The demand for undergraduate course provision in information and library studies

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Abstract: *This paper describes two exercises designed to investigate the factors affecting the demand for undergraduate educational provision in the field of information and library studies (ILS). The first was a survey of former and current students of the School of Information and Media at The Robert Gordon University in Aberdeen, which examined why they had chosen to undertake an undergraduate course in information and library studies. The second was a survey of fifth and sixth year pupils at six secondary schools in North East Scotland, and gathered market research data as to the appeal of a range of course and module titles, in order to determine which were attractive to prospective students. Major findings include: that former and current students were largely influenced by subject content and vocational field in their choice of course; that former students are likely to have gone into the non-conventional or 'emerging' information job market, regardless of their having come to the course with a vision of a career in a traditional library sector; and that despite Librarianship and Information Studies being an instantly recognisable and very clearly defined working environment, most prospective students surveyed do not find the course content attractive or potentially interesting. The paper concludes that the ILS profession should: collect and present evidence demonstrating the variety, challenges and satisfactions of information careers; reappraise the role of degree level qualifications in feeding into the job market; and develop routes into those sections of employment which information professionals are presently failing to enter.*

Introduction, aim and methodology

This paper describes two exercises, undertaken by staff at the School of Information and Media, The Robert Gordon University, designed to investigate the factors affecting the demand for undergraduate educational provision in the field of Information and Library Studies. For a number of years it has been the case that Schools of ILS across the United Kingdom have been experiencing a drop in demand for the traditional ILS course. At the Robert Gordon University this had been most markedly the case, with a drop in overall applications from a high of approximately 180 applications a year in the early nineteen nineties to application figures around the 20 figure, with enrolments falling further short of this mark, in the late nineties. In 1999 the decision was taken to close the course for the near future. While the professional organisations, the Library Association and the Institute for Information Scientists, had, at the School Review in June 1999, appeared to feel that this was an unremarkable trend and that information and library studies should be viewed as a postgraduate profession, staff of the School felt that the situation merited further exploration. For application figures to decline so rapidly and markedly, it was thought that there may be other factors at play which were affecting the marketability of undergraduate ILS courses. Staff of the School also hypothesised that there was likely to be a market for a course that took a slightly different form and focus, given the evidence for the existence of jobs in the marketplace.

There have over the years been a number of studies that have shed light on educational provision in information and library studies, although in the majority of instances investigation has focused upon either the market for information professionals or surveys of former students of schools of information and library studies, which have tended to look at first destination information and students' evaluation of their course of study, rather than why students chose the course of study in the first place. In the former category of studies of the market for information professionals falls much early work such as that of Cronin in 1983 [1], which identified a broad societal movement into the 'Information Society' which would provide an emerging market for information professionals. Moore [2] also predicted a broadening of the 'potential scope for employment offered by the emerging market for librarians and information workers', provided graduates were prepared to capitalise on these job opportunities and the schools of information and library studies made their qualifications more relevant to the needs of these new markets. Williams [3] also identified a group she termed 'alternative librarians' who were testing and expanding the boundaries of the

profession. Wisdom-Hill and Brittain [4] refer to the 'hybrid information worker' outside the traditional, institutional job market, but more recently Brittain [5] has warned that few with information qualifications are found in the growing market of information and IT related posts in the health services.

In the 1990s there have been additional doubts raised as to the potential of these hypothesised emerging markets and by 1996 Moore [6] was asking the apposite question:

> 'What need is there for information professionals when everyone becomes more professional in their use of information.'

Equally, Trickey (as quoted in Raven [7]) argues that the profession's flight from the term "librarian" demonstrates weakness in our claim to be a profession'. Raven, however, concludes that there are still a growing number of jobs that call for the specialist skills of the librarian. Wainwright [8], in the same issue, suggests that the ILS schools in the United Kingdom have failed to be responsive to the job market: however, the present authors would contest that view, as there is ample evidence that schools have sought to develop and create new courses to address these emerging markets and that they have taken on board the need for new skills, to the extent, some might argue, that the traditional skills of information retrieval, classification and cataloguing have largely been lost from many syllabi.

Abell [9] also argues that there are dangers implicit in the ever-higher profile of information in that information-related jobs are attracting a new range of 'high flyers' and that senior managers are developing their professional skills in the area of information management. This hypothesis might support the argument that it is at the postgraduate level and via distance education and continuing professional development targeted at senior managers that the future of information and library education lies. However, the authors of the present paper would argue that there is a role for education at undergraduate level for this field, as it is within the scope of a four year course of study that both the educators and the students have an opportunity to explore all of the facets of this field of growing influence. It is also important for the health and vitality of the profession to recruit young, dynamic, flexible and visionary individuals to the study of information and librarianship.

A number of studies, such as those of Armstrong [10], Loughridge [11], Loughridge and Sutton [12], Loughridge, Oates and Speight [13], Marcella and Baxter [14], Quarmby, Willett and Wood [15] and Santos, Willett and Wood [16] have examined first destination information and career progression of former students of schools of information and library

studies. These are interesting but tend to focus on postgraduate provision and tell us little of the hopes and aspirations of the students or of their reasons for choosing their course of study.

