



**Canadian Association
for Graduate Studies**

**Association canadienne
pour les études supérieures**

**INTERDISCIPLINARY GRADUATE PROGRAMS IN CANADA:
PRACTICE AND POTENTIAL**

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Executive Summary

The Canadian Association for Graduate Studies requested a study to identify best practices that support interdisciplinary graduate programs (IDGPs), including consideration of pedagogical aspects and practical approaches to supporting their development and sustainability. This report is based on two surveys of graduate deans in Canada plus discussions with some graduate deans in the US.

Forty Canadian deans responded to the first survey, which was designed to identify the prevalence of four kinds of IDGPs across Canada: individual, direct entry, supplementary, and non-degree. CAGS' interest was primarily in the direct entry programs, so the second survey focused on only those universities that had reported having Direct Entry IDGPs. Of those 34 institutions, 19 responded to the second survey, with larger graduate programs more heavily represented.

This study highlighted the fact that what is best for an institution depends on many things, including whether the administrative arrangement gives budgetary control to the dean or to faculty chairs, unionization of faculty, and history of and overall commitment to interdisciplinarity. Conclusions drawn from the study are listed below.

1. When a new IDGP is developed, written Memoranda of Understanding should be used in all instances where commitments to it are being made.
2. Wide consultation is essential during the development of a new IDGP.
3. Formal approval by Department and Faculty bodies of the commitment of resources to a proposed IDGP is often appropriate (recognizing that budgetary responsibility lies ultimately with Chairs or Deans), but approval of the details of learning outcomes and curriculum requirements is usually not appropriate at those levels.
4. For external reviews of a new IDGP, standard CVs for the faculty associated with the IDGP should be replaced by abbreviated ones limited to the information relevant to the proposal, and supplemented by a letter from each faculty member documenting her or his commitment to this and other programs.
5. An oversight committee of deans is a good mechanism for supporting both the development and sustainability of an IDGP. A lead dean should be identified from this group to whom the program director reports and who is responsible for the budget of the IDGP.
6. Pedagogically, one of the most important tasks for an IDGP is to develop a common language among its participants.
7. It is important to ensure that participation in an IDGP is taken into account in merit pay and tenure and promotion decisions.

Introduction

In April and May 2013, the Canadian Association for Graduate Studies (CAGS), distributed a call for nominations of consultants to conduct a study of Interdisciplinary Graduate Programs (IDGPs¹). The terms of reference from that message are contained in Appendix 1. The work done in response to those terms of reference consisted of

- conversations (primarily by e-mail) with those active in IDGPs in the US,
- an initial survey of the members of CAGS to determine the prevalence of IDGPs in Canada,
- a second survey sent only to the members of CAGS whose institutions had direct entry IDGPs,
- discussions at a session during the CAGS annual conference in November 2013, and
- numerous follow-up e-mails with respondents to the second survey.

In addition there were meetings with directors of IDGPs at the University of Calgary, chosen for convenience of accessibility and personal knowledge.

This report describes the prevalence of IDGPs in Canada based on the responses to the first survey, and on material presented at the CAGS annual conference. The major part of the report relates to the second survey; the inception and approvals process of a new IDGP, administrative matters, and pedagogical considerations. Information from communications with individuals in the US is introduced as appropriate.

The terms of reference called for drafting a definition of IDGPs and identifying the best practices that support IDGPs. Although the project started by defining two types of IDGPs, four different types had been identified by the time the initial survey was distributed. Some aspects of the definitions were subsequently revised for the second survey, and again through the session at the CAGS annual conference. Original definitions appear in the initial survey, reproduced in Appendix 2. The final definitions are as follows.

1. An **individually designed program** of study draws on pre-existing courses and a faculty supervisory committee, with both the courses and the committee members coming from a variety of disciplines or departments.
2. Faculty members from two or more academic units come together to design a coherent, **direct entry**, interdisciplinary graduate degree program with an appropriate set of courses and requirements.

¹ This abbreviation is not consistent with those that will be found in the original surveys. Those used IDP, as did the Terms of Reference, but responses to the surveys reminded me that there are also undergraduate IDPs, and pointed to the value of recognizing the Graduate focus of this report in the abbreviation used here.

3. A **supplementary program** (called a collaborative program in Ontario and an interdisciplinary specialization in Alberta) is a formally approved graduate offering meant to provide an added cross-disciplinary experience for students enrolled in an existing disciplinary degree program.
4. **Non-degree interdisciplinary graduate offerings** can take the form of certificate or diploma programs, or simply a transcript notation that the requirements were met.

The second type of IDGP was of primary interest to CAGS, and proved the most difficult to define. In addition, there was difficulty in identifying the best practices that support IDGPs primarily because circumstances differ significantly across universities. What works well at one may not be appropriate at another. As such, the findings from the second survey bring in comments about advantages and shortcomings of various approaches, both from respondents and based on personal experiences and leave it to individual institutions to determine what might work best for them.

Results from initial survey

Both surveys were pretested on members of the CAGS Board of Directors before sending the surveys to the full membership. The initial survey was sent to all CAGS deans on or before August 21 2013, with reply requested by September 20. On September 19, a reminder was sent by e-mail to those who had not yet responded.

A total of 59 surveys were distributed; 40 completed surveys were returned by the time of the Nov 1 2013 CAGS annual conference, resulting in an overall response rate of 68%. Looking at the response rates by the four regions that define CAGS' Board of Directors membership (Table 1), the response rates from three of the regions are almost identical at 64% ($\pm 1\%$), with Ontario being the outlier, at 75%.

By type of IDGP, Direct Entry is the most prevalent type in all regions (or tied for most prevalent) among those who responded.

Individual programs are as prevalent as the Direct Entry in the West and the Maritimes, but not in the other two regions. Based on a decade of personal experience with the previous approvals procedures for graduate programs through the Ontario Council on Graduate Studies (OCGS) it seems likely that the absence of Individual programs in Ontario is related to OCGS's requirements for new graduate programs, which called for the names and CVs of all potential supervisors in a graduate program. That information would be onerous to provide, since potentially it could include all members of the graduate faculty. The one such program that does exist in Ontario is at York, and as far as could be determined, likely predates the introduction of Ontario's graduate program approval processes. These individual IDGPs will not be discussed in this report, as they were not part of the mandate.

Table 1. Response to the initial survey by region

	West	Ontario	Quebec	Atlantic	Total	
sent	17	20	14	8	59	
responses	11	15	9	5	40	
%	65%	75%	64%	63%	68%	
Number of respondents with each type of IDGP						% of responses
Individual	8	1	3	3	15	38%
Direct entry	8	15	8	3	34	85%
Supplementary	4	9	3	0	16	40%
Non-degree	3	9	5	0	17	43%
Other	3	2	1	0	6	15%

The supplementary IDGPs occur in 60% of responding Ontario universities, but only in about a third of Western and Quebec ones, and not at all in Atlantic universities. Based on subsequent discussions, it appears that some universities rely on Supplementary IDGPs rather than introducing Direct Entry programs. Possible reasons are discussed later in this report. Non-degree IDGPs i.e. graduate certificates and diplomas, and what are called “micro-programmes”, as well as IDGPs that did not fit into any of the four categories are listed for completeness but are discussed further.

It is also instructive to look at the result by university size (Table 2). For this purpose, the 59 universities receiving the survey were ranked according to 2010 graduate student enrolment (headcount) from Statistics Canada’s Post-Secondary Information System (PSIS), and then divided into quartiles.² As can be seen in the third row of numbers, the response rate is related to graduate student population, with the larger half of the schools responding at double the rate of the smaller half of institutions.

