

Students' Perceptions of Information Programs in Canada

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Using a web-based survey, this study explored students' perceptions of their master's programs in information studies at six Canadian universities. Findings indicate that students rate most aspects of their programs positively, although few respondents give the highest ratings, indicating that there is substantial room for improvement. When asked directly, "How satisfied are you with the education you have received in this program?", the mean rating was 6.6 on a 10-point scale. Among the lowest ratings on quality measures were those for exposure to the latest developments in research and technology and exposure to the most significant developments in the field. We found a decrease in satisfaction as students progress through their programs. Compared to midstream students, a smaller proportion of students in their final term had positive perceptions on almost half of the measures. Findings from the study should be beneficial to information studies educators to inform decisions with respect to curriculum planning and program development.

Keywords: Information studies, master's programs, student satisfaction, graduate education, LIS education, web-based survey

Introduction

While program assessment initiatives in higher education often focus on student performance and learning outcomes, there is a growing interest in student-oriented measures, such as satisfaction, as a measure of program quality. This focus on student satisfaction has been driven in part by a shift towards the adoption of consumer service models in higher education, which recognize the potential salutary effects of student satisfaction on recruitment and retention (Gruber, Fuß, Voss, & Gläser-Zikuda, 2010; Thomas & Galambos, 2004). However, there is also

a sound pedagogical rationale, as student satisfaction has been shown to influence academic performance (Bean & Bradley, 1986; Pike, 1991). Much of this research focuses on undergraduate education, but some studies have addressed graduate education including professional programs, e.g., nursing and business. In the LIS field, a limited body of research has studied students' perceptions of their educational programs across institutions, within a single institution, and across different delivery modes; other researchers have studied alumni of LIS programs. In a time of dramatic growth in the size, complexity and diversity of offerings within graduate LIS

programs it behoves researchers to study students' perceptions of their programs with the goal of identifying areas where satisfaction is high and areas that need improvements. Greater understanding of students' perceptions can also lead to more effective recruitment efforts, opportunities to improve and enrich the student experience, and increased alumni support through service, donations, and willingness to serve as positive spokespeople for our programs.

This paper reports on a study that investigated students' perceptions of their master's programs in six Canadian universities. Study goals were to identify perceptions of specific program attributes and to test for effects of program stage and characteristics of the sample population. Looking forward, we also asked participants in our study to indicate the extent of their support for ten possible future directions for master's programs in information schools. The study involved the development, testing and deployment of three web-based questionnaires within multiple information studies programs in Canada. Use of these evaluation tools is now open to all interested members of the LIS educational community. They are available at <http://www.diiugbc.ca/projects/lfos/Instruments.htm>

Literature Review

Although we have a wealth of research on LIS education, few published studies of students' perceptions of their masters programs exist. The extant published research relevant to this study falls into two categories: (1) studies of student satisfaction in higher education generally; and (2) studies of students' and graduates' perceptions of their master's programs in LIS.

Student Satisfaction in Higher Education

There is a substantial body of work on student satisfaction that can provide some

valuable context for the current study. Most of this literature points to the multi-dimensional nature of student satisfaction, which is predicated on perceptions of the quality of diverse aspects of the student experience, including personal, academic, social and institutional aspects (Gruber, Fuß, Voss, & Gläser-Zikuda, 2010; Thomas & Galambos, 2004). Studies show quite consistently that students' perceptions of the quality of academic aspects of programs (teaching, faculty, courses, etc.) are the most important in determining satisfaction (Gruber, Fuß, Voss, & Gläser-Zikuda, 2010; Hearn, 1985; Thomas & Galambos, 2004). Following foundational work by Astin (1993), who championed the importance of studying student satisfaction, researchers have recognized that satisfaction does not depend solely on students' experiences in the program, but is influenced to some extent by characteristics of the student, most notably their academic performance, which is positively correlated with satisfaction (Bean & Bradley, 1986; Pike, 1991).

Other characteristics relevant to this research have received less attention. Some studies have found that satisfaction levels are higher among women than men: (e.g., Moro-Egido & Panades, 2010), although others have found no difference (Sanders & Burton, 1996). However, there is substantial evidence that satisfaction among female students depends more on social and relational aspects of their programs than is true of their male colleagues (Bean & Bradley, 1986; Hearn 1985; Sanders & Burton, 1996). In one of the few studies focused on graduate students, Moro-Egido and Panades (2010) found that part-time students are less satisfied with their educational experience than are full-time students. A recent study of undergraduates in a German university found that satisfaction was negatively correlated with the number of semesters a student had completed (Gruber, Fuß, Voss, & Gläser-Zikuda, 2010). This finding is supported by a number of other

studies that have found a similar effect of a general decline in levels of satisfaction as students move through their programs (Cherry, Duff, Freund & Singh, 2011; Hill, 1997; Li & Kaye, 1999). Finally, a study of a more professionally oriented program in the decision sciences found that satisfaction with employment opportunities and placements was strongly associated with program satisfaction more generally (Krehbiel & McClure, 1998). The vast majority of studies of student satisfaction in higher education are conducted with samples of undergraduate students in general academic programs. The study presented here is focused on a different population, with the aim of better understanding the graduate experience in information programs specifically, and to investigate the extent to which these broader findings are applicable to this population.

Studies of Students' and Graduates' Perceptions of Their Master's Programs in LIS

The current study builds on previous work that investigated students' perceptions in one institution over four years. Cherry, Duff, Singh and Freund (2011) conducted a four-year study of master's students enrolled in the Master of Information program at the University of Toronto while the Faculty of Information was undergoing a transition toward an iSchool. The study explored students' perceptions of their master's program in terms of academic quality and professional preparation as well as their perceptions of the information professions. Students had an opportunity to complete self-administered questionnaires eight times during the four years: incoming students in the fall term for four years, and the entire student body in the spring term of those same years. The questionnaires administered in the Spring contained questions related to the quality of the academic program. Overall, only 51% of respondents in the spring sur-

veys agreed or strongly agreed that course content was intellectually stimulating and only 34.1% rated the overall quality of the academic program as excellent or very good. With respect to professional aspects of the program, 61.5% agreed or strongly agreed that program activities foster a sense of professional community and 55.6% agreed or strongly agreed that the program was preparing them for a professional career. The researchers found no statistically significant differences in students' perceptions of academic aspects or professional aspects of their programs across the four years of the study, but they found a significant effect of program stage in all four years of the study. A smaller proportion of students closer to graduation were positive about academic aspects and professional aspects of their program than those at earlier stages of their program.