Only one previous study investigates the subject of the present paper in any great detail (Genoni and Greeve [17]): this study consists of a survey of 16 – 17 year olds in Australia which looks at their attitudes towards libraries and librarians, in particular in terms of criteria considered to be crucial factors in career choice. The survey was attitudinal and acknowledged that school leavers would have limited experience of school and public libraries but little sense of the academic and special library sector. The results of the survey show that school leavers ranked librarianship as a career very low, below other professional categories and even below a trade occupation, that of electrician. The authors conclude that librarianship is subject to negative images and to a certain level of misunderstanding, despite respondents' exposure to school and public library environments, and that respondents have very little sense of challenge and excitement in the profession of librarian. The authors recommend that marketing be focused toward the latter years of secondary school study and that it clearly demonstrate the range of activities in which librarians engage, the variety of work environments that employ librarians and the different roles that professional staff in libraries perform. The authors specifically challenge an ingrained contention:

'There is a case that is sometimes put: that we should not be too concerned about the lack of school-leaver interest in the profession. According to this line of thought, librarianship by its very nature is more likely to be attractive to a mature (i.e. middle-age) population looking to enter the workforce later in life or to make a mid-life career change, than it will be to school leavers who put a high priority on workplace excitement and novelty, and who would be loath to enter a work environment which might seem uncomfortably like school.'

A study by Rothwell [18] in 1990 had similarly found that the perception of librarians is at its most negative in the 16 – 24 age group, at the very point when universities might be hoping to attract students to undergraduate courses.

As a result of the foregoing, it was decided to design and carry out a study with the following aim:

◊ To investigate the factors that impact upon the attractiveness of an information related course at the undergraduate level

Two objectives were identified:

◊ To gather data as to why past and current students had chosen to undertake an undergraduate course in information and library studies

◊ To gather market research data as to the appeal of a range of course and module titles, in order to determine which were attractive to prospective students

The study was carried out in two parts: the first consisted of a survey of former and current students; and the second took the form of a survey of fifth and sixth year pupils in secondary schools. The survey of students was conducted by postal questionnaire to those students who had joined the University's Alumni Association and to current third year undergraduates. The response rate was not very good from former students, largely as a result of incorrect addresses. In total, 24 former students responded and 13 current students, giving a total of 37 students. While this cannot be deemed a fully representative sample of the approximately 250 students in the population, it does provide a flavour of what a proportion of the group felt in relation to their choice of study. It is felt that the focus of the questionnaire on what had affected respondents' choice of degree, potentially many years ago, might not have been sufficiently immediate to the group to encourage a high response rate. The survey was carried out in early 2000.

The second element of the study consisted of a questionnaire distributed to 6 local secondary schools, where the questionnaire was disseminated in class to fifth and sixth year pupils, who it was felt might be considering choices about University study at the time. This method of distribution was much more successful and 152 responses were achieved from 180 questionnaires distributed. The secondary schools were chosen in order to achieve a spread across the North East of Scotland of socio-economic groups by school catchment areas. One school was a public school, while the others were state funded. The questionnaire was designed to be easily understand and relatively quick to complete. It consisted of largely closed tick-box questions, as it was felt that open questions would tend to be ignored. The questionnaires appeared in the main to be completed fairly and without difficulty on the part of the respondents, although there were one or two responses that appeared to have been completed in a facetious manner. The questionnaires were analysed using SPSS and data were cross tabulated in order to determine the significance of variables for results. The second survey was carried out in the spring of 2000.

1. Survey of former and current students: analysis of results

Demographics of respondents

In total 37 responses were received, 24 from former students and 13 from current students. The majority (75%) of former students had graduated very recently, in 1997 or 1998, reflecting a greater level of interest amongst those closer to their studies. Of the current students, five students had started the course in 1996, while seven had begun in 1997 and one in 1998.

More males than females completed the questionnaires (see Table 1): however, this response would accurately reflect the greater proportion of female to male students.

Table 1: Gender of Respondents

	Former students		Current students		Totals	
Gender	**No.**	**%**	**No.**	**%**	**No.**	**%**
Male	7	29.2	3	23.1	10	27.0
Female	17	70.8	10	76.9	27	73.0
Total	24	100	13	100	37	100

Of those former students responding, 15 (62.5%) had completed an Honours year while nine (37.5%) had not done so. 27 respondents (73%) were aged 25 or under when they entered the course, while the remainder (10 respondents, 27%) were over 25.

Interestingly quite large proportions of respondents had not entered the course straight from school (see Table 2), reflecting that a significant number had had a break from full-time study and potentially that the impact of post-school experience might have been significant in determining choice of course. Sadly, figures are not available to carry out a full comparison, but it is felt likely that this emphasis is not the most common for all undergraduate courses.

Table 2: Did you enter the course straight from school?

	Former students		Current students		Totals	
	No.	**%**	**No.**	**%**	**No.**	**%**
Yes	7	29.2	3	23.1	10	27.0
No	17	70.8	10	76.9	27	73.0
Total	24	100	13	100	37	100

Former students were asked whether they were presently employed and just under 80% were presently in employment. This finding is not particularly significant, as the questionnaire did not seek to determine further the reasons for unemployment. However, the questionnaire did explore a little further the nature of the employment in which respondents had been or were currently engaged.

Table 3: Former students: In which of the following sectors are you working/have you worked? *(Present post: the 19 respondents currently in employment)*

	First Post		Present Post	
Sector	**No.**	**%**	**No.**	**%**
Public Library	4	16.7	-	-
Academic Library	4	16.7	4	21.1
School Library	-	-	-	-
Government Dept. Library	1	4.2	1	5.3
Special Library or Info. Unit	2	8.3	3	15.8
Other	7	29.2	8	42.1
No response	6	25.0	3	15.8
Totals	**24**	**100**	**19**	**100**

As is illustrated in Table 3, although a number of former students have worked in traditional library sectors, there is also a significant proportion who have been employed in other fields. These tended to be information related roles in, for example, 'business information executive', 'manager of information and orientation centre', 'bookstore as corporate and library sales manager' and 'preservation, microfilming'. Only three respondents were not in an information post. It is also particularly noteworthy that none of the respondents is currently working in the public library sector.