² Enrollment for the largest quartile ranged from 14,820 (Toronto) to 3987 (McMaster). The second quartile ran from 3900 (Queen’s) to 1530 (Brock); the third from 1494 (Wilfrid Laurier) to 525 (Lethbridge); and the fourth from 519 (Institut national de la recherche scientifique) to 0 in 2010 (Trinity Western).

Table 2. Responses to initial survey by university size

	largest	second	third	smallest
Sent	15	15	15	14
Responses	14	13	6	7
Response rate	93%	87%	40%	50%
Type of IDGP				
Individual	6	6	2	1
Direct Entry	14	12	4	4
Supplementary	11	4	1	0
Non-degree	11	4	1	1
Other	4	2	0	0
Totals	46	28	8	6
Total as % of responses	329%	215%	133%	86%

A simple indicator of the overall prevalence of IDGPs for each of the four quartiles was obtained by totaling the numbers in each column of the table. This total does not represent the total numbers of programs at these institutions, but rather the total of the different types of programs. Expressing this total as a percentage of the number of respondents in that category results in an interesting monotonic decrease across the size quartiles. There is a direct relationship between size and frequency of occurrence of the several types of IDGP. This suggests that one possible reason for the lower response rate from the smaller schools is that they are less likely to have or anticipate having formal IDGPs and therefore were less interested in the topic of the survey.

Some support for this interpretation comes from comments from two of the smaller institutions to the surveys, or from subsequent correspondence with them.

- “This [interdisciplinary graduate program] is all we do. We have a limited M.Sc. program Each program of study is essentially individually designed to meet student and supervisory committee goals and desired outcomes.”
- “The Doctor of Philosophy (Ph.D.) degree program is research-oriented and offered in six multidisciplinary areas of study in the sciences.”

These responses seem to indicate a sensible adaptation to limited faculty resources.

The responses to the initial survey revealed that McMaster University had completed a report on interdisciplinary programs in 2011 (covering both graduate and undergraduate programs)³, Queen’s University completed one early in 2014⁴,

³ McMaster University’s Taskforce On Interdisciplinary Programs (TIPs) Report and Recommendations, December 21, 2011 http://graduate.mcmaster.ca/images/TIPS_Report.pdf

⁴ Interdisciplinary Graduate Development: A Report from the Working Group, January 2013 <http://www.queensu.ca/sgs/sites/webpublish.queensu.ca.sgswww/files/files/Faculty-QualityAssurance/Graduate%20IDP%20working%20group%20report%20FINAL.pdf>

and McGill University, and the University of Montreal expect to complete reports in 2014.

The preceding information was presented in a session at the November 2013 CAGS Annual Conference, and questions were raised to help clarify the definitions. As mentioned earlier, the definition of the second type of IDGP was unclear. The most confusing terms in the definition used in the original survey (shown in Appendix 2) were “stand-alone”, and surprisingly “discipline”.

The problem with saying, as the first survey did, “Faculty members from two or more disciplines come together ...” is that there is no fixed definition of what constitute the academic disciplines. What would be interdisciplinary at one institution might be a department or even a Faculty at another. The classic example is Environmental Studies (or Science): at many institutions it is an interdisciplinary offering, but at some others it is itself a Faculty. Discussion prior to and at the CAGS meetings clarified that the issue of interest is about programs that cross or combine organizational units within the institution – which may or may not be discipline-based. Hence the revised definition as stated in the Introduction includes “Faculty members from two or more academic units come together...”. This change in wording removed the confusion about what constitutes a discipline.

“Stand-alone” was a term used in both surveys in an attempt to convey the fact that the program was approved on its own merits, and did not need a connection to a different program. The term led several respondents to think that the student, not the program, stood alone, and that this was therefore the same as the first type (the Individually Designed program). Alternate terms or definitions were sought from the attendees at the CAGS Annual Conference. The consensus was to drop the ‘stand-alone’ term, and instead to use the term ‘direct entry’, which was adopted in the definition. The label distinguishes it clearly from the third type of IDGP, i.e. programs that are supplementary to the degree programs in which a student must be enrolled (and are therefore indirect entry as registration is only through another degree program).

Results from Second Survey

The second survey was sent only to those CAGS members who had indicated that their institution had a Direct Entry IDGP, which as shown in Tables 1 and 2, totaled 34 universities. Ten replies were received within a month of distribution. A reminder e-mail (and the CAGS meetings) elicited another nine replies, for a total of 19, a 56% response rate, 32% of the CAGS membership. Most replies came in the form of filled-in surveys returned by e-mail, but two were received by direct discussions during the CAGS Annual Conference. The University of Calgary response

was obtained in a meeting with most of the directors of Direct Entry IDGPs at the University, with the assistance of the current Dean⁵.

The universities that responded to the second survey are representative of the membership of CAGS by region (Table 3), but not as regards size of institution. With respect to regions, roughly a third of each region responded -- in three regions, one more response would have put the region above one-third. Drawing on the number of CAGS members in each region from Table 1, responses came from 6 of 17 in the West, 7 of 20 in Ontario, 4 of 14 in Quebec, and 2 of 8 in the Maritimes. With regard to university size, there are clearly not equal numbers in each quartile, but then the recipients of this survey were not equally distributed across the quartiles, as shown in the Direct Entry row of Table 2. The response rate to this survey declined in direct proportion to university size quartile, dropping from 64% among the largest group to 58%, 50%, and 25%. The survey results therefore, may be biased toward the experience of the institutions with larger graduate enrolments.

Table 3. Responses to second survey by region and size

Region	N		Size Quartile	N
West	6		Largest quartile	9
Ontario	7		Second largest	7
Quebec	4		Second smallest	2
Atlantic	2		Smallest quartile	1

The questions in the second survey were organized in accordance with the likely chronology of the development and implementation of a direct entry IDGP (See Appendix 5 for a copy of the second survey). As one respondent pointed out, the responses would likely have been different for Individualized and Supplementary IDGPS. The discussion below follows the chronological order which is similar to the structure of the discussion at the CAGS Annual Meeting. While clearly program design must precede the approvals process, design seemed to be idiosyncratic enough that the survey did not ask about that step.

Approvals processes

As shown in Table 4, the majority of the responding universities require extensive approvals for a new Direct Entry IDGP, starting in most cases with each of the departments⁶ that will be involved with it. Two of the nineteen respondents did not answer this question; all that did reported that approval of the University Senate (or

⁵ University of Calgary received this unusual treatment because (1) I had stepped down from the Dean's position there only two years previously and knew the IDGP directors, and (2) it was geographically convenient.

⁶ Administrative terminology varies across universities. For simplicity, these variations were not included in this question. "Department" stands for the smallest administrative unit. These are sometimes called Schools. A number of departments are found in a Faculty. This level is called School at some universities.

equivalent)⁷ was required, and all but one required approval of the Faculties involved in the program. Seven of the 17 respondent universities required multilevel approval (first six levels in Table 4. For all 17, the approval process within the university for an IDGP is the same as for a new disciplinary graduate program, although one institution said that more attention would be paid to ensure thorough consultation, and that the budget model would be more complex.

Table 4. Approvals processes required by numbers of universities

Approval body or person	N
All Departments that will be involved	14
Highest decision-making body of each academic Faculty that will be involved	16
Department chairs whose faculty will be involved	10
Faculty deans whose resources will be involved	14
Graduate Council	13
University Senate	17
Simply with the Graduate Dean's approval	0
For a limited time simply with the Graduate Dean's approval	1

For almost all universities, there is an external approval process (provincial or regional), and this is the same as it would be for a disciplinary program, although a few universities mentioned minor differences. For example, one institution said that the externally-mandated review process is shorter and less stringent for an IDGP that draws from two previously approved disciplinary programs than it would be for a new disciplinary program.