A number of studies have surveyed students and graduates across institutions. Berry (1999) reported on a major survey of student members of ALA who attended a variety of LIS schools. The study found that students rated their programs highly in terms of preparing them for a library career but they raised concerns regarding a perceived over emphasis on technology and theory at the expense of practical library experience; the students also noted a lack of institutional support and limited program resources. Aharony and Raban (2008) studied attitudes of students, instructors, and practitioners in information studies and business management in two universities in Israel. Ratings of students in information studies pointed to "a definite desire by the stakeholders to learn more in the areas that seem more practical and less academic" (p. 106). A Canadian study on the state of human resources in libraries and LIS education (Cultural Human Resources Council, 2006) found a lower level of program satisfaction among students: only 46% agreed that their program was providing them with an understanding of a career as a librarian or in a related profession, and 68% indicated satisfaction

with overall program quality. This study also found that students wanted a greater emphasis on practice, with the most common suggestion for program improvement being additional practical training.

Dow (2011) conducted semi-structured interviews with 28 students and recent graduates of LIS programs to investigate the LIS learning experience of students compared to their previous academic experience. Dow recruited students from 25 different universities using an international listserv for archivists and an internal listserv for students and alumni at the School of Library and Information Science at Louisiana State University. Ten of the interviewees had graduate degrees prior to entering their program, while 18 participants had only bachelor's degrees. Dow concluded that students with different educational backgrounds had different views of their LIS programs. Those with only an undergraduate degree and those with a graduate degree that focused on a skill or occupational element did not experience any significant learning culture shock in the LIS program. However, those with a graduate degree from the humanities or pure social sciences voiced concern over many aspects of the LIS learning culture, e.g., that there are right and wrong answers (rather than opinions); by the "tsunami of projects with hard deadlines" (rather than a substantial project; p. 37); collaboration (rather than working alone); and public presentation of work (rather than written submissions). Dow concluded that these students "experienced learning culture shock and were at risk of becoming disaffected" (p. 38). She suggests that advisors of these students "should alert them to the culture shock by discussing the pedagogical methods of their previous degree and comparing them to the methods common in the LIS program they have decided to join" (p. 38).

In the Workforce Issues in Library and Information Science 2 (WILIS 2) project, Marshall *et al.* (2010) gathered data on program evaluation and employment ex-

periences from alumni of 39 participating LIS master's programs, 34 in the US and five in Canada. The survey garnered responses from 3,507 alumni (96% of which has graduated since 2003) with an overall response rate of 40.5%. Overall, the respondents rated their satisfaction with the education they received in their LIS program highly. On a 10-point scale where 10 = very satisfied, the mean rating was 7.6. Sixty-three percent of respondents reported that their program prepared them well or very well for their first job. When given the opportunity to indicate what would make them more satisfied with the education they received respondents noted: more opportunities for practical/hands-on experience; greater emphasis on administration and management; more content on instructional roles of practitioners; more faculty with work experience in libraries; more technology training; more training in grant writing; and a wider variety of courses/more specialized courses. Eighty-one percent of those who had taken at least one online course evaluated the online delivery as convenient; only 58% rated it as effective. In contrast, 61% rated face-to-face delivery as convenient and 91% rated it as effective. When asked about their capstone experience, respondents rated the practicum or similar experience most highly with 88% indicating that it was very beneficial and 11% indicating it was somewhat beneficial. The majority of respondents who had completed a master's paper or thesis rated it as very beneficial (53%) and somewhat beneficial (40%); those that completed a portfolio also rated it highly (38% reported very beneficial and 50% reported somewhat beneficial). Only 18% rated the comprehensive exam as very beneficial; 56% felt it was somewhat beneficial.

Although there has been a great deal of interest in online learning in the last decade, our study does not deal specifically with delivery format, as it is not a major component of information programs in Canada. Aharony (2011) provides an ex-

cellent review of the research on distance education including student satisfaction with online learning in LIS.

Overall, previous studies indicate that students and graduates of LIS programs have concerns over balance between theory and practical experience, with most wanting greater emphasis on the practical and more experience with technology. Most studies report not very high levels of student satisfaction, but data suggests that students' previous educational backgrounds and their stage of program might affect their rating of their programs.

Research Design

The present study extends previous research by exploring students' perceptions of their programs at both the aggregate level and within subgroups, and by increasing the external validity of the findings by employing a large-scale, multi-institutional research design. Student satisfaction is assessed through measures of perceived quality and through an overall satisfaction rating. The study addressed the following research questions:

1. What are students' perceptions of their master's programs in information studies?
2. Are there differences in perceptions within the sample?

In addition to the research questions, the project had two objectives: (1) to develop, test and make available standardized instruments for program assessment, suitable for use across institutions and programs of study, and (2) to collect a set of baseline data for program assessment and comparison in information studies.

The study builds on research conducted at the Faculty of Information Studies, University of Toronto over a period of four years (Cherry *et al.*, 2011). The survey methodology and instruments, which had undergone extensive testing and refinement for use at the University of Toronto,

were generalized and adapted to suit the broader cultural and institutional settings of the six schools which participated in this study. The revised versions were pretested and then implemented using Infopoll, a web-based survey application which allowed for remote participation and streamlined administration. We collected data from students in information programs at six schools in March 2010. The six participating institutions were: University of Alberta, University of British Columbia, Dalhousie University, McGill University, University of Western Ontario and the University of Toronto. Standardized recruitment materials and schedules were used to conduct the survey at each institution.

We invited students to participate by completing the New Student Questionnaire, the Midstream Student Questionnaire, or the Graduating Student Questionnaire. Figure 1 shows how the survey instruments overlap and differ. In this paper, we report on general satisfaction as well as program evaluation variables in four categories: academic and intellectual environment, program content and structure, coursework, and facilities and services. As indicated in Figure 1, program evaluation variables were not included in the Incoming Student questionnaire.