Attitudes to the course

The majority of respondents felt that the course had fulfilled their expectations in terms of course content (29 respondents, 78.4%), although interestingly rather fewer of the current students (8 respondents, 61.5%) than of former students (21 respondents, 87.5%) felt that this was the case. The numbers are not large enough to determine whether this is a trend or whether the former students have had rather more time to reflect maturely on their experience. In open responses, four former students gave reasons for the course failing to meet their expectations. One felt that there should have been a greater emphasis on books, while another felt that there should have been a greater emphasis on IT. One respondent thought that there

should have been more practical work involved. One respondent was dissatisfied in that they had not yet achieved a post in the field. Four current students replied to this open question: one felt that coverage of cataloguing was outdated; two felt that they would appreciate more in depth coverage of certain areas of the curriculum; and one did not feel that the course was as described in the prospectus.

While eight current students (61.5%) felt that the course was relevant to their needs, 17 former students (70.8%) had felt that the course was relevant to their first post and a slightly lower 12 former students (63.2%) felt that the course was relevant to their current post. These findings are to an extent predictable for a vocational course, as the first post is likely to demonstrate greatest relevance, while later posts may move further from the base and current students may be less aware of the professional necessity for emphasis on certain subjects. Four respondents indicated in what way the course had not been relevant to their first professional post: one would have appreciated more on copyright; another would have found greater coverage of quality and customer care useful: one respondent had not gone into a traditional library post; and one had failed to achieve a professional level post as yet. Two respondents specified ways in which a subsequent post had affected their needs: one felt that they had gone in a different professional direction but that they had still found the research and professional presentation skills applicable; a second respondent would have found more attention to time management, assertiveness and negotiation skills useful. Five current students specified additional topics that they would find useful, including: media and research topics (two cases); HTML site creation; literature; and professional employment guidance. (It should be noted that the majority of these topics will be encountered later in their course of study.)

Factors which influenced choice of course

Prior to joining the course, the majority of former students (21 respondents) had envisaged entering the profession of librarianship, while two had been uncertain and one had planned to become a lab technician. Eleven of the 13 current students envisaged becoming librarians, while two expressed a desire to become media researchers.

One of the central elements in the questionnaire consisted of an attempt to determine which factors influenced course choice. A long list of potentially influential factors was identified in wide discussion with former students still working in the University in order to ensure that as

wide a range of possible responses was offered. These were presented in random order to respondents who were asked to rank the factor on a scale from 1 to 5, from irrelevant to very important. It was felt important that these be presented randomly in order that the results be uncontaminated. The responses indicate that respondents were thoughtful in ranking factors.

*Table 4: Which of the following factors influenced your choice of course? Former students: Very important/Important percentage only (NB: Where percentage figures are identical, but one factor is ranked higher than another, this means that a higher proportion felt that the factor was **very** important)*

Factor	Very Important or Important (%)
1. Wanted a professionally recognised qualification	75.0
2. Wanted to work with people	75.0
3. Wanted a secure and stable job	70.9
4. Wanted to work in libraries	66.7
5. Wanted to work with books	62.5
6. Wanted to work in information management	62.5
7. Wanted to help people	58.4
8. Wanted to work with IT	58.3
9. Geographic location of course	54.1
10. Good future promotion/career prospects	54.1
11. Wanted a well paid job	45.8
12. University prospectus/leaflets	41.7
13. Wanted to be part of the Information Society	41.7
14. Previous relevant work experience	29.1
15= Reputation of University	29.1
15= Wanted to work in a dynamic environment	29.1
17. Wanted to work in public sector	25.0
18= Just wanted to get a job	20.8
18= University/School Open Day	20.8
20. University marketing/advertising	16.7
21. Did not get into another course	12.5
22= Reputation of School	12.5
22= Wanted to work with children	12.5
24= Good record of former students getting jobs	12.5
24= Wanted to work in local studies	12.5
26. Librarian influenced my choice	8.4
27= Careers advisors influenced choice	8.4
27= Parents influenced choice	8.4
29= Course recommended by previous students of SIM	-
29= Did not want to work with IT	-

For former students, there is an emphasis on a professional and stable working environment with good career prospects, and on working with books and people in a library or information management environment. They were influenced by geographic location and wanted a course

that focused on IT. They were not particularly influenced by brochures, prospectuses, University marketing or events, the reputation of the school, careers advisers or parents. To an extent this response calls into question much received wisdom in Universities about the significance of marketing and the role of, in particular, careers offices and parents on undergraduate choice of study. It would appear that our respondent group was influenced largely by factors around the subject of the study and the nature of ultimate employment.

Table 5 indicates the impact of factors upon choice for current students.