The University of California at Davis (UC Davis), which is well known for its emphasis on interdisciplinarity at the graduate level, provides an interesting contrast to Canada's heavy involvement of Departments and Faculties. UC Davis's procedures are described in a comprehensive 46 page document⁸, though Dean Jeffery C. Gibeling provided clarification of some aspects of those procedures, which are reflected in the following comments.

Approval of relevant department chairs is needed, but not approval of the full department.

“A department chair has final and full authority for assigning instructional responsibilities to faculty under our system. That means that a chair has the

⁷ Similarly, Senate here is meant as the highest level academic decision-making body. For example, in Alberta this is called the General Faculties Council.

⁸ Procedures For Establishing A New Graduate Degree Program, UC Davis Graduate Council, Approved February 20, 2008; Revised: February 2009; September 2009.
<http://gradstudies.ucdavis.edu/gradcouncil/procedures-for-new-graduate-degree-program-2010-update.pdf>

authority to commit to an MOU with a graduate group. Some chairs may consult with their faculty, but strictly it isn't necessary."⁹

This contrasts with the general tenor of the Canadian responses, which are most clearly stated in this quotation.

"...there are advantages to our approval processes as they enable broad engagement from diverse communities of interest and build commitment to new programs. For example, program developers often schedule open sessions with interested faculty in the development phase, and this leads to stronger proposals that have had problems, issues and opportunities well canvassed. Subsequent approval processes build from this consultative model."¹⁰

Similarly, UC Davis requires approvals from relevant Faculty deans, but not formal approval by the Faculty. Approvals of the Chairs and Deans are represented by Memoranda of Understanding (MOUs) between each of these individuals and the chair of the steering committee preparing the proposal. These MOUs cover "administration, courses/instruction, FTE, and student support which are required for all new programs,"¹¹ and are generally for a five year period and renewable. Copies of the program proposal also need to be sent to chairs of departments or programs "that are closely related to or will be affected by the proposed program"¹², and letters are to be obtained from these chairs with their comments on the proposal. Thus there is extensive consultation in the UC Davis approach, but not formal approvals from department or Faculty bodies.

In the principal author's opinion, the formal approval of degree requirements by related departments and Faculties is often problematic. By their very nature the IDGP goes beyond the expertise of an individual department, and often beyond that of a Faculty. Hence if the substance they are being asked to approve is the program content and learning outcomes, they may not necessarily have the relevant expertise.¹³ At the same time, there can on occasion be an understandable defensiveness about departmental (or Faculty) teaching resources, and a reluctance to see these used for other programs. Hence it may make sense to seek approval from related departments and faculties for the program in principle and the resources that will be provided in support of the proposed interdisciplinary

⁹ e-mail from Jeffery C Gibeling, Vice Provost – Graduate Education and Dean – Graduate Studies University of California, Davis, December 16, 2013.

¹⁰ Second survey response from University of Victoria, provided by Catherine McGregor, Director Interdisciplinary Programs and Margo Wilson, Associate Dean, Graduate Studies. Quoted with permission.

¹¹ Procedures For Establishing A New Graduate Degree Program, UC Davis Graduate Council, Approved February 20, 2008; Revised: February 2009; September 2009. <http://gradstudies.ucdavis.edu/gradcouncil/procedures-for-new-graduate-degree-program-2010-update.pdf>, p. 4, item M.

¹² Ibid., p. 5, item O.

¹³ Ironically, while serving as graduate dean at McMaster I drafted IDGP approval processes that do exactly what I argue against here!

initiative, but not on the details of the curriculum. Having this approval demonstrates strong endorsement of the use of resources for the new IDGP. The University of Victoria consultation process through open sessions builds not only general support for the proposal, but also serves to find potential members for the IDGP

An additional positive feature of the UC Davis procedures is the requirement of abbreviated rather than full CVs for external appraisals of IDGP proposals. In follow-up correspondence, one university indicated that they follow what is essentially the former OCGS procedures, requiring full CVs for all faculty members who are likely to supervise in the IDGP. The UC Davis requirement is as follows.

1. "Include an abbreviated CV – a biosketch -- for each faculty member with the following information: professorial rank, highest degrees received, other professional qualifications, and a citation of relevant publications. The abbreviated CVs should be limited to information pertinent to the evaluation of the qualifications of the faculty for the proposed graduate program.
2. Obtain a letter from each faculty member indicating his/her commitment to participating in the proposed program. The letter should include answers to the following questions:
 - a) Will the proposed program be your primary graduate program affiliation?
 - b) Will you teach a course in the proposed program and if so what course?
 - c) How many graduate programs are you currently a member of?
 - d) How many courses do you currently teach?
 - e) How many graduate students are you currently mentoring?
 - f) Address how participation in the proposed program will affect your participation in other graduate programs."¹⁴

This requirement seems to meet all but one of the questions that a reviewer might have about the proposed faculty members, with the one added issue being prior supervisory or mentoring experience. Perhaps it imposes more work on the faculty member and/or support staff than would submitting a current CV, but it imposes less work on the reviewer, who will potentially be reading this information for a large number of faculty members. Furthermore, the letter from the faculty member addresses directly the key issues that may be missing from a CV.

Question 3 in the survey was whether "these procedures and requirements at your university seem to represent a good or best practice? Why?" In general, all seventeen who answered the question said 'yes', with one concern expressed by several: it is long and tedious, and makes it hard to react quickly. The process length is true also of the UC Davis, which can take up to two years when one includes the external approvals needed. Within Canada, there are differences across provinces in the extent of external review of new graduate programs. In

¹⁴ Procedures For Establishing A New Graduate Degree Program, UC Davis Graduate Council, Approved February 20, 2008; Revised: February 2009; September 2009. <http://gradstudies.ucdavis.edu/gradcouncil/procedures-for-new-graduate-degree-program-2010-update.pdf>, p. 5 Item N.

Ontario, for example, it is only the internal review that requires a site visit from external appraisers, whereas in other provinces such visits are part of the external review, which means the external review itself can take over a year.

Two primary reasons were given in support of current procedures: they ensure wide consultation; and they conform to Quality Assurance Procedure requirements (either internally mandated or imposed by an outside body such as the Maritimes Provinces Higher Education Commission, MPHEC). With regard to the first, one respondent wrote,

“It seems to work well since it ensures discussion from the outset by all stakeholders and the sign-off by those in administrative positions (dept heads, deans) indicates their buy-in to the program and the associated resource implications....”¹⁵

It could be argued that these elements are better ensured by the UC Davis approval processes through MOUs and letters of comment that are required, and that formal approvals by departments and Faculties add little to the process. But another comment notes that it all depends on accountability and responsibility and where these are located at each institution. At UC Davis, a department chair has final and full authority for assigning instructional responsibilities to faculty. At other institutions, as responses showed, workload may be developed at the department level but must be approved by the Dean of the Faculty. Hence the best procedures must necessarily depend on the organizational and accountability structures within each institution.

In terms of the mandated Quality Assurance Procedures, one needs to remember that the internal processes are creations of the university and can be modified by the university. External processes may be more resistant to change, but can also be addressed when there is good reason to. For example, one respondent said that “removing the need for Graduate Council approval accelerated the process because Graduate Council meets only three times each year, and there wasn’t any appetite for these groups to meet more frequently.”

Reconsideration of the need for Faculty or other approvals when the requirement for them creates unacceptable delays in the process.