The survey methodology followed Dillman's Tailored Design Method (Dillman, 2007), including refinements based on experience in the study at the University of Toronto. The survey administration included three contacts with students. An advance email message was sent to each student in the population advising them of the upcoming survey. The following week, an email invitation message containing the URL for the web-based survey was sent. Two weeks later, a reminder email was sent. Participation was completely voluntary and anonymous. We offered participants the opportunity to enter a prize draw in appreciation of their contribution to the research. We offered six draw prizes of netbook computers or e-readers valued

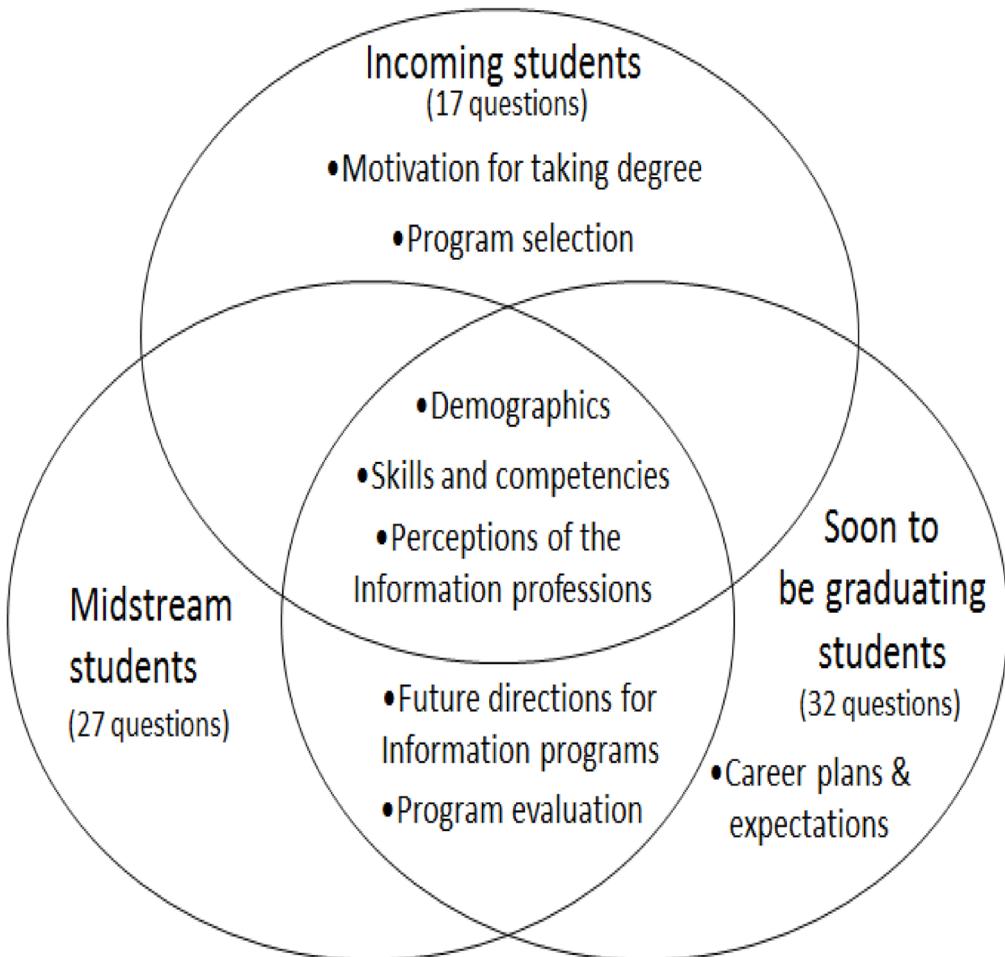


Figure 1. How the New Student, Midstream Student and Graduating Student Questionnaires Overlap and Differ.

at approximately \$250 and conducted one draw per school. Students who clicked on the link in the invitation email were directed to the introductory page of the survey, which provided information about the survey purpose and procedures and asked participants to indicate their informed consent by clicking on a link to the survey instrument. All students were invited to participate, so the introductory page had separate links leading to the three different questionnaires (new, midstream, and soon-to-be-graduating students). It took participants between 15 and 30 minutes to complete the questionnaire. Participants who chose to enter the draw were redirected to a web form at the end of the ques-

tionnaire that collected their names, student numbers, and email addresses. This information was not accessible to the researchers, but went directly to a third party who conducted the draw, and who did not have access to the research data collected from the participants in the questionnaire. The research protocol was approved by Research Ethics Boards at the authors' institutions.

Data Analysis

We provided each participating school with a summary report of the responses from its own students, including mean scores, distributions, and qualitative re-

sponses in full. We also provided each school with the aggregate mean scores and distributions for the entire pool of respondents. In this paper, rather than make comparisons across the participating schools, we analyze the pooled data of respondents from all six schools. We also look at subgroups within that pool (e.g., males/females; full-time/part-time students, mid-stream/soon-to-be-graduating students). Data analysis was conducted using SPSS.

The items in the questionnaires used three types of scales. When asking students to assess the quality of a dimension of their program, we used the scale, "Poor, Fair, Good, Very Good, Excellent." We also provided an option for No Opinion. We refer to these questions as quality questions. In our analyses we considered Poor and Fair to be negative and Good, Very Good and Excellent to be positive. We acknowledge that including the categories of Good, Very Good and Excellent in the positive group weights the ratings more heavily on the positive side. We excluded responses on No Opinion. The second type of scale included a midpoint of "Ambivalent." When asking students to indicate the degree to which they agreed with a statement, we used the scale, "Strongly Disagree, Disagree, Ambivalent, Agree, Strongly Agree." We also provided an option for No Opinion. We refer to these questions as agreement questions. In our analyses we considered Strongly Disagree and Disagree to be negative and Agree and

Strongly Agree to be positive, since the statements were phrased to reflect what the researchers considered desirable features of a program. We excluded responses of Ambivalent and No Opinion. The third scale was a 10-point numeric scale which we used to measure overall satisfaction. The low end (1) was labelled "Completely Dissatisfied" and the high end (10) was labelled "Completely Satisfied." Points 2 through 9 were not labelled.

We used the chi-square test of independence to test for the effect of subgroup variables (gender, enrolment status, and stage in program) on measures of satisfaction. In these analyses we recoded the student satisfaction data from the quality questions and the agreement questions into dichotomous variables (negative, positive) using the categories described in the previous paragraph.

Findings

The response rate for the survey was 45.5% (629/1,381) including 67 New students, 360 Midstream students and 202 Soon-to-be-graduating students. Response rates varied from 41.3% to 53.2% across the six schools. Table 1 shows the response rates for the six participating schools.

We first present the students' perception results for the pool of responses from all six schools. Then we report on differences between subgroups within the sample. Lastly, we report on the extent of

Table 1. Response Rates.

	Respondents	Enrolled	Response Rate
Dalhousie University	50	121	41.3%
McGill University	68	144	47.2%
University Alberta	52	105	49.5%
University of British Columbia	117	220	53.2%
University of Toronto	218	512	42.6%
University of Western Ontario	117	279	41.9%
School not identified	7		
	629	1,381	45.5%

support which respondents indicated for ten possible future directions for their information program.