Table 5: Current students: Very important/Important percentage only *(Where percentage figures are identical, but one factor is ranked higher than another, this means that a higher proportion felt that the factor was **very** important)*

Factor	Very Important or Important (%)
1. Wanted a professionally recognised qualification	84.6
2. Wanted a secure and stable job	61.6
3. Wanted to be part of Information Society	61.6
4. Good future promotion/career prospects	53.9
5. Wanted to work in libraries	53.9
6. Wanted to work with IT	53.9
7. Geographic location of course	46.2
8. Wanted a well paid job	30.8
9. Previous relevant work experience	30.8
10. Wanted to work with people	30.8
11= University/School Open Day	23.1
11= Wanted to help people	23.1
11= Wanted to work in public sector	23.1
14. Librarian influenced my choice	23.1
15= Just wanted to get a job	15.4
15= Reputation of University	15.4
15= Wanted to work with children	15.4
15= Wanted to work in a dynamic environment	15.4
19. University prospectus/leaflets	7.7
20= Careers advisors influenced choice	7.7
20= Did not get into another course	7.7
20= Reputation of School	7.7
20= Wanted to work in local studies	7.7
24= Course recommended by previous students of SIM	-
24= Did not want to work with IT	-
24= Parents influenced choice	-
24= University marketing/advertising	-

Current students aspired to a stable and professional working environment as part of the Information Society, which offered good career prospects, in libraries and IT posts. Again, institutional level factors, marketing and school reputation were not particularly influential. The following table, Table 6, indicates the significant variations between responses of former and current students.

Table 6: Differences between responses from former and current students *(For the 27 factors that were asked of both sets of respondents; % Very Important or Important)*

Factor	Former students		Current students		Net Difference ± points
	%	Pos.*	%	Pos.**	
Wanted to be part of the Information Society	41.7	13	61.6	3	+19.9
Librarian influenced my choice	8.4	26	23.1	14	+14.7
Wanted a professionally recognised qualification	75.0	1	84.6	1	+9.6
Wanted to work with children	12.5	22=	15.4	15=	+2.9
University/School Open Day	20.8	18=	23.1	11=	+2.3
Previous relevant work experience	29.1	14	30.8	9	+1.7
Course recommended by previous students of SIM	0	29=	0	24=	0
Did not want to work with IT	0	29=	0	24=	0
Good future promotion/career prospects	54.1	10	53.9	4	-0.2
Careers advisors influenced choice	8.4	27=	7.7	20=	-0.7
Wanted to work in public sector	25.0	17	23.1	11=	-1.9
Wanted to work with IT	58.3	8	53.9	6	-4.4
Did not get into another course	12.5	21	7.7	20=	-4.8
Reputation of School	12.5	22=	7.7	20=	-4.8
Wanted to work in local studies	12.5	24=	7.7	20=	-4.8
Just wanted to get a job	20.8	18=	15.4	15=	-5.4
Geographic location of course	54.1	9	46.2	7	-7.9
Parents influenced choice	8.4	27=	0	24=	-8.4
Wanted a secure and stable job	70.9	3	61.6	2	-9.3
Wanted to work in libraries	66.7	4	53.9	5	-12.8
Reputation of University	29.1	15=	15.4	15=	-13.7
Wanted to work in a dynamic environment	29.1	15=	15.4	15=	-13.7
Wanted a well paid job	45.8	11	30.8	8	-15.0
University marketing/advertising	16.7	20	0	24=	-16.7
University prospectus/leaflets	41.7	12	7.7	19	-34.0
Wanted to help people	58.4	7	23.1	11=	-35.3
Wanted to work with people	75.0	2	30.8	10	-44.2

* Out of 30 Factors ** Out of 27 Factors

As can be seen, the Information Society, librarians and professional recognition were more influential with current students, while wanting to work with people or to help people, University marketing materials and salary levels were far less influential for this group.

Other factors which had influenced the choice of course for former students included: RGU's expert system for choice of course; the fact that a grant was available; and that RGU was the

only University that kept in touch while the applicant was awaiting examination results. One current student had been influenced by the level of entry qualifications required for the course.

Another factor that was deemed potentially influential from anecdotal evidence and about which respondents were specifically asked, was the size of classes. However, 32 respondents (86.5%) did not feel that the size of class had been significant in their choosing a course of study. For those that had been influenced by class size, three felt that a small class would be a more supportive atmosphere, while one felt that this would mean that the job market would not be swamped by graduates.

In an open question, respondents were asked to indicate the single most compelling reason for their choosing the course. A significant proportion of both groups stated that the desire to follow a professional career in librarianship had been their major motivator and that the vocational emphasis of the course had reinforced their decision. Some had been influenced by the varying fields in which a career was open to them, and by the fact that they felt they were likely to gain secure employment as a result of completing the course. Flexibility was identified as a factor by a significant proportion, as was the potential for future career advancement. A number specifically mentioned a desire to work with books.

Student recommendation is often seen as an important form of course promotion and students were asked whether they had ever recommended the course to anyone. Just over 50% of respondents had recommended the course to someone in the past, while 75% of respondents said that they would recommend the course.

In order to illuminate the optimum marketing strategy for a course, a series of open questions were asked that sought to highlight the particular strengths of the course and of the School. The first of these specifically asked what the greatest strength of the course had been/was. There was a range of response which is summarised in Table 7 below:

Table 7: The greatest strengths of the course

Strength	Former students	Current students	Total
Research/information searching skills	5	4	9
IT coverage	7	2	9
Broad coverage / balance	5	2	7
Dissertation	3	-	3
Professionally relevant skills	1	2	3
Management coverage	3	-	3
Quality of teaching and support	3	-	3
Assessment style	2	-	2
Up to date curriculum	1	1	2

NB: Not all respondents provided a response

Research, information skills, IT and the breadth of coverage of the course were felt to be the areas of greatest strength. It is worth noting that while IT was a major strength for former students, this was not the case for current students. This finding becomes more significant when we consider the responses to the following question, which asked respondents to identify the greatest weakness of the course.