Administrative placement

Question 4 asked “What administrative practices are in place at your university for the IDPs that cross existing administrative boundaries, whether these are departmental boundaries within a Faculty, or cross-Faculty? and to whom the IDPs report to. The list of possibilities is shown in Table 5 below. In hindsight it was unclear what was meant by ‘report to’, which may relate in part to who responded at an institution: the dean or a staff member. Several responses described reporting to the graduate dean “as do all graduate programs”, as well as to another

¹⁵ Direct quotations from survey respondents are presented here without attribution in order to maintain the anonymity of the survey responses.

dean or chair. What was desired was the direct line of report as would appear in an organizational chart. It is not clear that this interpretation is reflected in all of the responses.

Table 5. Reporting relationships for IDGPs among the 19 responding universities

One or more IDGPs report to -	
the Provost	0
the Dean of Graduate Studies	10
a Faculty Dean	14
an oversight committee of Deans	4
a Department Chair	8
an oversight committee of Department Chairs	0
an oversight committee consisting of both Chairs and Dean(s)	1
an Institute or Research Centre	8
Other	2

The numbers in Table 5 indicate that in most universities more than one administrative arrangement is in place – or there are multiple reporting relationships for a single IDGP (respondents were to select all that applied). Only four of the nineteen universities identified a single reporting relationship.

The responses to the next question in the survey were intended to point toward the best arrangements: “Which of these administrative procedures at your university seem to represent a good or best practice? Why?” Two main points emerged, with possible variation for smaller universities.

First,

“Reporting to the Dean of FGS [Faculty of Graduate Studies] has some significant limits – the main one is that the FGS Dean does not ‘control’ faculty (they are responsible to line Deans, [who] may claw-back their participation.”

Resources are the issue, and especially the resource of faculty time and commitment. At most Canadian universities, the Dean of FGS does not have a say in these resources. At some universities, IDGPs formerly reported to the Dean of FGS, but that arrangement was changed such that they now report to other Deans (e.g. UBC, Western). Even when the reporting relationship is to a different dean, it is often the case that the Dean FGS appoints the director of the IDGP.

The second point on which there is agreement among some of the respondents is in instances where an IDGP involves several Faculties,

“The oversight committee of deans seems to be the best arrangement, since only deans control the necessary resources to help the IDP succeed.”

Several university responses also mentioned the importance of the appointment of a lead dean, to whom the IDGP director reports regularly. A committee of deans with a lead dean is the arrangement that the University of Calgary was moving toward several years ago. Discussions with some of those involved with those IDGPs suggest that designation of a “lead dean” from among the oversight committee is critical, and this dean then meets once a term or year with the committee and can call on them as needed when issues arise.

The University of Victoria has recently initiated a variation on this model. All of the IDPs (graduate and undergraduate) report to a Director of Interdisciplinary Academic Programs, who in turn reports to the oversight committee of all of the deans involved in IDPs. There is a lead dean in this model too, but in this case is the dean of the Director’s home Faculty.

At some of the smaller universities, less formal arrangements seem to be successful and involve collaboration between the Dean FGS and other relevant Dean(s). As one wrote, this works “where we have a good relationship among Deans” – a factor that was mentioned by some responses from larger schools too.

Under the topic of administrative arrangements, one dean commented on the “Labour intensive process of negotiation with other Deans, department chairs and the like, [leading to a description of the] practice as cumbersome at best.”

Several respondents to the survey also mentioned the value of MOUs in this context, such as were discussed in the UC Davis context above.

A final comment pertaining to administrative arrangements was from one dean who remarked that housing IDGPs in a Faculty “has helped them develop into departments.” This potential evolution of IDGPs into departments of their own is something that should be kept in mind for the longer term. There are clearly cases in which what was once interdisciplinary has become a discipline of its own: Biochemistry and Biomedical Engineering are two such examples.

Financial Issues

The third section of the survey addressed costs and income associated with an IDGP. The costs in question were (portions of) the salaries of faculty associated with the program, administrative support, and space. Several responses spoke also about graduate student support, which should have been included in the questions.

Support of faculty involvement in the IDGP

The question on support of faculty involvement offered several possible responses; Table 6 summarizes the selections chosen by the thirteen respondents who responded. As with previous tables, respondents could and did check more than one box. For this question, nine respondents made multiple selections, including two who selected all.

Table 6. Responses to the question: 'How is faculty involvement supported?'

Home departments are paid for a faculty member's released time	7
(If yes) Department is paid the cost of a sessional lecturer replacement	5
Faculty are paid overload for their involvement	8
Faculty are appointed directly to the IDP, or as a joint appointment	8
Other	2

One of the respondents who did not select any of the available choices wrote, "There is no financial acknowledgement of the faculty member's role in the IDP. The faculty member's salary is derived from the home unit, but some of the activity happens within the IDP. The approach where faculty are paid by a home department and work in the IDP requires a sincere commitment by all involved to actually work. We have found this to be problematic."

This comment and similar ones from one or two other respondents¹⁶ emphasizes the value of formal MOUs as used by UC Davis and a few of the respondents to the survey: MOUs would seem to be more lasting than simply a "sincere commitment by all". With regard to these MOUs, Dean Gibeling wrote,

"Occasionally, an incoming chair will try to invalidate anything his/her predecessor signed, but we usually rely on the dean [of that chair's Faculty] to validate prior agreements."

Another respondent identified a second possibility not covered in the survey's list: "the faculty member will contribute teaching above and beyond their 'load'. Graduate courses are often/usually team-taught, so it's less onerous than the typical undergraduate course."

In other words, IDGPs exist by the grace of the faculty members involved, and the university does not contribute to (some) of the cost of maintaining them. This approach puts the course, if not the IDGP, in jeopardy when, for example, the volunteer instructor goes on sabbatical. A similar situation in terms of minimal cost to the university and increased load on the faculty member occurs when the IDGP courses are jointly listed with a faculty member's home department. This joint listing also raises the question of whether the student is getting an interdisciplinary perspective (discussed further subsequently).

At least one of the institutions where overload payment to the instructor was involved mentioned that this is done in a full-cost-recovery program, and that the home department of the instructor received an 'overhead' contribution equal to 25% of the overload stipend, implicitly for the loss of some of this individual's extra time that might have been attributed to departmental matters.

¹⁶ For example, "tendency of "home" deans to "claw back" resources over the medium term (3 to 5 years) in response to fiscal pressures in their faculties."

Best practice to support faculty participating in an IDGP

The follow-up question to the above was, “Which of these procedures at your university seem to represent a good or best practice?” The succinct answer that best represented a number of replies was,

“None of the above represents best practices. The respective procedure is negotiated on a case by case basis.”

This response came from a university that had checked all responses (Table 6) to the previous question. A similar sentiment was expressed by other institutions that also selected all responses. Although the ability to use different approaches for different cases has merit, one comment warned about how time-consuming it is when negotiations are done on an annual basis. This again argues for multi-year agreements, when possible in the face of known leaves, retirements, etc.

Several responses took the term “support” in the question to mean more than just financial support, and spoke to other aspects as well.

“For faculty members involved in more than one graduate program, there are always issues, real or perceived, pertaining to the level of contribution. Having direct appointments/membership within the IDP ensures that the IDP gets its fair share of faculty support and participation without any potential limitations being imposed by the Department.”

“Recognition of faculty members’ contributions to IDPs is essential in terms of merit, service, teaching, etc... - it’s not an add-on.”

