the development of a partnership, emphasizing the importance of strategy, making face-to-face connections between upper university administration, drawing up formal contracts, and continuous critical engagement with partnership members and outcomes.³⁸

Comparator institution strategies are outlined in Appendix D. Across all institutions, senior level positions initiate potential contact with other universities, and in most cases an individual is assigned to nurture a specific partnership. Additionally, most institutions utilize, or are hoping to develop, online databases of international collaborations.

International alumni engagement

International alumni remain a vital component for securing university funds, recruiting potential students, supporting students abroad, connection graduates to industry, and establishing networks between institutions at home and abroad.^{39, 40} It is critical to assess international alumni engagement strategies that build long-lasting and mutually-beneficial relationships.

Best practices

There are several unique programs with which comparator institutions are engaging international alumni (Appendix D). Across most institutions, efforts are made to establish strong connections with a small number of alumni. One comparator institution directly works with alumni to determine the impact of their donation, and has also set up a program through which the institution provides contract funds to alumni involved in revenue-generating projects. Another comparator institution asks alumni to assist with potential candidate interviews overseas. Waterloo currently offers volunteer opportunities for alumni to engage with Waterloo's internationalization efforts through the Office of Advancement. This is in addition to a Global Ambassador Program, in which alumni support recent graduates in another country.

Current challenges and opportunities

There is less literature on the potential strategies for international alumni engagement. Coolman suggests that IHE pursue alumni recruitment strategies that are more targeted and strategic.⁴¹ In lieu of broadly soliciting international alumni, it is recommended that institutions target smaller groups and provide tangible benefits for participation.

D. Integration

To this point in the paper, internationalization has been examined in disparate ways: on campus, abroad, and through formalized partnerships. However, it is important to consider how these various arenas combine to advance internationalization, as a whole, across institutions.

To begin, as a key metric, internationalization is a benchmark for prospective students, researchers, and faculty members. As such, top-tier universities continuously recognize internationalization as a strategy to distinguish themselves amongst their peers in an extremely competitive global environment for higher education. For example, the University of British Columbia advertises itself as the “most international” university in North America. It is important that all stakeholders within the university community recognize internationalization as a key strategic priority, given:

- Waterloo's commitment to advance its internationalization agenda
- The various humanistic, economic, and reputational benefits of incorporating diverse perspectives into academic and research exchange.

Moreover, Waterloo should determine what features distinguish it from other institutions, globally. Well-known for its applied-technological and scientific research, innovation, and entrepreneurialism, Waterloo is engrained within international networks of product, knowledge, and service exchange. These qualities, as part of the University's overall brand, can be leveraged and considered for strategic planning of international initiatives.

However, internationalization need not always be a competitive phenomenon. Key components of internationalization include advancing cross-border collaboration, fostering intercultural understanding and empathy, and advancing knowledge developments regarding key issues of global significance, among others. Internationalization must be contextualized within the university's broader mission, goals, and values.

Additionally, IHE should recognize the role of internationalization strategies in responding to, and being shaped by, broader geopolitical events. Given recent trends in immigration policy, intercultural conflict, and increasing xenophobia across the globe, Waterloo should recognize the potential of internationalization to contribute to positive international relations and intercultural knowledge exchange and development.

In terms of international partnerships, as IHE seek to develop fewer, more robust, collaborative relationships, it is critical to determine *who* potential partners are, *what* constitutes the relationship, and *how* these partnerships are maintained and negotiated over time. Such strategic partnerships require numerous human and financial resources, cooperation, and collaboration across all levels of university administration and Faculties. With respect to Waterloo, some potentially desirable qualities for institutional partners include: research-intensiveness in broad range of disciplines; engagement in cutting-edge interdisciplinary research; strong domestic, regional, and global profile (partnering with those in the world's most innovative regions and institutions); and institutional priorities and values that align with Waterloo. Additionally, priority may be placed for members of key global networks in research, education (e.g., International Alliance of Research Universities), and advocacy or policy (e.g., World Economic Forum's Global University Leaders Forum).