Student Satisfaction: Respondents from All Six Schools

Academic and Intellectual Environment

We asked Midstream and Graduating students to rate various dimensions of the academic and intellectual environment of their master's program as Poor, Fair, Good, Very Good or Excellent. "Quality of faculty members" received the largest percentage of positive ratings (86.6%), followed by "Quality of fellow graduate students" (77.5%), "Academic standards" (77.2%) and "Relationship between faculty and students" (71.8%). Figure 2 shows a breakdown of the percentage of respondents who gave each of the positive responses.

Program Content and Structure

We asked students to indicate the extent to which they agreed or disagreed

with statements regarding various aspects of the content and structure of their programs. The most positive responses were for the statement, "The program provides me with an education that will facilitate career growth and development" with 89.8% of respondents indicating that they agreed or strongly agreed with the statement, followed by "Program activities foster a sense of professional identity" (81.5%), "Program activities foster a sense of intellectual community" (76.9%), and "The program fosters intellectual diversity" (70.5%). Fewer than 70.0% of respondents agreed or strongly agreed with two statements: "The program exposes students to the latest developments in research and technology" (65.4%) and "The program structure provides opportunities to engage in interdisciplinary work" (56.8%). Figure 3 shows a breakdown of the percentage of respondents who agreed and strongly agreed with each statement.

Coursework

In addition to statements about high level characteristics of their master's pro-

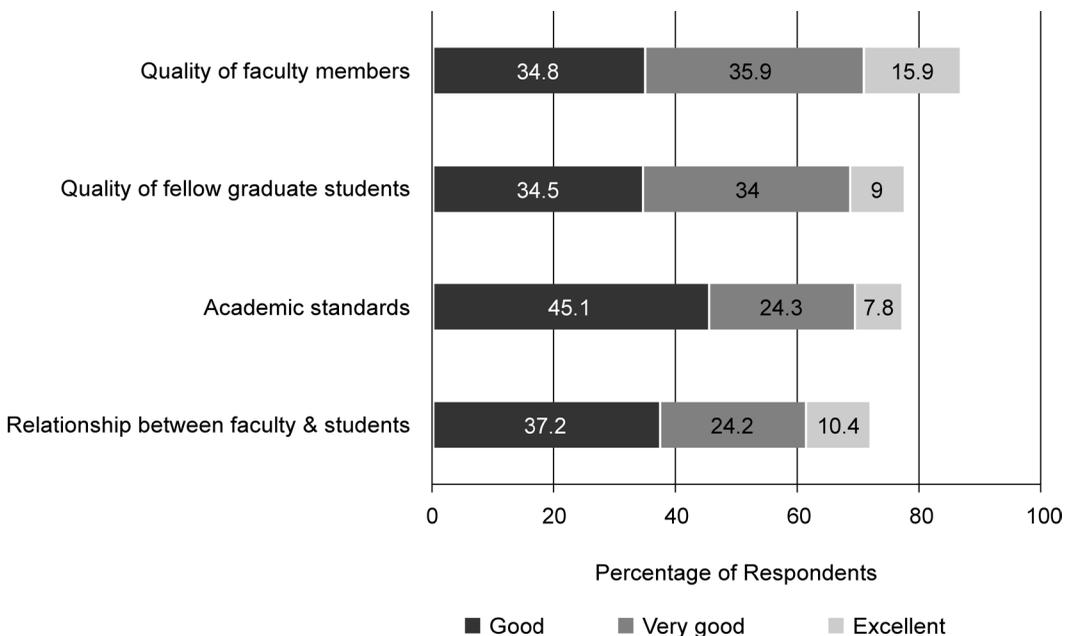


Figure 2. Perceptions of the Academic and Intellectual Environment.

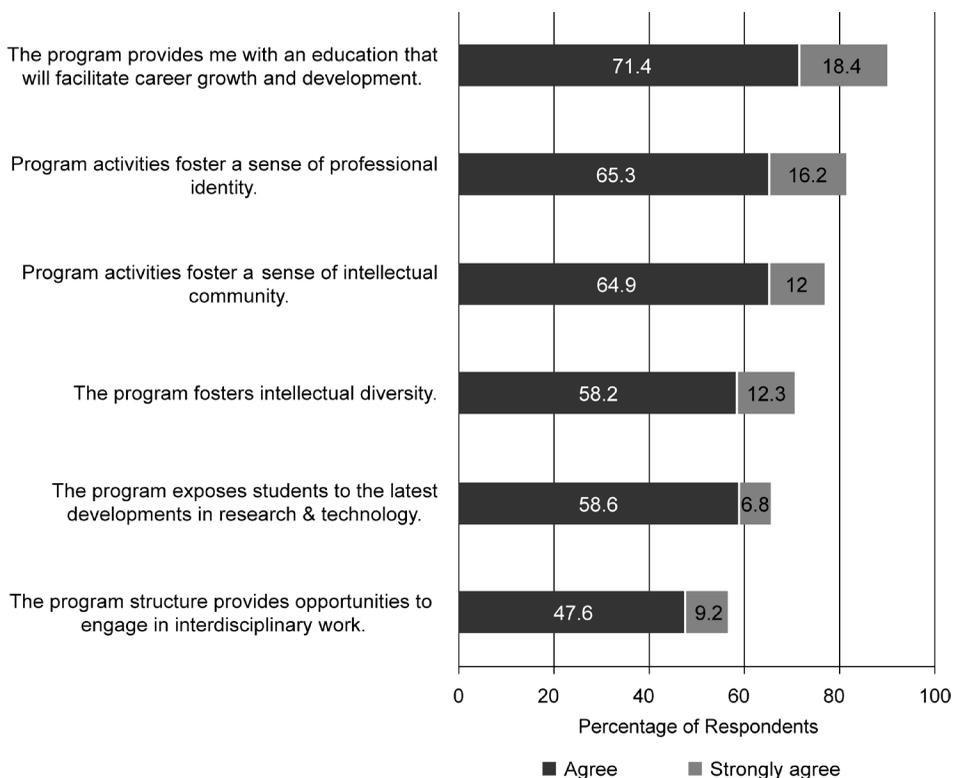


Figure 3. Perceptions of Program Content and Structure.

gram, we asked students to what extent they agreed or disagreed with statements concerning coursework in their master's program. The most positive responses were for the statements "Course content (e.g., lectures, discussion, readings) is intellectually challenging" (76.0%), followed by "Course assignments are intellectually challenging" (75.7%), and "Courses offer the opportunity to engage in independent work in areas of personal interest" (73.1%). Fewer than 70% of respondents agreed or strongly agreed with two statements: "A broad range of relevant courses is offered" (68.6%) and "Courses that address the most significant developments in the field are offered" (67.6%). Figure 4 shows a breakdown of the percentage of respondents who agreed and strongly agreed with each statement.