Table 8: The greatest weaknesses of the course

Weakness	Former students	Current students	Total
Too theoretical	5	2	7
Cataloguing	2	2	4
IT	2	2	4
Too broad coverage of subjects	2	2	4
Heavy workload	2	1	3
Emphasis on libraries	1	1	2
Placement too short	2	-	2
Lack of copyright coverage	1	-	1
Management coverage	-	1	1
Lack of elective options	1	-	1

NB: Not all respondents provided a response

Clearly many respondents would have preferred a more practical approach to course delivery: however, it is also worth noting that some complained that coverage was too broad and in insufficient depth. Many students had also found this breadth a strength of the course, in response to the previous question. Complaints about IT related primarily to the resources available. Those that cited cataloguing as an area of weakness referred both to feeling that

there was too great an emphasis on cataloguing and to the fact that it is an essential element of many posts and that more time should be devoted to it.

Respondents were asked what aspects of the course they would emphasise in its marketing and they provided a wide range of suggestions. Former students felt that marketing should focus upon job success rates and the wide range of professional environments into which graduates may proceed, rather than focusing upon libraries. Promotional materials might explore the range of careers open to graduates and the fact that 'every organisation that I can think of needs someone with research skills and also someone with information management capabilities'. However, one respondent felt that more effort might be made to demonstrate the fact that librarianship is a satisfying career. A number felt that marketing should emphasise IT and media aspects of the course, as well as the transferrable aspects of the skills that students acquire, in IT, information retrieval, communication and management. Some respondents thought that it would be useful to promote the School's 'friendly and helpful environment', the approachability of lecturers, the quality of teaching and assessment methods and the facilities available. One respondent felt that promotional literature should capitalise on the concept that 'Information is power. Everyone has need of information'. Another respondent felt that aspects such as psychology and children's librarianship should be emphasised, but this represented a very minority view. Current student respondents again emphasised the very wide range of careers choices available and the extent to which the course encourages adaptability to changes in the Information Society. A number felt that it would be useful to demonstrate the range of professional specialisms both in the traditional library sector and in the broader range of information posts, in for example children's librarianship, business information, the health sector and law libraries. A significant number felt that IT coverage and facilities should be highlighted.

Respondents were invited to make further comments at the conclusion of the questionnaire and a number of interesting points were raised, largely in relation to marketing the course. One respondent argued that 'there is an enduring need for skills in organising and retrieving information, especially in IT', while another suggested that to increase numbers the School should emphasise the 'potential role of graduates in the ICT revolution'. One respondent applauded the fact that the survey was being carried out and hoped that it led to a greater number of students being well informed and choosing the course for the 'right' reasons. The importance of the practical exercises, such as the reference enquiry, was emphasised by one respondent, who felt that such teaching would be attractive and useful to students. The point was reiterated that it was important to emphasise the 'diversity of the work of librarians' and the variety of things that can be done with the qualification. One respondent declared a

willingness to help promote the course as 'I got so much from my time at RGU'. Another stated that the course was 'an excellent, well rounded course that will continue to be relevant throughout my career'. On a negative note, two respondents felt that the subject was more appropriately delivered at a postgraduate level.

2. Survey of S5 and S6 in secondary schools: analysis of results

180 questionnaires were disseminated to 6 Secondary Schools in NE Scotland, being handed out to and completed by S5 and S6 pupils in class. The total number of respondents was 152.

Demographics of respondents

The response was fairly evenly mixed in terms of gender, with 70 (46.1%) of respondents male and 82 (53.9%) female. The majority of respondents (136, 89.5%) were studying four or five subjects, with 142 respondents (93.4%) studying at *Higher* or *Higher Still* level. (It should be noted that average entry requirement for University study would be 4 Higher level grades in Scotland). The respondents, therefore, do constitute a sample of the target population, that is those pupils who are considering application to University and are likely to attain the requisite qualifications to do so. Very small numbers were studying National Certificate Modules or Certificates of Sixth Year Studies.

Respondents were asked which educational route they sought to follow.

*Table 9: Which educational path are you intending to follow?*

Educational Path	No.	%
Vocationally-based course, then straight into job/career	75	49.3
Non-vocational course, then Postgraduate course, then job/career	26	17.1
Other	5	3.3
Don't know / no response	46	30.3
Total	152	100

NB: Other: Straight into a job (3)
                     Apprenticeship (1)
                     To travel before deciding on career path (1)

Interestingly the largest single group opted for a vocational, single first degree route, while a significant proportion were still unsure of the direction they wished to take at this stage in their educational career. Very few students anticipated at this point the need for (or desirability of) further postgraduate education.

Respondents were asked to what job or career they aspired and their responses indicated a wide spectrum of employment (see Fig: 1).