Examples of institutions that have successfully integrated their internationalization efforts include University College London and the University of Toronto. University College London embarked on a revamping of its institutional international strategy, led by its vice-provost international, in 2015, as part of the overall strategic framework "UCL 2034". Partnerships anchored UCL's approach to global engagement. As UCL was mindful that a large, diverse, and multi-faculty university can have a large impact in many disciplines and locales, but can only have a smaller cross-institutional impact, it intentionally left space for individual initiatives. UCL also rebranded its office, functions, and scaled up staffing based on the partnership model to global engagement. The key theme was to ensure UCL was greater than the sum of its parts.

Similarly, the University of Toronto, in 2013, identified international partnerships as one of three priorities of the new president, building on the University of Toronto's "Towards 2030" vision document created in 2008. To strengthen international partnerships, the University of Toronto created the newly established role of vice-president international, which is a senior academic leader; this individual is supported by two associate vice-presidents who each also have a secondary reporting relationship with either the provost or the vice-president, research (respectively). There is also further integration with international recruitment, the Centre for International Experience, international advancement, global media relations, and all Faculties and divisions.

How institutional goals integrate individual unit goals is another important area of consideration in the development of a strategic internationalization plan. A case study of one institute within the United Kingdom concludes that sharing common values and goals among administrators, marketers, and faculty is critical to achieving successful internationalization.⁴²

While central university and Faculty-specific goals are important to consider for successful internationalization, so too are the perspectives of students. While quantitative data such as the number of international students or outbound international experiences give indication of successful internationalization efforts, so do data regarding the quality of those experiences and their impact on those who participate. Moreover, students' perspectives are invaluable regarding the type of international opportunities they seek, and the support with which they need to succeed during these experiences.

Finally, institutions should be cognizant of emerging resource developments for higher education at a global scale. Communications technologies allow international students to enroll across the globe, without ever having to necessarily step foot onto their home campuses. These developments have opened numerous student markets and opportunities for international

engagement. Second, financial resources play a role in the development of internationalization strategies. National and provincial priorities can shape how funds for international research and education are distributed.

3. Cross-theme linkages

Issues associated with internationalization in higher education in general – and at the University of Waterloo in particular – have connections with the other themes investigated as part of this strategic planning process. In this section, the most salient links are identified.

Given that approximately one-quarter of the University of Waterloo's students attend on international visas, any theme focusing upon students' experiences at the University of Waterloo requires international perspective. Discussions regarding the student learning environment, undergraduate learning, and graduate studies all need to be cognizant of this and be thoughtful of the fact that a significant proportion of the student population does not necessarily have experience of Canadian society (including its legal, economic, and various socio-cultural elements). Similarly (and this will be expanded upon below), many of our domestic students may not have interacted extensively with people from around the world. Thus, literature, practices, and issues (both challenges and opportunities) discussed in section 4.C.I of this paper (Internationalization on Campus) are particularly relevant.

Additionally, changes in the world mean that individuals are wanting to become – and are needing to become – “global-ready citizens”. While this applies to all members of the University of Waterloo community, it particularly applies to our students who travel abroad every year; local, provincial, national, and international bodies are calling for that number of outbound students to increase. Consequently, students' academic and nonacademic activities abroad will become even more important parts of their University of Waterloo experience. Thus, once again, student-focused theme papers should be informed by the discussion in, in particular, section 2.C.ii of this paper (Internationalization Abroad).

As noted in this paper, research is already internationally-intensive, and current trends suggest that that will only increase in the future. Consequently, discussions about research excellence and crossing interdisciplinary boundaries need to be aware of the ways in which international partnerships – as discussed in section 2.C.iii of this paper – are part of universities' strategies for engagement abroad.

People are at the core of the University. The diversity that is characteristic of the University of Waterloo community (particularly, in this instance, the nationality- and jurisdictional-diversity among its students, faculty, and staff) – combined with the global reach of all University constituents' activities – mean that intercultural understanding, communication, and appreciation is critical. As the campus works to empower people to work effectively internally and externally, acknowledgement of its international nature – as reflected in multiple sections of this paper – will be vital.

Finally, internationalization has an impact upon the University's financial balance-sheet. There are, for instance, examples of additional income (e.g., international student fees, international research grants) and additional expenses (e.g., international mobility, accommodating a more heterogeneous campus). Moreover, given that internationalization is a means to an end, there will inevitably be instances in which it is one of many factors that contribute to a particular strategic outcome. Governance mechanisms therefore need to be aware that tangible benefits (“campus wins”) may not necessarily be able to be traced back directly to contributing

internationalization actions. Thus, as strategies on-campus develop to leverage resources – to avoid duplication, and to ensure that any particular action is done at the appropriate level (university, Faculty, unit, individual), etc. – open discussion about the ways in which internationalization contributes to the University of Waterloo’s mission needs to take place.