Administrative support for an IDGP, and its source

Although no choices were specified in the survey, the responses identified a range of possibilities currently in use. The following quotations from respondents seem to cover the full range: consortium of deans; single dean; graduate studies; a department.

“The support issue is dealt with in a manner similar to traditional departments – essentially, participating deans are expected to collaborate to share costs (usually in a manner roughly proportional to the revenue generated). This issue has not really been formally addressed in our University governance regulations.”

“Admin support comes from the lead faculty as they receive the larger share of the enrolment-based revenues.”

“Each program has a graduate program director and program administrator—this is paid directly by Graduate Studies.”

“Smaller ones may be dependent upon the “good graces” of contributing departments for admin support. “

It seems fruitless to try to identify a best practice in the abstract as circumstances clearly vary across the respondent universities, leading to different approaches. What is clear is that the approach to be used should be identified explicitly in the MOUs so that all parties are clear and matters are not left to chance or “good graces”.

Space requirements

Answers that reflected a best practice were as follows:

“The assessment of space needs is part of the approval process. No new program or IDP can be approved without a sign off of the senior administrators responsible for space.”

Alternative answers were that “Space is negotiated with the lead faculty in the first instance”, or that “Space is allocated by the Academic Units/Faculties involved in the IDP.” The potential problem with this kind of approach is indicated by the following response to the direct question, which was, “Not well. Negotiated among relevant Depts., IDPs and Faculties (often facilitated by FGS).” If these negotiations happen in advance of the development of MOUs, and the decision made explicit in the MOU, then the negotiation is a necessary step. Unfortunately, however, negotiations sometimes happen only after the approval and establishment of the IDGP.

On what basis does an IDP receive income to cover its costs?

Twelve universities made selections from the choices appended to this question, with results as shown in Table 7. Four institutions identified two, and one identified all three possibilities from the list. The comments provide greater insight than the tally of responses. Ironically, one comment was, “We have a committee looking at this very issue, chaired by the VP Finance.” It is not an easy issue.

Table 7. Responses to the basis (source) for an IDGP’s income

Student numbers	9
Arbitrary lump sum	5
Other	4

The most comprehensive answer was as follows.

“We have a fairly new budget model that considers a portion of the (historical) Faculty budget to represent tuition income (75% of total tuition associated with the Faculty) – so that portion does go up and down now according to enrolment. The Dean’s offices allocate budgets to units, and they might not distribute the entire tuition-related amount, or proportionately to enrolment. Otherwise, the IDP budgets were determined historically, and tweaked as necessary. There are no arrangements to allocate any funding (other than student stipends) to faculty members associated with units outside the home Faculty, or to their units.

Other responses brought out the following points.

- Graduate student support is often a major part of an IDGP's budget.
- "Often the lump sums are based on historical amounts and are generally insufficient."
- "Lots of inertia in this process (tend to get what you got; hard to get increases; unlikely to see decreases) regardless of changes over time. Not a best practice."
- Courses taught in the IDGP enters the calculation as well as student numbers.
- There are system limitations on what can be done. Banner for example (one of the main Enterprise Reporting Systems in use at universities) allows only one channel for the flow of money.

This argues, then, for something that is activity based, such as student enrolment, as opposed to lump sum amounts unrelated to anything explicit.

Efficacy and equity of the financial arrangements

With regard to the efficacy and equity of the financial arrangements, the answer that best summarizes the situation is,

"It's a work in progress that is being tweaked. The intent is to provide financial stability to IDPs and provide incentives to academic units who wish to participate."

Two comments raised important issues under this heading. The first issue could perhaps be avoided by more explicit MOUs with regard to what is provided to the IDGP by a department: a course offering, or a specific faculty member to teach a specific course.

"There have been issues pertaining to the adequacy of, and timing for, course offerings for IDPs, which have not been so much a financial issue, but one where the home unit sometimes sees that the needs of its own programs are more important than those of the IDP, and so courses in the IDP get taught by a sessional rather than the faculty member."

The second issue addresses a major difficulty that has not been raised earlier.

"A related issue is TAships – lack of access is a significant problem for the students. They are generally given to students associated with the program of the department with which the course is associated. One way around this is practiced by Psychology: they allocate TAship spots to supervising faculty members for their students, and hence they are equally likely to hire students in an interdisciplinary program as a departmental program."

This is clearly an issue of equity for the students in IDGPs, especially given how much of student funding is in the form of TAships in some disciplines, and hence in interdisciplinary areas associated with those. A related stumbling block for IDGPs that combine, for example, sciences and social sciences is the usual disparity in research funding available to the supervising faculty members, and the difficulty for the IDGP in making equitable financial offers to students.

Issues internal to an IDGP

The final section of the survey asked questions about the internal functioning of an IDGP. Although both of the first two questions received many responses, on the whole they represented mostly negative findings. Only a few universities reported assessing the pedagogical success of IDGPs, which was one of the items called for in the Terms of Reference for this study (App 1). And few if any universities have had difficulties with supervision or examination of IDGP theses, which is good news. Several helpful responses were submitted to the final question of the survey which sought suggestions for internal governance of programs.

Pedagogical successes

The direct question asked was, “Has your university had successes with the pedagogical aspects of an IDP, such as the integration of knowledge from multiple disciplines, or novel approaches to teaching or to assessing learning outcomes? How have you evaluated these successes?” The majority of the answers fell into two camps: the programs have been evaluated as any other through the periodic Quality Assurance Procedures involving student perceptions and external reviewers; or the IDGPs have not been formally assessed at all. In the former case, the results that were reported via this survey were uniformly positive.

Most of those responses, however, addressed only the last sentence of the question, i.e. how evaluation was done. Only a few responses addressed the first sentence, but those that did showed good insight into those issues. They addressed the need to set or establish a common language first, not that everyone become a specialist in all the disciplines, but that they at least learn to communicate clearly with each other. One strongly discouraged just enrolling the IDGP students in undergraduate classes in what is for them the new discipline and instead recommended admitting cohorts into the IDGP and having them work together to learn the needed material that goes beyond their previous degree. Bringing students who have studied in different areas to the same level is a major challenge. Students need to learn to work together. Mixing the physical or biological sciences with the social sciences is always the hardest.

Two methods for developing a common language, or at least for bringing all students to an acceptable level were mentioned. The first is optional ‘block-week’ courses prior to the official start of a term to introduce students to the range of disciplines that will be covered in the regular courses. A second, and more common approach is the use of core courses that are required of all in the IDGP, where one purpose of the core courses is to develop the common language, and the ability to speak and work across the disciplines.

Another respondent wrote,

“We discovered that several of the so-called interdisciplinary programs are more correctly multidisciplinary. Thus, although multiple disciplines were represented in student projects and potential courses, individual students were not necessarily expected to take an interdisciplinary approach.

- Those that did emphasize interdisciplinarity did so in several ways:
 - At least one ... had courses on interdisciplinary thinking/research and methodologies and related issues relevant to interdisciplinary projects
 - At least one ensured that faculty from two disciplines co-taught courses or portions thereof. That is, they didn't give sequential lectures, but were in the same room together at all times, and interacted with each other.
 - With respect to student assessment, other than coursework-related, we heard that only the overall quality of the ultimate thesis was assessed (by the usual mechanisms), and interdisciplinarity per se was not required or assessed. We did not hear of particular assessment of the above approaches to pedagogy."

And a third supported some of this, writing,

"interdisciplinary teaching/learning is an "art" that is difficult, if not impossible, to fully realize with our predominant team teaching approach to instruction (i.e., as opposed to having content delivered by professors with interdisciplinary training)."

Fortunately, experience has shown that there are at least some faculty members who can teach well in an interdisciplinary context despite having only a disciplinary background themselves.