Figure 1: Respondents' desired vocations
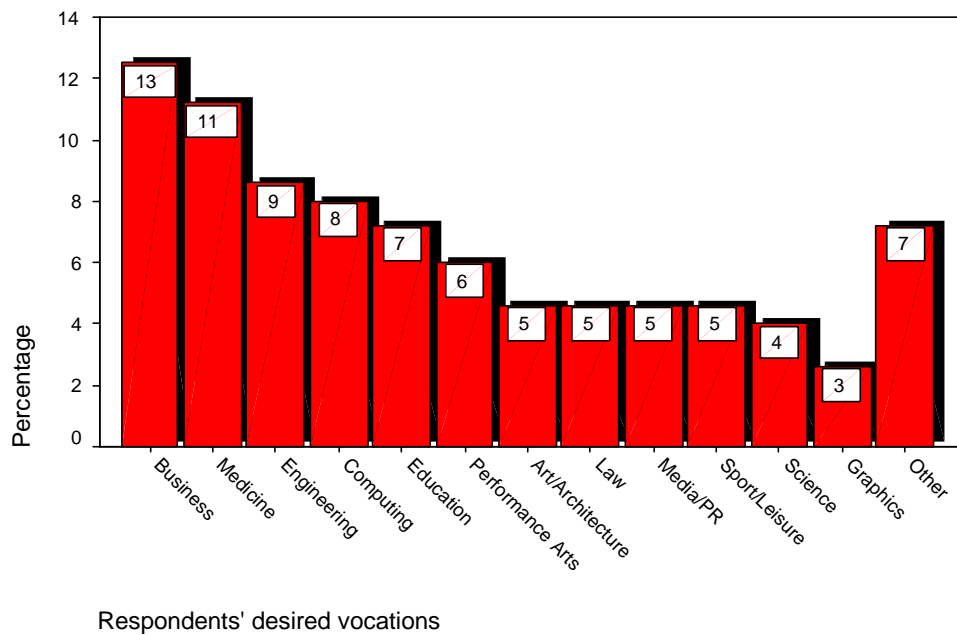
Preferences were dominated by business, medicine, engineering and computing, with smaller proportions interested in education, science, law, art and architecture, computing, the media, performance arts and sports and leisure. In addition to the major categories indicated above, a small number of respondents in each case indicated vocational aspirations in languages, photography, carpentry, secretarial posts and the Diplomatic Service.

Attitudes to course and module titles

Respondents were initially presented with a list of 6 course titles and in an open question asked what kind of job they thought they would get if they studied each course.

61 respondents indicated a job that they might get if they completed a course in *Communication and Information Management*. There was a good deal of variation in the nature of the response and little clear consensus on what vocation this course might prepare a student for. There was also some evidence of collusion amongst respondents in that identical responses were occasionally encountered for adjacent questionnaires: this might suggest that respondents were asking each other 'What did you put down?' The phenomenon tends to reinforce the view that respondents were uncertain often as to the *correct* response.

60 respondents indicated a job that a student of *Business Information* might attain. Most were generic posts such as management, entrepreneur, business work or office work. Responses tended to be ill defined and tentative.

There was little sense of what might be meant by a course in *Knowledge Management*, as one might expect given the recent appearance of this field. Responses ranged from the hazy 'secretary/management' to explicable attempts such as 'teacher', 'banker' and 'lawyer'. Only 33 respondents attempted to define this vocational field and the emphasis was again on an ill-defined office worker or manager.

101 respondents offered a kind of job that would be appropriate for a graduate of *Librarianship and Information Studies* and in all instances the post was appropriate. There was absolutely no uncertainty about the vocational field, although the emphasis was on the traditional librarian.

64 respondents attempted to indicate the kind of post that a graduate of *Information Design* might aspire to. These fell into three broad groups: computer/graphics design; advertising; and sadly a very significant number (25 respondents) who cited variations on 'architect' or 'interior designer'.

Almost 60% of respondents (87 responses) felt that students of a course in *Information and Media* would be likely to work in the media in some capacity, as a journalist, a researcher, a presenter or a technician.

Respondents were then presented with a list of courses accompanied by the titles of the proposed modules for each course and asked to rank these in terms of the extent to which they appeared interesting to them. Table 10 presents the results in terms of the attractiveness of module titles for a consolidated master list of all 90 modules. Some titles appear more than once, as they were included in the questionnaire under more than one course title.

Table 10: Looking at the name of each course module, can you rate them according to how interesting they sound to you? *(In descending numerical order, according to the percentage who thought module sounded very interesting or interesting; total of 90 modules)*

Course/ module	Very Interesting or Interesting (%)	Not Interesting or Boring (%)
1 ID[1] / Desk Top Publishing	69.1	28.3
2 ID / Graphics Design	66.5	31.6
3 BI / Media Research	66.4	29.6
4 ID / Media Production - Video/ Multimedia	65.8	30.2
5 ID / Web Authoring and Site Design	65.8	30.3
6 KM / Project/Team Management	65.1	31.6
7 ID / Advertising/Marketing	63.8	34.2
8 IM / Multimedia	60.5	32.9
9 IM / Media Production	57.2	36.2
10 CIM / Electronic Media	56.6	34.9
11 ID / Electronic Media	55.2	36.2
12 IM / Media Research	53.3	42.1
13 IM / Communication Studies	53.2	40.8
14 IM / Electronic Media	52.6	42.5
15 BI / Electronic Media	52.0	36.1
16 ID / Electronic Media Production	51.4	39.5
17 BI / Presenting Information	51.3	45.4
18 BI / Competitive Intelligence	50.0	28.9
19 KM / Cognitive Psychology/Human Computer Interaction	48.1	30.9
20 ID / Presenting Information	47.4	50.7
21 KM / Information Security/ Confidentiality	46.1	46.7
22 CIM / Business Information	45.4	51.3
23 LIS / European Information	44.7	48.7
24 KM / Virtual Organisations	43.5	33.6
25 CIM / Networking Technologies	43.4	40.2
26 ID / Legal Aspects/Copyright in Electronic Media	42.1	48.7
27 IM / Media Structures/Organisations	42.1	48.1
28 BI / Market Research	41.4	53.9
29 LIS / Business Information	40.8	51.3
30= CIM / Human Resources Management	40.8	50.0
30= ID / Human Computer Interface	40.8	41.5
32 BI / Business Information	40.2	53.3
33 ID / Information Systems	40.1	52.6
34 KM / Human Resource Management and Knowledge Management	40.1	47.3
35 ID / Cognitive Psychology	38.9	36.9