Facilities and Services

Facilities and services available to stu-

dents may also affect their experience. We asked students to rate academic facilities and services on a five-point scale (Poor, Fair, Good, Very Good, Excellent). Library facilities received the largest percentage of positive responses (over 90%), followed by information technology services (87.2%), and student support services (78.4%). Fewer than 70% of respondents gave positive ratings for program space and facilities (65.5%). Figure 5 shows a breakdown of the percentage of respondents who gave each of the positive responses.

Overall Satisfaction

To get an overall assessment of student satisfaction with their program we asked students to rate their satisfaction with the education they received in their program using a 10-point scale where 10 was "completely satisfied." The questions were worded slightly differently to fit the

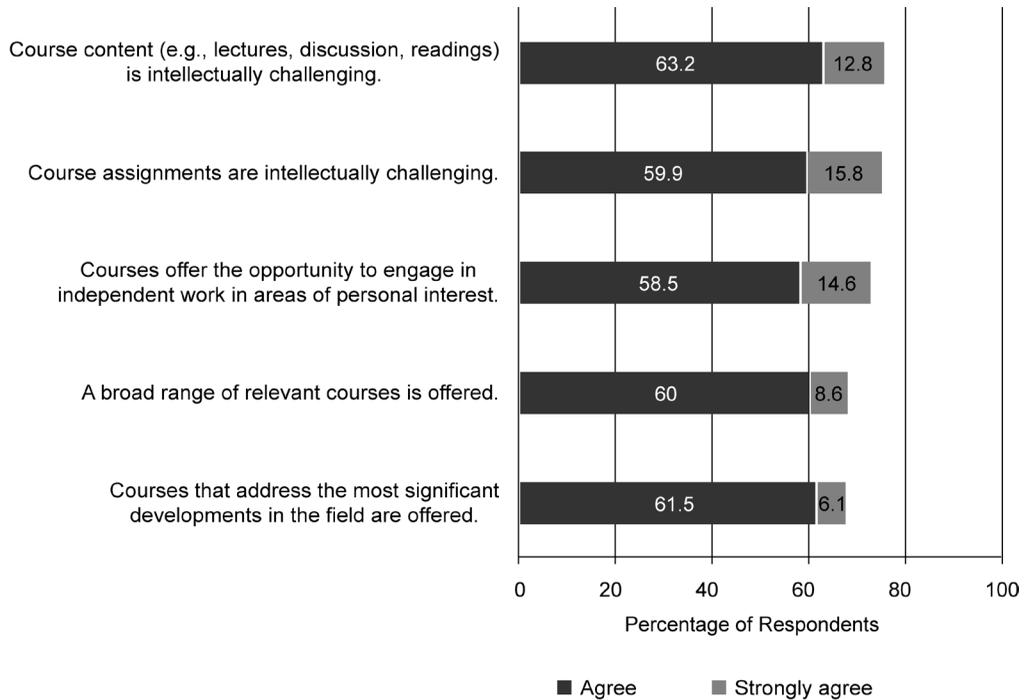


Figure 4. Perceptions of Coursework.

student's stage in the program. We asked Midstream students, "Overall, how satisfied are you with the education you received in this program to date?" We asked Graduating Students, "Overall, how sat-

isfied are you with the education you received in this program?" The mean rating across the 557 midstream and graduating students who answered these questions was 6.6.

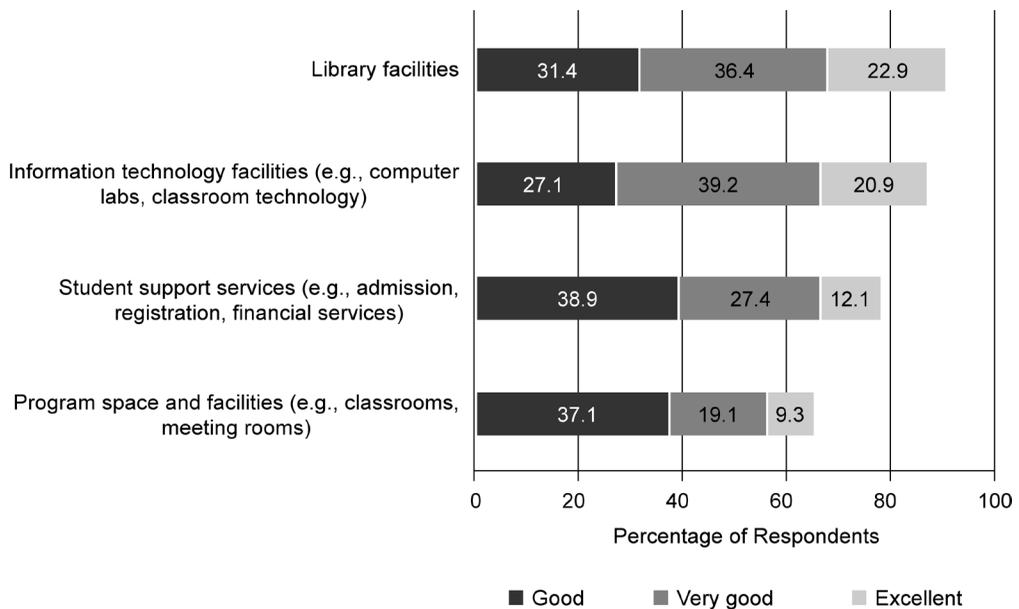


Figure 5. Perceptions of Facilities and Services.

Students' Perceptions: Differences within the Sample

In this section we report on our analysis of differences in student satisfaction between subgroups within the sample. We compared responses of males and females, full-time and part-time students, and midstream students and soon-to-be-graduating students.

Gender

The gender split in the respondent pool was 85.7% female; 14.3% male. Of all the satisfaction variables we discuss in this paper, we found a relationship for only one variable. Of the female respondents, 78.1% agreed or strongly agreed with the statement, "Course content is intellectually challenging." Only 64.8% of male respondents agreed or strongly agreed with this statement ($\chi^2 = 4.542$, $df = 1$, $p = 0.033$).