4. Summary and questions for discussion

Internationalization presents itself as a strategy and an opportunity through which to address some of the world’s most pressing challenges and its most promising opportunities. This issue paper is an attempt to amalgamate the current thinking, practices, challenges, and exciting developments surrounding internationalization, as the University of Waterloo begins its consultation process for the 2020-2025 Strategic Plan.

The University of Waterloo would benefit from developing concise answers to some of internationalization’s most pertinent questions. However, this requires contemplation on the part of the entire Waterloo community. The integration of institutional-level and individual-level goals is vital to pursue effective international engagement.

Waterloo is in a strong position within Canada, and the world. The University’s deeply embedded international partnerships, student mobility programs, and on-campus initiatives provide an outstanding foundation from which to grow. However, other institutions are also prioritizing internationalization, with innovative, successful strategies.

The strategic planning process gives the University community an opportunity to reflect on how the University of Waterloo will remain a globally significant university engaged in tackling complex global challenges, providing innovative learning opportunities, and enhancing global fluency and intercultural learning and understanding for its students. Internationalization is, of course, not an end in itself. It, in whatever forms it takes, serves to advance the University’s mission more effectively than would otherwise have been the case. A strong international outlook and vibrant international engagement are vital to the University of Waterloo’s global excellence and the success of the institution and its people. Faculty, students, staff, alumni, members of the board of governors, friends, and influencers will all be critical to fostering a globally-minded and globally-engaged community to enable the University to fulfill its core mission of research, education, and service for the benefit of its students, researchers, and society at large.

Entering the consultation-phase, University members should evaluate institutional goals to pursue internationalization, define ways to augment the University’s international ranking, determine a suite of metrics to assess program outcomes, and implement methods to advance intercultural connections at home and abroad. It is our hope that this issue paper presents a base from which to answer the following thematic questions, listed in no particular order or of priority, raised through the practice of internationalization:

Vision, Mission, and Goals

- What ought to be the goals, values, and motivations/drivers for Waterloo’s international engagement (e.g., preparing global citizens, contributing to global challenges, knowledge, discovery)?
- Should global/international learning be articulated as part of Waterloo’s vision, mission, or goals?

Leveraging our unique characteristics (location, innovation-driven, demographics)

- What are Waterloo's unique contributions to the world and how can they contribute to Waterloo's international engagement?
- Does Waterloo's unique characteristics and the accompanying ecosystem facilitate certain kinds of international interactions with particular region(s) and institution(s) (e.g., innovation driven countries, cities, institutions, diaspora, diversity)?

Profile and reputation

- What activities should Waterloo engage in to build its profile and reputation globally?

Students

Experience of international students

- How do we enhance the experience of international students on campus?
- What are some challenges facing international students and what strategies could be in place to maximize their student experience?

International experiences / intercultural learning opportunities for all students

- How can Waterloo facilitate meaningful intercultural opportunities on campus?
- What are some strategies to help domestic and international students learn from one another inside and outside the classroom?
- How do we ensure access and create a broad set of international opportunities and engagement for our students (e.g., short and long-term semesters abroad, research internships, service-learning, work, and joint academic programs)? What kinds of incentives should be in place?
- How do we communicate the value of an international/intercultural education?

Recruitment of international students

- How important is it to ensure a diverse student body?
- What should Waterloo's international student ratios be (undergraduate, graduate)?
- In which countries/areas should Waterloo focus its recruitment efforts (e.g., graduate, undergraduate, disciplines, gender, socio-economic status)?

Faculty and staff

- How can Waterloo support/increase faculty members' engagement in the international component of their research? Of their teaching/learning? Of their service?
- How can Waterloo support departments' and Faculties' and Centres'/Institutes' engagement in the international component of (as applicable) their research? Of their teaching / learning? Of their service?
- What tools and resources are needed for faculty/staff to create a more inclusive teaching and learning environment?
- How can Waterloo facilitate access to international opportunities for faculty and staff?

Alumni

- How can we engage our global network of alumni in support of our internationalization efforts?

