Profile of the Distance Education Library User

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Athabasca University (AU) in Athabasca, Alberta, Canada delivers university courses by distance education only. Courses are available through home study, teleconference and seminar support. Students are assigned to a telephone tutor in home-study courses to discuss the course material and assist with assignments while the teleconference and seminar support tutors provide similar assistance to students registered in those modes.

The total number of students registered is near 9,000. The vast majority of students register in one course at a time but some students take 2 or more courses at a time. Thus, course registrations average 14,500 per year.

The profile of the student body is quite interesting. Two-thirds of all students are between 25-44, one-quarter are between 18-24, and the remaining 10 percent are 45 and over. This age distribution has been constant for several years. On the other hand the number of female students has been increasing over the years and currently women represent two-thirds of all registered students.

The province of Alberta has two major cities, Edmonton and Calgary. Both cities have a university, community and vocational colleges and other post-secondary educational institutions. Nevertheless, 50 percent of AU students are from Edmonton and Calgary. Another 20 percent of students are from other cities and towns of Alberta and 30 percent of the students are from other provinces in Canada.

The University offers 150 courses and students can register in a Bachelor of Arts (BA), Bachelor of General Studies (BGS) or Bachelor of Administration (BAdmin) programme, in "transfer programmes" or as non-programme registrants. Ten percent of students are registered in the BA, 4 percent in the BGS, 20 percent in the BAdmin and the remaining 66 percent register for other reasons. Of the registrants in the "other" category, 11 percent are in nursing transfer, 9.4 percent in general transfer (usually to another university) and 65.5 percent register as non-programme students.

The library at Athabasca University offers a full range of

services to its students. There is toll-free telephone request service, prepaid return postage on all materials sent out and reference services including ILL and on-line searching where required. Information about library services is included in all course materials packages and in AU publications which circulate to students and tutors. In 1987/88, 7635 items were circulated to students which represented 37.4 percent of total circulations. Two thousand and seven hundred packages of print material and 2200 packages of AV material were sent out to students and on interlibrary loan.

Students usually request material from the supplementary materials lists included with their course materials. Some courses have open-ended essay topics and in those cases, students request material on a specific subject. The library staff gathers together a representative group of materials and sends it out to the student.

While AU Library provides an excellent service to students we often ask ourselves if there is more we can do to assist students. There is also a nagging question about whether students actually know about the Library. Coupled with that question is an interest in knowing what other libraries (if any) students might be using for their AU course work. With these things in mind we decided to do a survey of AU students to find out from them how they gathered information, how they used libraries and what kinds of libraries they used and lastly how they assessed their library service from AU. A copy of the survey instrument, which was handled by telephone, is attached. We also thought it would be valuable to analyze the actual telephone requests received from students to determine the subject area emphasis of those requests and related information. The telephone survey results are presented in Part I and the request form results are presented in Part II.

Part I Telephone Survey

Survey Methodology

The survey design was organized by the Institutional Studies Unit of the Centre for Distance Education at Athabasca University. A sample of 300 students, currently registered in all courses except accounting and computer science, was randomly selected for a telephone survey. Students in accounting and computer science courses were not included because they represent a high proportion of total registrations (1250 of 9000 students) and the courses do not require any supplementary reading material. In that sense, we weighted the sample towards disciplines which potentially would

use the Library services. The telephone survey results were cross tabulated with information already available in the Centre about the students on their location, gender, academic programme and number of courses taken.

There was a 72 percent response rate to the questionnaire. There were some differences between the survey sample and the total student body. There were higher percentages of women and of students from southern Alberta in the survey than in the total student body. In the programme breakdown the survey sample had a higher percentage of BA and BGS students than in the total student body and lower percentage of BAdmin, Nursing and Social Work and non-programme students than in the total student body.

	Total Students 1987 (Percentages)	Survey Sample (Percentages)
Gender		
M	33.0	28.5
F	66.0	71.5
Location		
Edmonton	26.0	24.0
Calgary	21.2	19.0
N. Alberta	14.2	14.7
S. Alberta	13.7	24.0
Sask.	7.5	8.0
Other Provinces	17.5	10.3
Programme		
Non-degree	47.0	42.7
Nursing and S. Work	19.0	9.2
BA	10.0	22.0
BGS	4.0	10.2
BAdmin	20.0	15.9

In setting up the survey there were some assumptions that we wanted to test. First we assumed the use of the AU Library would depend on the courses the student was taking and the access the student had to other library resources. We further assumed that students outside Edmonton and Calgary, Alberta's two major cities with large university and public libraries, would use AU Library more than students from Edmonton and Calgary. We assumed there might be a higher propensity for women students to use AU Library because we knew a high percentage of our women students were married with small children (34% of all students at AU have

children under 18 at home) and hence more likely to use mailing facilities. Lastly, we assumed that the more courses a student had taken, the greater would be the student use of the AU Library.