Supervision of theses by cross-disciplinary committees

Because of some previous anecdotes, it seemed that there might be difficulties for a student in satisfying supervisory or examining committee members from different disciplines, so the following question was included. "Has your university had difficulties with supervision of theses by cross-disciplinary committees? If so, how have you resolved these? Are IDP theses expected to be acceptable within each of the related disciplines, or are the expectations different because it is from an IDP?"

The bulk of the responses are represented by the following quotation.

"So far, we have few indications of any problems. There are no systematic differences in the expectations for an IDP – given the interdisciplinary nature of these thesis, most departments have enough experience in this area to deal with specific concerns that might arise."

As another said, IDGPs have been encouraged to discuss these issues with members when the IDGP is formed and to continue to discuss them as part of the regular meetings of their governance committee.

One respondent however did identify difficulties, and provides a valuable suggestion.

"We did not hear of difficulties with regard to supervision of theses, but did hear that examination of theses could be highly problematic. Often discipline-based examiners could/would only examine the student/thesis on one aspect of the work – thus it was often a multidisciplinary examination of sub-projects, with little meaningful assessment of the impact/quality of the entire project. ...

Given that, it's important to a) choose examiners carefully, and b) ensure the student is clear on their claims and approach."

Suggestions for others

The final question on the survey was as follows. "Based on your university's experience with arrangements for internal governance of the program, are there any suggestions you might have for other universities? For example, has a program committee of faculty members associated with the IDP been valuable?" More than a dozen of the respondents had suggestions here. Almost all have been quoted below, since even when they addressed the same topic, they did so from different perspectives.

"-We require programs committees – they usually involve representation from each of the units involved – I would suggest that the mandate of these committees include a dispute resolution process/mechanism.

-The participation of professors on these programs should be "contractual" – there should be a formal agreement on what type of release is provided, and for how long and on the sharing of revenues to cover the loss to the home faculty. Otherwise, the risk is that early enthusiasm will be compromised by clawbacks and the need to rely on part-time or temporary staff."

"It's important to be able to assign value to the faculty member's involvement in the IDP. It's also very useful to have the unwavering support and commitment for the IDP by all the various department heads and other deans."

"...each Program, whether IDP or not, has an established governance structure, including a plan for regular meetings. The Dean of Graduate Studies is ready to attend any of the governance meetings to discuss issues. In addition, the Dean of the Faculty of Graduate Studies meets once per month with the six Faculty Associate Deans who have graduate studies within their portfolio. Lastly, the seven Faculty Deans meet once per month with the Provost. In addition, the Dean of the Faculty of Graduate Studies and the Director of the Faculty of Graduate Studies meet with the Graduate Program Director and his/her Associate Dean for an hour in the December-January period to examine how things are going, to look at issues/impediments to success, and to make plans for the upcoming year. Between these various levels of meetings, most issues get resolved before the issue/problem becomes over-blown."

"The IDP has its own program committee and graduate coordinator who represents the program on the appropriate Faculty Graduate Council - this ensures they are included in the SGS governance structure and are supported in the same way as any other grad program."

"... having a single Faculty responsible and accountable to the university greatly simplifies governance. Also, the academic council, which is composed of representatives from all Faculties, discusses the governance of all programs.

Although this meeting is not decision-making, it offers opinions and makes recommendations for decisions in the programs. Detailed management of the program belongs to the responsible Faculty, but the academic council provides an external perspective on the governance of the program.”

“For programs combining separate units/faculties, having a program committee consisting of Deans/Heads, in addition to the program director is helpful to keep the interdisciplinary aspects at the forefront, as well as involving all the units equally.”

“...official recognition of IDPs by our Senate and our Collective Agreement make things better for the IDP compared to unofficial, informal or quasi recognition of IDPs.”

“Governance and policy must be codified to ensure effective delivery of IDP. Program committees comprised of faculty members have limited effect without effective governance, structure, etc.”

“Program specific Director/Chair of IDP is valuable. Interdisciplinary Program Committee is valuable. Similar approval process for curriculum matters and policies within the Academic Units/Faculties involved in IDP [is helpful].”

“Perhaps the only issue has been the lack of understanding and/or appreciation for interdisciplinary work in the disciplinary units, for example, in terms of adjudication of faculty merit. Nevertheless, as interdisciplinarity is becoming increasingly common on campus, these attitudes are changing.”

“Program committees are required for all IDPs. Some work extremely well; others less so. This seems to be a function of advocacy and leadership: where there is strong interest and strong leadership, these program committees are highly effective and productive. They are very useful as a means of growing program numbers as well as innovating within the interdisciplinary field”

“A committee exists for most, but they have varying degrees of oversight and decision-making responsibilities. It wasn’t clear that any program felt there was a best practice among them. A problem inherent to all programs, it seemed, was getting engagement from faculty in these committees and for the program as a whole. My own opinion is that an oversight committee is essential. My experience with programs more broadly, not just interdisciplinary ones, is that more thought and attention is paid to educational aspects of the program when there is a committee responsible for it....”

One final comment, made orally and not recorded completely, was that having a distinct space for the IDGP is really ideal for fostering interaction among the

students. This space is well utilized by students who do not have lab work to do, but is not so effective when lab work is part of the student's research.

A frequent suggestion among the responses is the value of a program committee, but this could simply be because that suggestion was included in the question itself. The membership and functions of a program committee vary. Drawing from the comments received and from experience, it is suggested that a program committee consisting of faculty members in the program should be responsible for the program's learning objectives and curriculum, and possibly for admissions recommendations (unless a separate committee of faculty members is deemed appropriate for that). A different committee, consisting of the program chair/director and the appropriate deans (or perhaps chairs for an IDGP within one Faculty) should be responsible for oversight of the budget and other management matters.

From the responses received an effort was made to determine whether there was information available about the guiding principles for establishing direct entry IDGPs vs supplementary IDGPs (collaborative programs, or interdisciplinary specializations). For example, might the reason for a direct entry program be found in new methodological approaches developed from multiple disciplines or a need for interdisciplinary foundational knowledge to address emerging new fields? It is not possible to address this question from the answers to the survey, especially since this second survey focused solely on direct entry IDGPs. One advantage of the supplementary program is that fewer (if any) external approvals are needed (at least in Ontario), but that should not be a guiding principle. It appears however, that it is quite possible to build a wide range of IDGPs using only the supplementary approach, and rarely developing direct entry programs.

The advantage of a direct entry program would seem to be the ability of the student's research to incorporate an approach from multiple disciplines and for the students and faculty members to work closely with those from different disciplines. Such opportunities do not fit easily with the supplementary approach to IDGPs, which tend to consist solely of courses and coursework. From that, a guiding principle that could be drawn is that if the research needs an interdisciplinary approach, a direct entry program is best. If the research can be done within a single discipline, but will benefit from knowing something about another discipline(s), then the supplementary IDGP is appropriate. This is an opinion that cannot be supported (or refuted) by the information collected in this project.

A second guiding principle might be that for smaller numbers of students, a supplementary program makes sense; for larger numbers of students a direct entry program may be more appropriate. In part this follows from the greater amount of effort needed to establish and operate a direct entry program. That amount of work would not seem justified for a small number of students. But even for a supplementary (collaborative) program, many of the same recommendations

identified above apply, as described in this quotation regarding the University of Toronto programs.