Research

- How can Waterloo's international engagement best contribute to advancing knowledge in all areas of scholarship?
- What are Waterloo's unique research contributions to the world?
- On what global issues/outcomes, can Waterloo's research have a meaningful impact?

Partnerships

- Waterloo cannot be everywhere in the world. At the institutional level, where should Waterloo focus its efforts? Why?
- Where and how should Waterloo prioritize/select its institutional international partnerships (e.g., by sector, by geographic region)? How should the focus be decided?
- What criteria or metrics should be used for deciding whether to pursue potential partnerships?

Structure and resources

Organizational structure

- Where does/should the primary responsibility of internationalization lie?
- What management and organizational structures need to be in place for effective internationalization at Waterloo to take place?

Coordination

- To what extent does synergy exist among the various international activities and programs on campus?
- How can cross-campus, cross-disciplinary linkages on international activities and programs be facilitated and shared with the community at large (e.g., communication channels, systems, procedures, structures)?
- What role can the institutional-level international office play in supporting Faculties and other academic support units in their internationalization efforts?

Incentives

- What incentives (e.g., mechanisms, process/procedures, funds) need to be in place to support internationalization for the scholar/researcher, Faculties, and at the institutional level?

Evaluation

- What are the strengths and weaknesses of the institution's current efforts to internationalize? What opportunities exist for advancing internationalization?
- What criteria/metrics should be used to measure success in advancing internationalization?

Additional Comments

- Please provide any additional comments, suggestions, gaps, limitations related to University of Waterloo's international engagement.

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FULL LIST OF ACRONYMS

Abbreviation	Full Name
AUCC	Association of Universities and Colleges of Canada now Universities Canada
DFG	The Deutsche Forschungsgemeinschaft
EAB	Education Advisory Board
IHE	institutions of higher education
IA	internationalization abroad
IaH	internationalization at home
IoC	internationalization on campus
IP	international partnerships
MIT	Massachusetts Institute of Technology
NSERC	Natural Sciences and Engineering Research Council of Canada
NUS	National University of Singapore
SIO	Senior International Officer
THE	Times Higher Education
UBC	University of British Columbia
UCL	University College London
UofT	University of Toronto

Appendix A. Literature review methods and additional sources of interest

Literature review search methods

A search of scholarly published literature was conducted using the Education Resources Information Center (ERIC), Scopus, Web of Science and Google Scholar databases. The unpublished literature was searched using Google as well as selected higher education websites, such as Universities Canada, and internationalization associations and conferences, such as NAFSA. The search strategies focused on the main concepts “internationalization” and “higher education” which included the search terms (Internationalization OR internationalization OR globalization) AND (higher-education OR post-secondary OR university OR academic institution). The search strategy narrowed to several subtopics, guided by the issue paper research questions (Appendix C), such as intercultural, rationale, best-practices, strategic planning, strategic partnerships and regional representation, as well as associated synonyms. The search was limited to literature from the past 4 years, written in English, and the articles’ title-abstract-keywords. The search results were scanned for relevance with a focus on systematic reviews, literature reviews, handbooks, reference materials and books reviews, however, primary research was included with relevant.

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Appendix B. Waterloo data

Table 1. Internationalization on campus

Indicator	Value	Source
Number of international undergraduate students (percentage of total), 2016/17	5,398 (18.0%)	Waterloo Strategic Plan reporting
Number of international graduate students (percentage of total), 2016/17	1,668 (38.5%)	Waterloo Strategic Plan reporting
Number of faculty members with an international citizenship (percentage of total), 2016/17	343 (27.8%)	Waterloo Strategic Plan reporting
Percentage of faculty with a degree from outside of Canada, 2017	>50%	Waterloo Strategic Plan, Progress and Outcomes, Fall 2017 Update

Figure 1. Top 10 new undergraduate student source countries 2016/2017 by percentage of total international student population