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[1] Where CIM = Communication and Information Management
      BI = Business Information
      KM = Knowledge Management
      LIS = Librarianship and Information Studies
      ID = Information Design
      IM = Information and Media

36 KM / Corporate Strategy	38.2	40.8
37 BI / Information Systems Management	38.2	48.7
38 ID / Mass Communications	38.1	42.8
39 IM / Mass Communications	37.5	46.8
40 IM / Information Systems	37.5	52.0
41 BI / Economics of Information*	37.5	47.3
42 IM / Cognitive Psychology	36.9	33.6
43 BI / Human Resources Management	36.2	53.3
44 IM / Human Computer Interface	35.6	47.3
45 IM / Legal Aspects/Copyright in Electronic Media	35.5	53.3
46 CIM / Information Systems Management	35.5	52.7
47 LIS / Local History/Studies	34.9	61.9
48 IM / Information Systems Management	34.2	54.0
49 ID / Technical Authoring	33.6	48.7
50 ID / Corporate Publishing	33.5	48.6
51= LIS / Health Information Services	33.5	61.8
51= CIM / Customer/User Support	33.5	59.8
53 CIM / Corporate Strategy	32.9	42.1
54 ID / Electronic Information Sources and Services	32.9	52.6
55 LIS / University, College and Research Libraries	32.2	64.4
56 KM / User Interfaces	31.6	40.2
57 BI / Electronic Information Sources and Services	31.6	54.6
58 KM / Knowledge Systems/Databases	31.5	52.6
59 KM / Information Systems Management	30.3	52.7
60 LIS / Music/Art Librarianship	28.3	69.1
61= IM / Electronic Information Sources and Services	28.2	57.9
61= IM / Organisational/Corporate Use of Information	28.2	55.3
63 KM / Organisational Development	27.6	55.9
64 CIM / Government and Information	27.0	69.7
65 IM / Corporate Publishing	26.3	56.6
66 LIS / Government and Information	25.0	67.7
67 BI / Information Searching	25.0	66.5
68 KM / Change Management	24.3	50.0
69 KM / Knowledge Management	23.7	58.6
70 CIM / Organisational Use of Information	23.7	68.5
71= CIM / Information Searching	23.7	65.1
71= KM / Data Mining	23.7	46.1
73 BI / Organisational Use of Information	23.0	68.4
74 CIM / Economics of Information	21.7	65.1
75 LIS / Public Culture and Libraries	21.1	74.3
76 LIS / Law Librarianship	21.0	73.7
77 LIS / User Instruction	21.0	61.8
78 IM / Document/Record Management	19.7	69.0
79 BI / Document/Records Management	19.1	71.7
80 KM / Document/Records Management	18.5	69.7
81 ID / Document/Record Management	18.4	72.3
82 LIS / Public Libraries	18.4	78.9
83 LIS / Information Retrieval	17.8	67.8
84= LIS / Information Policy	17.7	69.1
84= LIS / School/Children's Librarianship	17.7	80.3

86 CIM / Document/Records Management	14.5	78.9
87 LIS / Cataloguing	12.5	76.3
88 LIS / Classification	12.5	76.3
89 LIS / Reference Services	11.9	74.4
90 LIS / The History of the Book	9.2	80.2

There were very significant variations in the attractiveness of the individual module titles. There were very clear preferences for titles that indicated a technological content, suggested a media or publishing connection and/or were concerned with design and presentation. Sadly the results clearly demonstrated that the traditional ILS modules tended to be the least attractive to the respondent group.   There were, however, some highly significant and interesting variations in the attractiveness of the modules according to the gender of the respondents. Tables 11 and 12 illustrate the modules that were significantly more attractive to males and females respectively.

Table 11: Modules ranked more interesting by male respondents

Module Title	Variation in attractiveness (percentage points)
Networking Technologies	+51.9
Virtual Organisations	+30.7
Technical Authoring	+33.1
Electronic Information Sources and Services	+31.5
Corporate Strategy	+26.4
User Interfaces	+26.2
Electronic Media	+24.9
Information Systems Management	+23.3
Human Computer Interface	+22.3
Information Policy	+22.7
Mass Communications	+22.0
User Instruction	+21.9
Electronic Media Production	+21.3
Information Systems	+21.0
Data Mining	+19.7
Competitive Intelligence	+18.6
Local History/Studies	+17.5
Government and Information	+14.6
Web Authoring/Site Design	+13.1
Knowledge Systems/Databases	+13.0
Information Retrieval	+12.1
Organisational/Corporate Use of Information	+11.2

While there are some expected results here, as in the male preference for technological subjects for example, there are also some unexpected findings. It would appear that males find local studies and information retrieval more attractive than do females. There were fewer

modules for which females expressed a significant preference and these are listed in Table 12 below. They tend to be titles illustrating a people oriented approach.

Table 12: Modules ranked more interesting by female respondents

Module Title	Variation in attractiveness (percentage points)
Health Information Services	+25.1
Human Resource Management	+22.1
School/Children's Librarianship	+14.4
Cognitive Psychology	+12.7

A substantial proportion of respondents had difficulties in understanding the titles of particular modules. The six titles which caused the most confusion were: Cognitive Psychology (28.3% of respondents 'did not know what it means'), Data Mining (28.3%), User Interfaces (25.0%), Change Management (24.3%), Corporate Strategy (23.7%) and Virtual Organisations (21.7%). Highly significantly and unexpectedly, female respondents were found to be far more likely than males to admit that they did not know what was meant by a particular module title and Table 13 illustrates those modules where females were uncertain as to subject content.