Results

Sources of information for students.

Respondents were requested to indicate where they went for information when working on their course projects and assigned readings. A number of possibilities were given including discussions with other people, with the course tutor, books from a library at work, from a public library, from a friend or from the student's personal library. Also included were references from the course text or the AU course study guide. Respondents were asked to rate each of these sources by categories of never, seldom, sometimes, often and always. In writing up the results the three categories of "sometimes", "often," and "always" were collapsed into one group for comparison purposes. The data are presented in Table 1A and 1B.

Not unexpectedly, the course tutor was the most frequent source of information for the student (83.4 percent of respondents). (See Table 1A.) The next highest source of information was books from other libraries which was identified by 66.3 percent of respondents. Just over 50 percent of respondents also identified books from their own library and discussions with other people as sources of information from "sometimes to always." References from study guides and course texts rated below tutors, library books and people as sources of information. Given the emphasis upon study guides and course texts in distance education this is an important finding.

The above variables were cross-tabulated for location of student, gender of student and programme of study. The data is presented in Table 1B with the variables presented in order of importance from highest to lowest with "books from work" and "books from another person's library" eliminated. In terms of location there were no statistically significant variations in sources of information. However, some percentage differences in the pattern are evident. Southern Alberta and Saskatchewan students had a greater inclination to discuss with the tutor (87.5 and 91.7 percent respectively as against the average of 83.4 percent). Students from Calgary and southern Alberta were more

inclined to use books from other libraries (75.5 and 72.2 percent respectively)   than   the   average   of 66.3   percent.   Northern Albertans   were the most inclined to seek information from other people (63.6 percent against the average of 52.7 percent), while Calgarians used their own library, the study guide and the course texts more   than   the average for those variables. Students from southern Alberta were also more likely to use the study guide and the course texts than the rest of the respondents.

Gender did not make a significant difference in the sources of information used except that men indicated a slightly greater use of the tutor (85.7 percent of men as against 82.4 percent of women) and women used books from other libraries more than men (70.1 percent of women against 58.3 percent of men).

The programme of study showed a greater variation in pattern on these variables. BAdmin students showed a higher than average use of the tutor, (89.3 percent against the average of 83.4 percent).   Nursing and Social Work, BA and BGS students all used books from other libraries more than the average of 66.3 percent (77.7 percent, 75.4 percent and 80.0 percent respectively). Nursing and Social Work and BGS students discussed with other people more than the average (77.8 and 63.3 percent respectively against 52.7 percent) and Nursing and Social Work, BA and BGS students all used their own libraries more than the average (59.2, 59.9 and 66.7 percent respectively against 52.7 percent). BA and BGS students used both the study guide and course text more than other students.   This finding coupled with the lower overall use of study guide and course text for information would indicate that certain kinds of courses such as in humanities and social sciences put more emphasis on the study guide and text for assignment purposes.

From the AU Library point of view the identification of the tutor as the major source of information for course work is important.   If the library wants to increase student awareness of the library and its services, then educating the tutors about the library would be the most efficient vehicle. It is also important that the AU Library be aware that while the study guide and course texts were cited as sources of information by only 46.7 and 45 percent of respondents, students in the BA and BGS programmes used these sources to a much greater extent than those in the other study programmes. Lastly, the higher percentage responses of Nursing and Social Work students on several of these variables would indicate a greater propensity to seek out information from all sources by these students.

Of the 300 respondents, 70 (23.3 percent) answered "never"

to the question of whether they used a library as a source of information. Another 59 respondents (19.6 percent) indicated that they "never" used AU Library for materials. These 129 respondents were asked whether they were aware that AU had a library they could use on the chance that the general awareness of library services might be deficient. However, 105 of those 129 respondents said they knew of the AU Library. To put it another way, 19 respondents (6.3 percent) of all respondents did not know AU had a library service for students, while another 5 students did not answer this question.

Among the 105 students who were aware of the AU Library facilities yet did not use them, 101 also responded to a further question about why they had not used AU Library. Sixty-six students (65.3 percent) indicated there was no need to use AU Library. Lack of convenience was mentioned by 9 students (8.9 percent); 1 person was not satisfied with AU Library and 25 students (24.7 percent) mentioned "other" reasons.