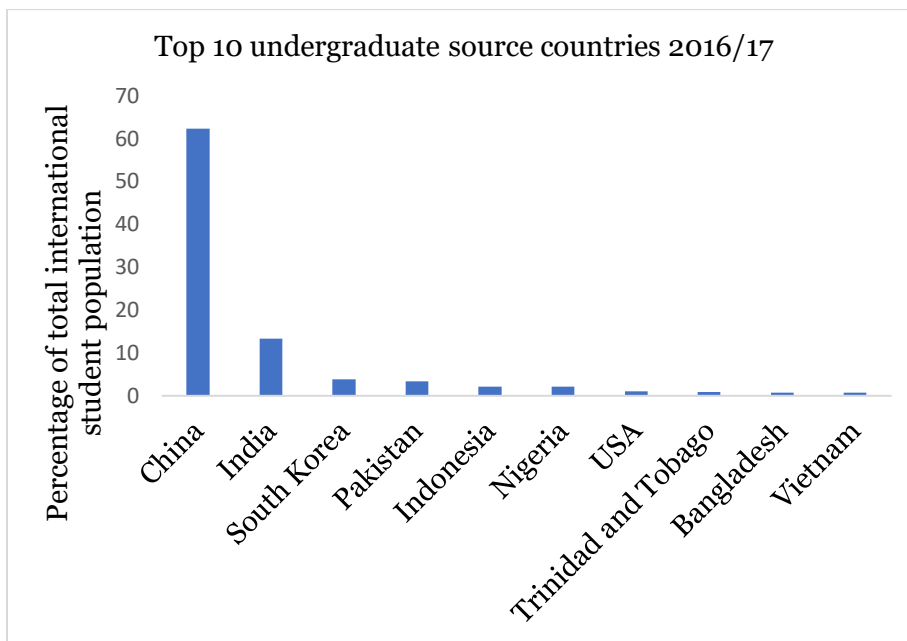
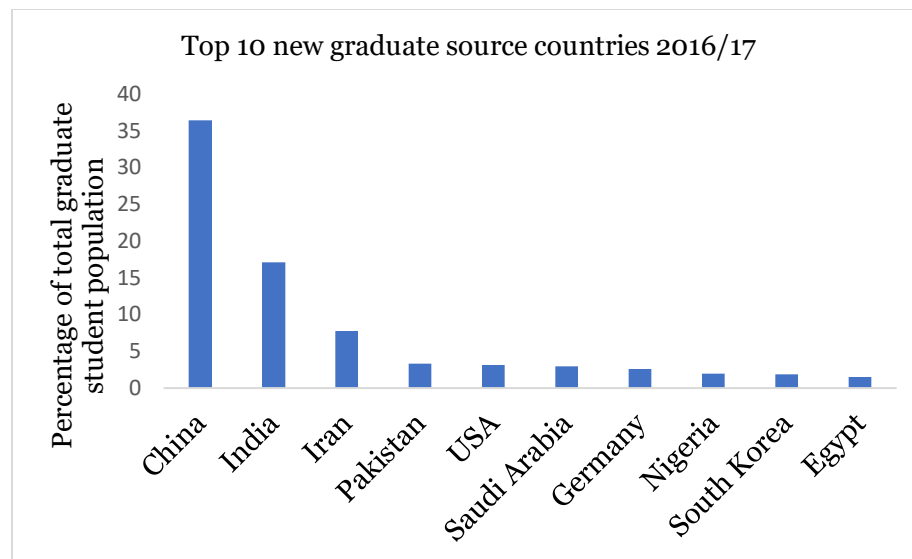


Figure 2. Top 10 new graduate student source countries 2016/2017 by percentage of total international student population**Table 2. Internationalization abroad**

Indicator	Value	Source
Number of students participating in non-co-op outbound international experiential learning programs, 2016/17	961	Waterloo Strategic Plan reporting
Number of co-operative education work-terms located internationally, 2016/17	2,653	Waterloo Strategic Plan reporting
Number of participants in the Staff International Experience Fund (countries visited), 2014-2016	9 (9)	Waterloo Strategic Plan, Progress and Outcomes, Fall 2017 Update

Student exchange and co-op exchanges remain an important component of internationalization efforts at IHE, such as the University of Waterloo. 2016/2017 data regarding the University's success in this area of internationalization are promising: 75% of Waterloo students are on co-op and therefore, in order to get more participation in outbound mobility or developing global mindset for our students, we need to be creative in thinking about the kinds of initiatives offered by the University. Often, programs offered at partner institutions do not work for Waterloo students due to duration, or time of year. Further, Waterloo must consider alternatives to reciprocal exchanges and balance movement of students between institutions through complementary options (exchange for work term etc.).