Table 13: Modules where female respondents were more
likely to admit uncertainty as to content

Module Title	Females more uncertain as to content (percentage points)
Data Mining	+28.6
User Interfaces	+25.2
Virtual Organisations	+24.3
Mass Communications	+21.1
Competitive Intelligence	+19.4
Change Management	+18.6
Corporate Strategy	+18.0
Networking Technologies	+17.5
Cognitive Psychology	+15.4
Human Computer Interface	+14.6
Information Systems Management	+14.5
Electronic Information Sources and Services	+13.8
Knowledge Management	+13.4
User Instruction	+13.4

There are some surprises here, in that many of these concepts are ones that have been in fairly general currency for some time and there is no great emphasis on technological subjects where one might hypothesise that female respondents are less likely to be undertaking study

currently. This finding alone would highlight the need for the provision of explanation for module titles that clearly indicates what will be studied. One might also speculate as to whether this lack of knowledge is greater amongst females or if males are simply less prepared to admit to 'not knowing'.

The majority of students (114 respondents, 75%) thought that placement would be a helpful part of a course of study. Females (+19.8 points) tended to be more in favour of placement than did males. There was a degree of variation in response in terms of preferred length of placement, with the consensus lying between 6 and 15 weeks. Table 14 illustrates that variation.

Table 14: How long do you think the placement should be?

Time	No.	%
6 weeks	33	28.9
15 weeks	48	42.1
40 weeks	22	19.3
Other	9	7.9
No response	2	1.8
Total	114	100

However, former and current students had tended to believe that their 6 week placement was too short. A 15 week or full Semester placement is, therefore, thought to be more effective, potentially covering more than one host institution to introduce students to the variety of working environments.

Conclusions

There have been few studies of the demand for undergraduate courses in Information and Library Studies, while the professional bodies have swung towards an emphasis on postgraduate qualifications and Continuing Professional Development, as the forum for delivery of training. However, the authors would argue that the information profession will lose much from the neglect of undergraduate education. At present it is likely that approximately half of the LA's membership attended an undergraduate course [19] and that these individuals have much to offer the profession. The authors would argue that the profession (educators and practitioners) has three tasks which it must address as a matter of urgency: the collection and presentation of evidence demonstrating the variety, challenges and satisfactions of information careers; the reappraisal of the role of degree level qualifications in

feeding into the job market; and the development of routes into those sections of employment which information professionals are presently failing to enter.

From the survey of former and current students a number of interest findings emerge. Former students are likely to have gone into the non-conventional or 'emerging' information job market, regardless of their having come to the course with a vision of a career in a traditional library sector. Despite feeling that the course had been relevant to their first and subsequent posts, a number of respondents indicated that they would have preferred a more practical approach with less emphasis on the theoretical. Former and current students were largely influenced by subject content and vocational field in their choice of course, emphasising the need for schools to provide clear, informative and detailed materials describing the content of a course and the vocational market to which graduates may aspire. The survey elicited very useful data about the greatest strengths of the course (largely subject based), suggesting aspects that might be highlighted in promotional literature. In terms of marketing, respondents placed an emphasis on career choice, the wide range of professional environments, the transferrability of skills and the value of information to organisations and individuals.

From the survey of prospective students, that is of S5 and S6 pupils in secondary schools, we learn that despite *Librarianship and Information Studies* being an instantly recognisable and very clearly defined working environment, most respondents do not find the course content attractive or potentially interesting. Respondents were very uncertain about many of the alternative course titles listed. This finding reinforces the need for high quality promotional materials that explain and illustrate the vocational field open to graduates. It is also likely that many secondary school pupils are unclear as to the meaning and content of module titles and that this may represent a significant disincentive to prospective applicants. Respondents regarded module titles that indicated content relating to technology, the media, publishing, design and presentation as most attractive and regarded many of the traditional LIS modules as least attractive. However, very significant gender variations in response suggest that it would be possible to consciously design a course that is more attractive to males than females and vice versa.

The next stage for the School will be for staff to take on board the results of the market research exercise and, using a programme based approach, to develop a new course utilising data from the exercise to date. After the preliminary development of the structure of the course and of the core and optional modules, staff will carry out focus group discussions with S5 and S6 pupils to gauge reactions to the developed course and its modules and to determine the effectiveness of promotional literature. A historiographic survey of career progression for

former students (both undergraduate and postgraduate) will also be carried out concurrently, which will provide fuller data on the working environment and gather illustrative data as to the range of environments and experiences on offer, with particular emphasis on the more challenging and exciting aspects of information work. The School hopes to validate the new course in 2001 and to deliver the new course in session 2001/2002. The challenges for the School will be: to learn from the results of the market research exercise what is attractive and dynamic to prospective students; to develop materials that effectively convey the dynamic nature of the work environment and the opportunities that are on offer; and to reconcile the market responsive characteristics of the new course with a mature awareness of the real career opportunities available to students. To an extent, however, we need the support of the profession and of professional bodies in gathering and developing a better understanding of the working environment and in developing high quality promotional materials.

The authors propose to carry out further research into the rewards offered by working in the information and library professional environment, gathering illustrative evidence across all sectors of the range of roles open to graduates and the satisfactions to be gained from such service, that will target all levels of professional involvement from the first professional post to that of Chief Librarian and Director of Information Services.

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