Use of Libraries.

Those students who indicated they used a library as a source of information were asked to indicate the type of libraries they used. The choices were public libraries, local school library, community college libraries, library at work, other university libraries and AU Library. These responses were then cross-tabulated for location, gender, programme of study and number of courses taken. In the analysis presented here local school libraries, community college libraries and libraries at work have all been eliminated because the "never, seldom" responses ranged from 70 percent and above in these categories.

Table 2 presents the percentage responses to use of libraries by location of student. The use of public and university libraries was highest for students in Edmonton and Calgary. This was to be expected as both cities have excellent public libraries and major research university libraries.

Table 2

Use of Libraries by Location - Percentages   (n=233)

Location	Public Library		Other Univ. Library		AU Library	
Edmonton	73.5	(39)	49.1	(26)	49.1	(26)
Calgary	69.6	(32)	58.7	(27)	54.4	(25)
North Alberta	50.1	(14)	17.9	(5)	60.7	(17)
South Alberta	67.2	(39)	14.0	(8)	58.7	(34)
Sask.	66.6	(14)	14.4	(3)	42.9	(9)
Other Provinces	44.4	(11)	11.1	(3)	59.2	(16)

Note. In this and following tables, multiple usage and percentages do not equal 100%. The numbers represent responses for each location and not the totals. Also, "never, seldom" responses were not included.

    The next greatest use of public libraries was by students in southern Alberta and Saskatchewan while the lowest use of public libraries was in northern Alberta and by students in all other provinces.   The better developed regional public library services in southern Alberta and Saskatchewan as against northern Alberta may explain the difference in the pattern of public library use. Not enough is known about library services in the other provinces to explain the lower percentage of use there.

    Not unexpectedly, those with less use of public libraries used AU Library the most with northern Alberta and out-of-province students indicating the highest percentage response to use of AU Library. Nevertheless, the Edmonton and Calgary students were not much lower in percentage use of AU Library and given their higher use of both public and other university libraries, it is evident that students in Edmonton and Calgary generally use libraries more than students in any other locations.

    Another interesting finding in the study was the variation in library use by gender. (See Table 3). Women students used the public library and AU Library more than men students. The use of

AU Library by women students was found to be statistically significant. One interpretation of these results would be that women students find it easier to go to the local public library than to a university library (where one exists), and that due to less mobility generally utilize the services of AU Library more.

Table 3

Use of Libraries by Gender - Percentages   (n=229)

Sex	Public Library	Other Univ. Library	AU Library
Female	67.5 (114)	30.7 (52)	61 (103)
Male	58.3 (35)	33.3 (20)	40 (24)

Tables 4 and 5 present the use of public, other university and AU Library by programme of study and number of courses taken respectively. Students in the BA programme show a higher percentage use of both public libraries and the AU Library than students in other programmes. (Table 4). The use of AU Library by BA students was statistically significant. The other group of students with high library use in all categories were the Nursing and Social Work students. These students have the highest percentage use of university libraries, second highest percentage use of AU Library and a high use of public libraries. One last point on interest is that BAdmin students indicated the lowest percentage use of libraries in all three categories, even lower use than that of non-degree students.

Table 4

Use of Libraries by Programme of Study –

Percentages (n=229)

Programme	Public Library		Other Univ.		AU Library	
All non-degree	61.4	(59)	32.3	(31)	49.0	(47)
Nurse & Social Work	61.9	(13)	52.4	(11)	57.9	(12)
BA	77.3	(44)	24.6	(14)	73.7	(42)
BGS	65.4	(17)	30.7	(8)	50.0	(13)
BAdmin	55.1	(16)	27.6	(8)	44.8	(13)

Table 5

Use of Libraries by Number of Courses Taken –

Percentages (n=229)

No. of Courses	Public Library		Other Univ.		AU Library	
1	56.0	(37)	22.8	(15)	47.0	(31)
2-5	63.5	(66)	29.8	(31)	54.8	(57)
6-10	79.4	(27)	35.3	(12)	76.5	(26)
11 up	76.0	(19)	56.0	(14)	52.0	(13)