Enrolment Status: Full-time/Part-time Students

All six schools provided for full-time and part-time study. The percentage of part-time students in the respondent pool was 17.6%. Similar to our findings regarding gender, we found a relationship for only one of the variables discussed in this paper. Of the respondents who were part-time students, 77.6% agreed or strongly agreed with the statement, "The program offers the opportunity to engage in independent work in areas of personal interest." Only 53.6% of full-time students agreed or strongly agreed with this statement ($\chi^2 = 11.565$, $df = 1$, $p = 0.001$).

Stage in Program: Midstream/Soon-to-be-graduating Students

To look for effects of "stage in program" we compared the responses of midstream students (neither first nor final term) and soon-to-be-graduating (final term) students. Of the variables we discuss in this

paper we found a relationship for nine variables. For all nine variables, a smaller percentage of soon-to-be graduating students were positive. Table 2 shows these variables and the differences between the responses of midstream and soon-to-be-graduating students.

Summary of Students' Perceptions

It is useful to summarize students' perceptions on the variables reported here. Figure 6 shows the percentage of positive responses for the quality questions. On the high end, over 85% of responses were positive for three items: library facilities (90.7%), information technology services (87.2%), and quality of faculty members (86.6%). On the low end, only 65.5% of the respondents gave a positive response for program space and facilities.

Figure 7 shows the percentage of positive responses for the agreement questions. On the high end over 80% of responses were positive for two items: "The program provides me with an education that will facilitate career growth and development" (89.8%) and "Program activities foster a sense of professional identity" (81.5%). On the low end, only 56.8% of responses were positive for, "The program structure provides opportunities to engage in interdisciplinary work."

Future Directions

In addition to asking students their perceptions of various aspects of their programs, we asked them to indicate the extent to which they would support ten possible future directions that their programs might take. For each possible future direction, the choices were: Strongly Oppose, Oppose, Ambivalent, Support, Strongly Support. The findings showed that almost all respondents support greater emphasis on professional work (99.2%). There is student support for both greater integration of different areas of study (94.5%) but also support for more diversity in terms of more

Table 2. Differences Between Midstream and Graduating Students.

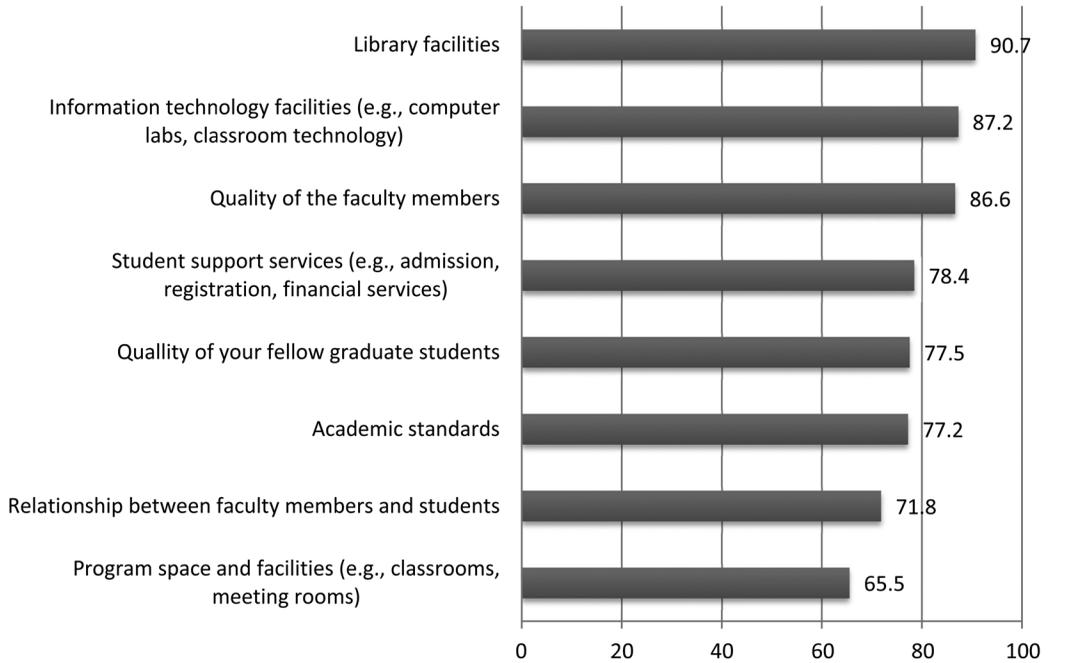
Agreement Questions	Percentage of Respondents who Reported Positive Perceptions		Significance
	Midterm	Graduating	
The program exposes students to the latest developments in research & technology.	69.3%	58.2%	$\chi^2 = 5.109, df = 1, p = 0.024$
The program provides me with an education that will facilitate career growth & development.	92.0%	85.7%	$\chi^2 = 4.197, df = 1, p = 0.040$
A broad range of relevant courses is offered.	73.8%	59.3%	$\chi^2 = 10.510, df = 1, p = 0.001$
Courses that address the most significant developments in the field are offered.	73.9%	56.6%	$\chi^2 = 11.807, df = 1, p = 0.001$
Course assignments are intellectually challenging.	81.3%	64.6%	$\chi^2 = 14.682, df = 1, p < 0.001$
Course content is intellectually challenging.	80.8%	66.9%	$\chi^2 = 10.073, df = 1, p = 0.002$
Quality Questions			
Program space and facilities (e.g., classrooms, meeting rooms)	67.8%	32.2%	$\chi^2 = 6.843, df = 1, p = 0.009$
Quality of the faculty members	89.5%	81.1%	$\chi^2 = 7.839, df = 1, p = 0.005$
Academic standards	83.0%	67.0%	$\chi^2 = 18.429, df = 1, p < 0.001$

joint and collaborative programs with other departments within the university (94.5%) and recruitment of faculty members from a broader range of disciplinary backgrounds (65%). Most students want higher standards for admissions (87.9%). There is also considerable support for a greater emphasis on student research and theses (61.1%) and greater emphasis on the theoretical foundations of information studies (54.1%). Few students support increasing the size of the school by hiring more faculty members and accepting more students (22.9%). Figure 8 shows the breakdown of percentage of respondents who supported and strongly supported each of the ten possible future directions.