Table 3. International partnerships

Indicator	Value	Source
Agreements with universities ranked in the top 100 (QS), 2016/17	37	Waterloo Strategic Plan reporting
International research funding, 2016/17	C\$17.4 million	Waterloo Strategic Plan reporting
Number of co-authored publications with top international country partner (country partner, percentage of total), 2014-2017	3,213 (United States, 19.5%)	SCOPUS
Number of joint academic programs with international partner universities, 2017	40	Waterloo Strategic Plan, Progress and Outcomes, Fall 2017 Update
Number of international delegations hosted, 2016/17	>60	Waterloo Strategic Plan, Progress and Outcomes, Fall 2017 Update
Number of contactable alumni, international (number of countries), 2016/17	17,115 (144)	Waterloo Strategic Plan reporting

Appendix C. Research questions and comparator institutions

The following is a set of research questions that were developed to inform the literature review, as well as the interview process with comparator institutions. These questions are intended to address the three broad themes of: IoC, IA and IP, in addition to a general review of the literature on internationalization, broadly.

General overview (definitions and motivations):

1. Do comparator institutions operate under a single definition of “international experience”?
 - a. If so, how do comparator institutions define “international experience”?
2. How does internationalization and the intercultural experience help fulfill the mission of comparator institutions?
3. In general, why do comparator institutions pursue and prioritize internationalization?
 - a. Are comparator institutions able to measure a direct cost benefit of these efforts?
4. How do comparator institutions balance institution-wide internationalization goals with those of individual units?

Internationalization-on-campus:

5. What are the most effective initiatives comparator institutions pursue to facilitate the following components of internationalization? How do comparator institutions track and measure the success of these internationalization initiatives?
 - a. International recruitment
 - b. On-campus international/intercultural experiences
6. Are comparator institutions satisfied with the diversity of countries and regions represented among its international student population?

Internationalization abroad:

7. What are the most effective initiatives comparator institutions pursue to facilitate the following components of internationalization? How do comparator institutions track and measure the success of these internationalization initiatives?
 - a. Student exchanges and co-op education and other experiential learning
 - b. International alumni engagement

International partnerships

8. What are the most effective initiatives comparator institutions pursue to facilitate international research? How do comparator institutions track and measure the success of these internationalization initiatives?
9. What strategic partnerships do comparator institutions have with international institutions?
 - a. How do comparator institutions prioritize these partnerships?
10. What internationalization strategies do comparator institutions employ to reach and collaborate with different regions of the world?

a. Which strategies have proven most effective?

Institutions were selected as potential comparator institutions from which the University of Waterloo can draw inspiration. The Education Advisory Board (EAB) was selected to conduct the interviews with the Senior International Officer (SIO) of these institutions.

- Indiana
- UBC
- Illinois (Urbana-Champaign)
- U of T
- McGill*
- Michigan
- University of Cincinnati*
- Simon Fraser University
- Yale University*
- University of Alberta*
- University of Calgary
- University of Ottawa
- Queens University
- Western University*
- University of Oregon*
- The Ohio State University
- Jackson State University
- Florida State University
- University of Iowa

*EAB interviews were only conducted with these six institutions.

Appendix D. EAB comparator institution responses summarized

Theme		Responses
Motivations to engage in internationalization		<ul style="list-style-type: none"> • Enhanced institutional reputation • Greater quality of research, teaching and intellectual debate • Personal development for all university community members • Contribution to global issues of significance
Internationalization on campus	International student recruitment and diversification strategies	<ul style="list-style-type: none"> • Leverage institutional and alumni partnerships in key geographic areas of interest • Partner with high schools • Build online presence and virtual tours • Utilize English language pathway programs or student exchange as pipelines
	Programs to internationalize all students' experiences	<ul style="list-style-type: none"> • Co-curricular accreditation systems • Degree programs (e.g. cultural studies) that integrate international themes • Cafés for domestic and international student socializing
Strategies to send members abroad		<ul style="list-style-type: none"> • Guaranteed funding (\$1000) for all students with a specific GPA in third year • Government-issued passport funding and application assistance • Co-curricular accreditation systems • Degrees that require significant study abroad components • Leverage partnerships for faculty, staff and student exchange
Institutional partnerships	Prioritization process	<ul style="list-style-type: none"> • Work with faculty to develop existing partnerships • Target two or three institutions from each geographic region of the world • Use existing bibliometric data (e.g. co-authorship) • Work with non-university partners (e.g. research institutes)
	Partnership outreach and maintenance strategies	<ul style="list-style-type: none"> • Build opportunities for collaboration beyond research • Track partnership outcomes in database • Initial outreach is done through senior officials
	Alumni engagement strategies	<ul style="list-style-type: none"> • Establish global alumni chapters with logistical and financial support • One-on-one collaboration between alumni and university staff • Partner with alumni in revenue-generating projects abroad

Appendix E. Supplementary information

Metrics for internationalization

Much of the debate surrounding measurements of internationalization is centered around volume vs. impact. In initial waves of internationalization, priority was given to numbers and volume; however, the importance of impact and quality is increasingly recognized, albeit difficult to measure.