Table 5 correlates library use with the number of courses taken. At Athabasca University a large percentage of students who take one course initially either drop out or transfer to some other post-secondary institution. The university is identifying ways of encouraging students to continue their course work with AU. This being the case, the numbers in Table 5 have direct implications for AU Library and perhaps also for public and other university libraries. The use of all libraries increased as the

number of courses taken increased up to 10 courses. After 10 courses the use of AU Library and public libraries decreased while the the use of other university libraries increased. The increase in use of other university facilities may be a function of cross-registration. Students at the University of Alberta or University of Calgary also register with AU to pick up a required course not available in their own institutions. Of the total respondents 43 percent were from Edmonton and Calgary while of those with 11 or more courses, 53.8 percent were from Edmonton and Calgary. Generally, Table 5 indicates that the more courses a student takes, the more the student uses all libraries. For AU Library the significance of this survey is the finding that library use increased significantly among those who took 2 to 5 courses (54.8 percent use) and when students registered in 6-10 courses, library use jumped to 76.5 percent.

The library use results are important to Athabasca University Library in view of the academic development plans of the university. The university is developing strategies to have more students register in programmes of study, to have students stay with the university for more than one or two courses and to attract more students from northern Alberta. Furthermore, while the university may not be targetting women specifically, women have represented an increasing percentage of registrations at AU.

The implication of the data in Tables 2 to 5 is, then, that the rate of success of the University Academic Development Plan will have a direct impact on the AU Library and it will have some impact on other libraries, particularly public libraries. The only mitigating factor to this prediction will be if the number of increased registrations turns out to be only in the BAdmin programmes and not in the fields where library use tends to be high.

Other Results.

In the survey students were asked for what purposes they used a library. Three choices were provided which were:

1. doing course work or assignments
2. obtaining recommended readings
3. studying for tests and exams

Over 75 percent (230) of the 300 surveyed answered this question. Of the 230, 124 (41.3 percent) use libraries for locating recommended readings, 71 (23.7 percent) use libraries in completing projects or assignments and 51 (17 percent) use libraries to study for tests or exams. The general interpretation

of these results is that distance education students use libraries more for getting information than for studying purposes.

Those students who had used AU Library (176 people) were asked three questions about the service received. Of the 176, 88.6 percent (156) indicated the Library was able to fill their requests; 94.3 percent (165) were satisfied with the time to get books (a matter of some concern when using the mail for book deliveries); and 87.6 percent (149) assessed the library service as good or very good and another 11.2 percent (19) assessed the service as adequate.

Part II User Analysis

With the assistance of the Institutional Studies Unit of the Centre for Distance Education, the library conducted an analysis of its student usage over a representative four-month period. The library receives student requests over the phone and through the mail. In dealing with a request received over the phone, library staff transcribe the request onto a "Library Information Request" form. The basis for the student user analysis consisted of transcribed and mailed-in requests received between September 1st and December 24th, 1987. Since September and December typically show lower than average usage statistics, and October and November are normally higher than average months, the four month period represented a cross-section of activity levels in student usage. Between those dates, a total of 683 library request forms were handled; 186 of which were mailed in, and 497 of which were received by telephone and transcribed.

Each request form contained the following information:

- student identification number
- course name and number
- student address
- what was requested (specific item, general subject) and in what format (print, audio, video)
- how the request was dealt with (fulfilled, reserved, substituted, cancelled)

The information from each form was then keyed into a statistical analysis database designed for the library for Institutional Studies, and the results were analyzed.

At the outset, several assumptions were held about students' utilization of library services. It was anticipated that amongst the 683 users would be several "core users"-- students who, having received satisfactory service, would contact the library for

further services and thereby form a core user group. It was expected, as well, that library usage would cluster by course--some courses would require little or no library support while others would require a high level of interaction with the library. A further assumption was that concentrations of use would appear by location, given that those concentrations exist in course registration statistics. We anticipated that most requests would be item-specific rather than subject requests, as students can refer to the "Supplementary Materials Lists" in each course package they receive. Most requests, we thought, would be for several items at a time rather than for one or two items. And lastly, we expected that a high proportion of the requests would be for audio or video materials which, although not required to complete courses, seemed to be popular formats with distance students.

The analysis of the requests provided interesting results, some of which substantiated our initial assumptions, and others which cast new light on what our students wanted from our library service.

Core Users

The 683 library information requests received between September and December of 1987 were generated by a core user group of 466 students. Each student, therefore, made an average of 1.47 requests for library material, confirming the assumption that the library's services are utilized to a certain extent by repeat users. Moreover, the total number of users, 466, represented 9% of the eligible registered students at that time (5,160), and 5.7% of the total number of course registrations (8,148). The findings in this area verified that our users represented a segment of the total student body, and that further efforts can be made to broaden the base of core users.