Discussion

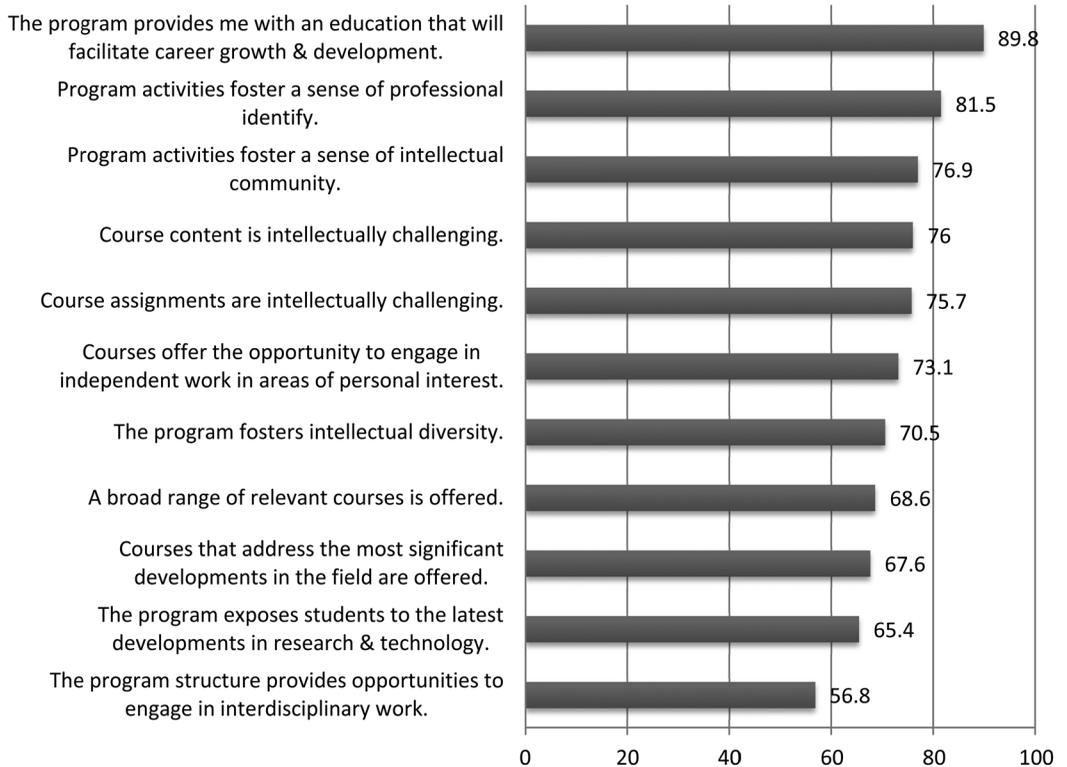
Our first research question asked, What are students' perceptions of their master's

programs? The data presented here indicate that across these six programs, the majority of students rate aspects of their programs positively. However, only a small proportion of respondents give the highest ratings (excellent, strongly agree), so from a customer services perspective, there is room for improvement in all aspects of the student experience examined here. If we consider the four categories of program evaluation variables, library and information technology facilities stand out as receiving very high ratings in the Facilities and Services category. Ratings are also moderately high for items in the Academic and Intellectual Environment category, particularly with respect to the quality of faculty members. The lowest levels of satisfaction are related to Program Structure and Coursework, specifically with respect to interdisciplinarity, and exposure to the latest developments in research and tech-



Percentage of Respondents Who Gave a Rating of Good, Very good or Excellent

Figure 6. Comparison of Students' Perceptions for Quality Questions.



Percentage of Respondents Who Agreed or Strongly Agreed with the Statement

Figure 7. Comparison of Students' Perceptions for Agreement Questions.