- “The U of T Model for collaborative programs provides a small number of students with a broader base from which to explore a novel interdisciplinary area or some special development in a particular discipline.
- For faculty support and financial stability, the existence of a lead faculty is essential to ensure that the resources are allocated to enable a student to complete the program.
- A memorandum of agreement outlines how graduate units participate in the program, including how faculty and administrative resources are deployed.
- A critical mass of faculty and students is necessary to ensure that students have a common learning experience and form an intellectual community.”¹⁷

Conclusions

Conclusions drawn from the survey responses and other sources are as follows.

1. In developing a new direct entry IDGP, commitments for it should be expressed in written Memoranda of Understanding from all those who will be contributing to the IDGP: Faculty deans for funding and space (and potentially the Graduate Dean for student support); Department chairs for courses to be taught and faculty to teach them; and faculty members themselves for their contributions. These MOUs should be for a definite time period, three to six years, and renewable – or able to be modified at that time as circumstances warrant.
2. It is important that there be wide consultation about a proposed IDGP prior to its going forward for formal approvals. This consultation should involve open meetings for faculty members, as well as program proposals being sent to all related departments for comments from their chairs. The open meetings can serve to identify other interested faculty, as well as to obtain suggestions for improvement to the proposal.
3. Consideration should be given to the role of department and Faculty approval of IDGPs from two perspectives. First, what are they approving? A case can be made that it is outside their expertise to assess the learning objectives and curriculum requirements. Nevertheless it may well be appropriate to obtain endorsements of the allocation of resources (people and funding) to this new IDGP from these bodies, recognizing of course that at most Canadian universities responsibility for these resource issues lies with the chair and/or dean. The second perspective relates to the time that might be required for approval of a proposal. If department or faculty meetings are held infrequently, there is an argument for doing without their

¹⁷ E-mail from Elizabeth Smyth, Vice-Dean (Programs), School of Graduate Studies, University of Toronto, December 19, 2013.

approvals and relying instead on the open meetings referred to in the previous conclusion.

4. In preparing proposal packages for external (or in some cases internal) review, care should be taken to produce effective, focused documentation. For example, the normal full CV of participating faculty members is probably not the most effective material. Instead, following the UC Davis approach, each faculty member should prepare an abbreviated CV “limited to information pertinent to the evaluation of the qualifications of the faculty for the proposed graduate program.”¹⁸ In addition, the faculty member should prepare a letter “indicating his/her commitment to participating in the proposed program,”¹⁹ and describing his or her other commitments including graduate student supervision.

5. In terms of the administrative structure for the program, some respondents share a preference for an oversight committee of deans (usually including the graduate dean), with one of that number identified as the lead or coordinating dean. The committee as whole need not meet frequently (some are only once per year) but are available to the lead dean or the program coordinator if necessary. The program director reports to the lead dean, who is responsible for the program’s budget and related matters. However, this model is not appropriate in all circumstances; other models have been found to be successful in some situations.

6. Pedagogically, one of the most important items is to develop a common language among students and faculty in the IDGP as part of overcoming the disciplinary silos from which they come. The most common way of trying to accomplish this is through core course(s). A second important aspect of an IDGP is for the supervisory committee and the student, in the thesis, to be clear about the interdisciplinarity of the work, and the methodology employed within it.

7. A final caveat is to ensure that participation in an IDGP is not only valued in the abstract by the institution, but is taken into account in merit pay and tenure and promotion decisions.

¹⁸ Procedures For Establishing A New Graduate Degree Program, UC Davis Graduate Council, Approved February 20, 2008; Revised: February 2009; September 2009.
<http://gradstudies.ucdavis.edu/gradcouncil/procedures-for-new-graduate-degree-program-2010-update.pdf> , p. 5 Item N.

¹⁹ Ibid.

Appendix 1. Terms of reference from initial call for project

The focus of the project is as follows:

- Draft a definition of IDPs

- Identify the best practices that support IDPs including consideration of the pedagogical aspects (integration [of] knowledge from multiple disciplines, unique approaches to teaching and assessing learning outcomes) and practical approaches to supporting their development and sustainability
- Conducting an initial environmental scan (select interviews) to help develop questions to a follow-up survey and a web search of relevant resources

- Conduct a survey addressing the following issues:
 1. Demand for IDPs and benefits
 2. Governance (centralized, decentralized, shared services)
 3. Types (or models) of IDPs (stand alone, ad hoc, collaborative)
 4. Financial support and costs associated with IDPs
 5. Administrative support
 6. Others (based on environmental scan)
 7. Standards for IDPs

Appendix 2. Initial survey

The Canadian Association for Graduate Studies (CAGS) is undertaking a research project this year on interdisciplinary programs (IDPs). As described in the call for nominations of a consultant to conduct the study, the project is meant to “identify the best practices that support IDPs, including consideration of the pedagogical aspects (integration of knowledge from multiple disciplines, approaches to teaching and assessing learning outcomes) and practical approaches to supporting the development and sustainability of IDPs.” One of the first tasks in the project is to obtain an inventory of interdisciplinary graduate programs at Canadian universities. That is the purpose of this message. A reply by September 20 would be appreciated. I've attached the survey as a Word file, and also embedded it in this message. Use whichever is easier for you for responding.

Fred L. Hall (retired)

Dean of Graduate Studies McMaster University 1999-2007

Dean of Graduate Studies University of Calgary 2007-2011

President of CAGS 2007

The US National Academy of Sciences developed the following definition of interdisciplinary research, which can be applied also to interdisciplinary programs simply by changing ‘research’ in the first line to ‘education’:

“a mode of research by teams or individuals that integrates information, data, techniques, tools, perspectives, concepts, and/or theories from two or more disciplines or bodies of specialized knowledge to advance fundamental understanding or to solve problems whose solutions are beyond the scope of a single discipline or field of research practice.”¹

At least four different types of **interdisciplinary graduate programs** have been identified. This survey asks about each in the context of your university’s graduate offerings. To assist in clarifying what is meant by each, there is an endnote with an example and a URL. Feel free to ignore that additional documentation if the question is clear to you.

1. Each student develops an **individually designed program** of study, drawing on existing courses and a faculty supervisory committee from a variety of disciplines or departments.²
 - a. Does your university offer in the graduate calendar the opportunity for a student to design her or his own interdisciplinary graduate program?
 - b. If yes, please provide a URL where it is described.

2. Faculty members from two or more disciplines come together to design a **coherent, stand-alone, interdisciplinary graduate degree program** with an

appropriate set of courses and requirements “to advance fundamental understanding or to solve problems whose solutions are beyond the scope of a single discipline.” This program proposal has then proceeded through internal university approvals (and in some cases provincial approval as well). Usually these programs admit a number of students each year directly to the interdisciplinary program.³

- a. Does your university offer in the graduate calendar one or more such approved interdisciplinary graduate programs?
- b. If yes, please provide a list of these programs and the URL where each is described.

3. A **collaborative program**⁴ is a formally approved graduate program (or specialization) meant to provide an added cross-disciplinary experience for students enrolled in an existing disciplinary degree program. Faculty members from two or more disciplines have developed explicit opportunities for students to take advantage of multiple disciplinary perspectives on a specific problem or topic and to share a common learning experience that extends beyond that available in any of the parent programs alone.

- a. Does your university offer in the graduate calendar one or more such approved collaborative interdisciplinary graduate programs?
- b. If yes, please provide a list of these programs and the URL where each is described.

4. **Non-degree interdisciplinary graduate offerings** can take the form of certificate or diploma⁵ programs, or simply a transcript notation that the requirements were met. In the Canadian context, two courses are sometimes sufficient for a “microprogramme”,⁶ although there are regional differences and university-specific requirements governing these credentials.