Quantitative data

There is scant academic literature on the use of quantitative metrics for internationalization. Metrics cover a range of on-campus, abroad, and research and academic partnership internationalization initiatives. The measures that are used to determine progress and cost-effectiveness of these initiatives are generally internally-determined, although external agencies play an important role in their formation. External university-ranking bodies such as THE or QS utilize less fine-grained metrics for adjudicating IHE.

- THE derives its “international outlook” rank primarily from: domestic to international student and faculty ratios, as well as the proportion of a university’s publications with at least one international co-author (THE, 2018).
- QS generates its metric from: number of international research collaborations (with universities in the top 500 QS world university rankings), percentage of international faculty, percentage of international students, number of religious facilities on campus, percentage of inbound and outbound exchange students, and diversity of home-countries represented by inbound students.

Qualitative data

The literature on qualitative tools for measuring the success of internationalization recommends an array of characteristics and metrics that differentiate meaningful from superficial encounters. Significant experiences move beyond simply throwing-together students from diverse cultures. Programs at home campuses should be intentionally delivered, ideally with pre, during and post-experience reflective opportunities (Deardoff, 2015; Huang, 2017). Failure to design intentional encounters between students of different cultures can result in negative experiences, or paradoxical outcomes. For example, despite the increasing presence of international students on campuses, students generally tend to study in groups of similar ethnic or cultural background. Moreover, while it is important to create an environment for culture sharing between students of different backgrounds, it is also important to create spaces of comfort that make these students feel “at home” (Agnew & Khan, 2014; Fabricius et al., 2017). These concerns were reflected in student surveys and interviews.

University of Waterloo’s context

Data used by the University of Waterloo to measure its internationalization outcomes in its 2014-2018 Strategic Plan are outlined above in Appendix B. It is apparent that the University of Waterloo placed more emphasis on quantitative measures of internationalization than on qualitative data during the last strategic plan. Demographic, financial and global outreach data suggest that the University of Waterloo hosts a plethora of opportunities and support for student international engagement, as well as international research and educational connections. However, the transformative potential or effectiveness of these programs is not reported.

While qualitative data are reported in the previous University of Waterloo Strategic Plan's overall internationalization outcomes, it is only specific to inbound international students. There remains room for more vigorous qualitative assessment of outbound student and on-campus experience for both domestic, exchange and international students. Furthermore, there remains opportunity to assess the quality of research connections and partnerships, to achieve more in-depth measurement of institutional internationalization goals. The feasibility of undertaking more thorough qualitative assessment of international experience can be further discussed.

Definition of comprehensive internationalization

There are six tenets that comprise comprehensive internationalization:¹⁰

- 1) *Articulated institutional commitment*: a combination of strategic planning, an internationalization committee, engagement of campus stakeholders, and continuous assessment of internationalization goals
- 2) *Administrative leadership, structure, and staffing*: high-levels of engagement from upper-level university administration, in addition to an office(s) dedicated to coordinating internationalization activities
- 3) *Curriculum, co-curriculum, and learning outcomes*: integrating internationalization into general education requirements, discipline-specific courses, and student learning outcomes. Additional programs and services related to internationalization are offered outside normal curricula, that facilitate cross-cultural engagement through innovative social programs and novel technological means
- 4) *Faculty policies and practices*: international experience plays a role in career and hiring-relating practices, and faculty have ample opportunity for research and teaching mobility as well as professional development
- 5) *Student mobility*: students have financial and logistical supports to mobilize internationally, with re-entry experience-based programs for maximal learning outcomes; international students are fully supported while integrating into campus life
- 6) *Collaboration and partnerships*: align partnership goals with institutional-level mission and values, identify and engage in outreach, and continuously manage partnerships