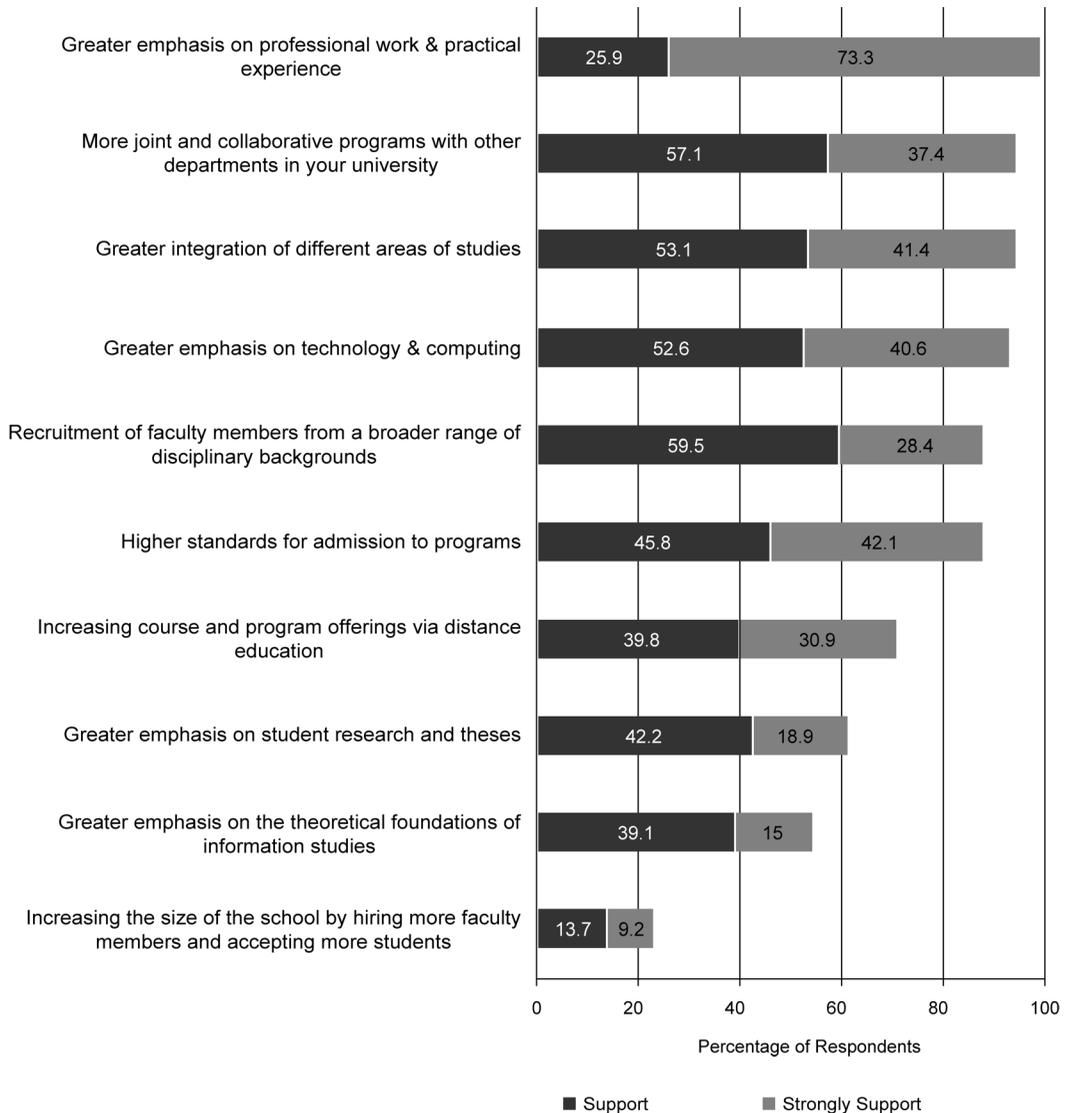


Figure 8. Student Support for Future Directions.

nology and the most significant developments in the field. Although one might argue that increasing interdisciplinarity is not essential in LIS programs, our results show that the majority of students would support such developments, so the low scores here can be seen as an indication of dissatisfaction.

These results indicate that students are positive about many aspects of their education and that the greatest need for improvement is in the programmatic areas, including curriculum and courses, which

are the most malleable and subject to ongoing redesign. Nevertheless, we need to understand better why students believe their programs fail to expose them to the latest developments in research and technology or the most significant developments in their field. This may be related to students' concerns over being "job ready" and fully conversant with developments, standards, and applications relevant to the entry job market. Addressing these concerns is critically important for the future of the information professions.

When asked how satisfied they were with the education that they had received to date, the mean rating was 6.6 on a 10-point scale where 10 was Completely Satisfied. In comparison, the WILIS 2 study found an overall satisfaction rate among alumni of information programs of a full point higher: 7.6 out of 10 (Marshall *et al.*, 2010). Our own data show that satisfaction drops as students move through the program and approach graduation, but given the WILIS results, it seems possible that students' perceptions of their programs rise again once they become working professionals. This trend requires further validation, but it points to the importance of providing students with support in the final months of their program and in the transition between school and employment.

Our second research question asked whether there are differences within the sample. Results show only very limited effects of gender and full-time/part-time status, with no differences in the general levels of satisfaction. While this is a positive outcome with respect to these programs, as marked differences between such sub-populations would be troubling, it does little to clarify the contradictory findings of previous studies of student satisfaction, as noted in the literature review. Such effects are likely to be dependent on discipline and academic context, as noted by Dow (2011), and thus do not form consistent patterns across studies. The small differences found in this study are intriguing, nevertheless, and it is hoped that future research will investigate them further. Are the gender differences in perceptions of course difficulty borne out in better performance by male students, or does this reflect a gender difference in self-reporting behaviour? Are part-time students simply more aware of options for independent study than full-time students because they seek opportunities to relate their work to their studies or opportunities to reduce scheduling difficulties; or are these options more available to part-time students

because they move through their programs at a slow pace?

We also compared two groups in the sample who were at different stages of their program. What emerges as a clear trend is the decrease in satisfaction as students progress through their programs. These results across six programs validate earlier findings from a single information program (Cherry, Duff, Freund & Singh, 2011) as well as studies of other student populations (Gruber, Fuß, Voss, & Gläser-Zikuda, 2010; Hill, 1997; Li & Kaye, 1999). Students in the final term of their program were significantly less satisfied on almost half of the measures. This phenomenon is likely to be multi-faceted, including effects of professional socialization and habituation that moderate students' initial enthusiasm. However, it seems likely that heightened anxiety levels as students prepare to enter the job market contribute to more critical assessments of their programs. This would be in keeping with the findings of Krehbiel and McClure (1998) that program satisfaction is associated with satisfaction with employment opportunities and placements. We need additional research to understand the reason for this decline in satisfaction.

With respect to future directions for information programs, the clearest message is that students across the board support a greater emphasis on professional work and practical experience. This same emphasis is echoed in the results of the WILIS project (Marshall, *et al.*, 2010) and other studies (8Rs Research Team, 2005; Berry, 1999; Cherry, Duff, Singh & Freund, 2011). Many students support other directions, such as more emphasis on technology and computing and efforts to broaden the field through interdisciplinarity and collaboration, goals which align very well with those of the iSchool movement; however, the applied and experiential dimensions of programs garner the greatest support. The challenge, then, is to simultaneously deepen the practical, experiential and professional aspects of information

programs while building in greater disciplinary breadth and openness and a stronger grounding in technology.

Limitations

One of the challenges in the data analysis resulted from the use of two different question types, with different scales. For items which used the Poor, Fair, Good, Very Good, Excellent scale we considered the rating to be positive if the response fell in the top three categories. For items which used the Strongly Disagree, Disagree, Ambivalent, Agree, Strongly Agree scale, we considered positive ratings to be in the top two categories and dropped the "Ambivalent" responses from the analysis. Given these differences, direct comparisons cannot be made across question type. A further limitation is that the study did not include questions related to delivery format. While none of the schools included in the survey had fully online or distance degrees at the time of the study, many of them do offer online courses. Questions on delivery format should be included in future research. Finally, since the study focused on information programs in Canada only, the ability to generalize is limited.

Conclusion

Information studies education has been going through a period of rapid transition. From fall 2002 to fall 2009 full-time equivalent enrolments in the 56 ALA accredited programs increased by 27.4% (ALISE 2003; ALISE 2010) and the number of full-time faculty members increased by 25.2% (ALISE 2010). With the iSchool movement program offerings are more diverse. This study provides a much-needed student-centred perspective on information studies programs, in this time of transition. Findings should be beneficial to information studies educators to inform decisions with respect to curriculum planning and program development.

As a practical benefit, the study pro-

duced a pre-tested survey methodology, a set of assessment tools and baseline data that can be used by information studies programs seeking to conduct their own program assessments. The availability of such tools reduces the amount of time and investment required to conduct these assessments, and may provide an incentive to conduct them. This study provides data from six schools; however, if additional schools decide to make use of the study instruments, it may be possible to collect an even larger pool of data and to track long-term trends.

Overall, this study makes an important contribution by giving a voice to information studies students that is not constrained to a particular program or institution. This deepens our understanding of the needs and concerns of students and enables us to foster more collaborative and supportive learning environments as the field moves forward.

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