- a. Does your university offer in the graduate calendar one or more such approved non-degree interdisciplinary graduate credential?
- b. If yes, please provide a list of these and the URL where each is described.

5. Are there **other** types of interdisciplinary graduate offerings at your university that do not fall into one of the classifications above? If yes, please briefly describe it or them and include the URL(s) where further information can be found.

¹ *Facilitating Interdisciplinary Research*, Committee on Facilitating Interdisciplinary Research, Committee on Science, Engineering, and Public Policy, National Academy of Sciences, National Academy of Engineering, and Institute of Medicine of the National Academies. Washington, DC., National Academies Press 2005, p. 26

² One example is the UBC PhD in Interdisciplinary Studies, “The main purpose of the ISGP is to enable qualified graduate students to pursue advanced interdisciplinary research exceeding the provisions of existing departmental programs. It is designed for a highly motivated and superb student who can steer an independent course.” <http://isgp.ubc.ca>

³ An example is the program in Computational Media Design at the University of Calgary: “Graduating students will have to have demonstrated skills and expertise in Computer Science and

Arts and Design. CMD wants to encourage research and creative work that incorporates aspects of both Computer Science and Art and Design, thus there is recognition for and appreciation of a thesis that represents an interdisciplinary balance between the fields.”

<http://www.ucalgary.ca/pubs/calendar/grad/current/computational-media-design-cmd.html>

⁴ One example is the Collaborative Masters Program in Applied Sustainability at Queen’s University: “the objective of the CMAS program is to expose students to the implementation of sustainable engineering solutions within the context of broader sustainability theory. To do this properly, engineering students must not only advance their technical education, but must gain insights into how public policy impacts on the success of engineering solutions to multidisciplinary sustainability problems.” <http://www.queensu.ca/sgs/program/engineering-sciences/applied-sustainability.html>

⁵ One example is the Diplôme de 2^e cycle en gestion de l’environnement at the Université de Sherbrooke: “Le diplôme de 2^e cycle en gestion de l’environnement est un programme interdisciplinaire qui vise à développer, chez les professionnelles et professionnels, des compétences en gestion de l’environnement et à les rendre capables d’intégrer les aspects sociaux et économiques dans la prise de décisions en environnement. Ces gestionnaires sont des généralistes pouvant exercer différentes fonctions, allant de la prévention à la résolution de problématiques environnementales, et ce, dans des milieux variés, avec un souci d’équité.”

<http://www.usherbrooke.ca/programmes/sec/environnement/2e-cycle/diplomes/gestion-environnement/>

A second example is the Graduate Diploma in Program Evaluation at the University of Ottawa: “The objective of the graduate diploma is to offer advanced training in program evaluation to individuals in the public, private, and not-for-profit sectors.”

<http://www.grad.uottawa.ca/Default.aspx?tabid=1727&monControl=Programmes&ProgId=657>

⁶ An example is the Microprogramme de 2^e cycle en pédagogie des sciences de la santé at the Université de Sherbrooke: “Au terme de cette formation de 2^e cycle, les participantes et participants pourront mettre en œuvre des activités d’apprentissage et des modalités d’évaluation adaptées au contexte de la formation en sciences de la santé et en cohérence avec les concepts pédagogiques concernés.” <http://www.usherbrooke.ca/programmes/fac/sciences-sante/2e-cycle/micro/p46c/>

Appendix 3. Second Survey

Thank you for your response to the first survey for this CAGS project. This is the second (and final!) set of questions. The interdisciplinary graduate programs (IDPs) of primary interest now are those described as type 2 in the first survey. Of the two-thirds of CAGS members who responded, 33 had IDPs of this type and are receiving this questionnaire. While I would appreciate receiving written responses (by Nov 15, please), I am also happy to arrange a telephone conversation, or to arrange a time to meet with you during the CAGS annual meeting. The questions appear long because several questions have a list of check boxes for possible answers.

Fred L Hall

Since the definition in the first survey led to some confusion, let me try again prior to asking the questions, which pertain to the approvals procedures for such programs, the administration of them, and their pedagogical approaches. On all of these topics, the purpose is to identify good (or even best) practice. The questions are about your university's approaches, and your university's assessment of those approaches.

Type 2: Faculty members from two or more academic units come together to design a coherent, stand-alone, interdisciplinary graduate degree program with an appropriate set of courses and requirements "to advance fundamental understanding or to solve problems whose solutions are beyond the scope of a single" academic unit. Students register directly in this program.

Approvals processes.

1. When a new IDP is proposed that will cross academic boundaries, which of the following university approvals need to be obtained before it can be offered? (Please check all that apply.)

- approval by all Departments²⁰ that will be involved
- approval by the highest decision-making body of each academic Faculty that will be involved
- approval by Department chairs whose faculty will be involved
- approval by Faculty deans whose resources will be involved
- approval by Graduate Council
- approval by the University Senate²¹

²⁰ Administrative terminology varies across universities. For simplicity, these variations have not been included in this question. "Department" stands for the smallest administrative unit. These are sometimes called Schools. A number of departments are found in a Faculty. This level is called School at some universities.

²¹ Senate here is meant as the highest level academic decision-making body. In Alberta this is called the General Faculties Council.

- new programs can be offered simply with the Graduate Dean's approval
- new programs can be offered for a limited time simply with the Graduate Dean's approval
- other (please specify)

2. Is the program proposal process for an IDP the same as for a new disciplinary graduate program? If not, what is different?

3. Do these procedures and requirements at your university seem to represent a good or best practice? Why?

Administrative Placement

4. What administrative practices are in place at your university for the IDPs that cross (or crossed) existing administrative boundaries, whether these are departmental boundaries within a Faculty, or cross-Faculty? (Again, check all that apply, considering the full range of IDPs at your institution.) One or more IDPs report

- directly to the Provost
- to the Dean of Graduate Studies
- to a Faculty dean
- to an oversight committee of deans
- to a department chair
- to an oversight committee of department chairs
- to an oversight committee consisting of both chairs and dean(s)
- to an institute or research centre
- other (please describe)

5. Which of these administrative procedures at your university seem to represent a good or best practice? Why?

Financial Arrangements

The costs for an IDP include (portions of) the salaries of faculty associated with the program, possible administrative support, space, and possibly graduate student support. Income for the program is a related issue.

6. How is the faculty involvement in the program supported?

- home departments are paid for a faculty member's released time
If so, at what level? (e.g. full cost, or sessional replacement cost)
- faculty are paid overload for their involvement
- faculty are appointed directly to the IDP, or as a joint appointment
- other (please describe)

7. Which of these procedures at your university seem to represent a good or best practice? Why? Alternatively, which has your university tried and found wanting?

8. What form or amount of direct administrative support does an IDP receive at your university, and from whom does it come?

9. How does your institution handle the space needs or wants of a new IDP?

10. On what basis does an IDP receive income to cover its costs?

- based on student numbers, recent or current
- based on an arbitrary lump sum amount
- other (Please describe)

11. What comments do you have about the efficacy and equity of these financial arrangements for the IDPs and other academic units?

Issues internal to an IDP

12. Has your university had successes with the pedagogical aspects of an IDP, such as the integration of knowledge from multiple disciplines, or novel approaches to teaching or to assessing learning outcomes? How have you evaluated these successes?

13. Has your university had difficulties with supervision of theses by cross-disciplinary committees? If so, how have you resolved these? Are IDP theses expected to be acceptable within each of the related disciplines, or are the expectations different because it is from an IDP?

14. Based on your university's experience with arrangements for internal governance of the program, are there any suggestions you might have for other universities? For example, has a program committee of faculty members associated with the IDP been valuable?