Course Concentrations

As was expected, concentrations of library usage appeared by specific courses and disciplines. Those discipline areas which represented the clearest concentrations in usage were French, psychology, history, humanities, anthropology, English, geology and communications. The following table outlines percentage concentrations of library usage for the sample period, along with registration percentages for the year of 1987. In each case, actual numbers of registrations or requests are provided in parentheses. Notations after the individual discipline names indicate those areas where radio or television enhancements exist, or library projects are optional parts of course packages. (See

Table 6).

It is interesting to note that the concentrations in course registrations are not necessarily translated into concentrations in library use. For example, accounting, mathematics, and biology all have relatively high registration rates, but percentages of library use for those courses are very low. Courses in these disciplines tend to be designed so that they require minimal support materials and students are less likely to contact the library for assistance with them. Low library use is expected in these areas.

As well, those disciplines which show high library use rates do not necessarily show a high registration percentage, as is the case in French, history, humanities, anthropology, and geology. The high percentage of library contact in these disciplines results from radio or television broadcasts which are used as course enhancements but are not required, or from the presence of a specific course assignment which requires the student to contact the library.

Students enrolled in French courses, for example, can enhance their learning experience by listening to radio broadcasts, viewing television programs, or using language laboratory materials. Should they miss the radio or television broadcasts, not be able to receive them in their area, or wish to review them, they can contact the library to borrow the materials.

Language laboratory tapes, equipment, and manuals are also loaned to students registered in French courses. The high concentration of library use to support the French courses confirmed the assumption that the library served a vital function for students registered in those courses. We had not expected, however, so distinct a singular concentration. It is interesting to note, as well, that the requests to support French courses would be primarily for audio or video material.

Table 6

Requests by Discipline

Discipline (# of courses)	% Registration (# course registration)		% Library Use (# requests)	
Accounting (5)	11.9	(1787)	.4	(3)
Administration (5)	7.1	(1063)	.8	(5)
Anthropology (11) pt	1.9	(282)	7.9	(54)
Applied Studies (2)	2.5	(369)	1.2	(8)
Biology (8)	4.3	(649)	.9	(6)
Chemistry (3)	.8	(113)	.1	(1)
Communications (4) p	4.6	(687)	5.3	(36)
Computer Science (7)	3.7	(556)	0.0	(0)
Economics (3)	3.2	(480)	.1	(1)
English (18) r	10.3	(1546)	7.5	(51)
Environmental Studies (1)	.1	(13)	.1	(1)
Finance (2)	.9	(131)	0.0	(0)
French (9) rt	3.8	(572)	21.4	(146)
Geography (4)	.4	(65)	.3	(2)
Geology (2) t	.8	(119)	5.5	(37)
History (9) pt	4.1	(622)	13.0	(88)
Humanities (6) rt	2.0	(294)	11.8	(80)
Industrial Relations (3)	.2	(31)	.1	(1)
Legal Relations (2)	1.9	(290)	0.0	(0)
Marketing (2)	1.3	(191)	0.0	(0)
Mathematics (8)	9.3	(1404)	.4	(3)
Nutrition (1)	.2	(32)	.3	(2)
Organizational Behaviour (3)	2.2	(327)	.3	(2)
Philosophy (2)	2.6	(386)	1.5	(10)
Political Science (3) pt	1.5	(230)	3.7	(25)
Psychology (18) t	13.9	(2089)	14.4	(98)
Public Administration (3)	.2	(32)	.1	(1)
Science (1)	0.0	(5)	0.0	(0)
Social Science (1)	.1	(22)	.1	(1)
Sociology (7)	3.2	(495)	1.4	(9)
Sociology/Anthropology (2)	.4	(63)	.4	(3)
Women's Studies (1) t	.6	(86)	1.0	(7)
missing			0.0	(2)
Totals	100.0	(15031)	100.0	(683)

p= library project option
r= radio broadcast enhancement
t= television broadcast

History and anthropology students can borrow videotapes of televised broadcasts, and can also do a "library project" in which the library sends them a package of materials required to complete a research assignment. Both audiotapes and videotapes are available to students registered in humanities courses. The geology courses, as well, have a television broadcast component, and videotapes are available from the library. It seems likely in those courses where high rates of library contact are not supported by high percentages of registration that the presence of enhancements or library projects encourages the higher rate of use. This tendency is discussed later in the section entitled "Format Requested."

In the case of psychology, English, and communications, library use more clearly reflects percentages of registrations. In psychology (in which television broadcasts are also present in four of the eighteen courses offered) library usage is likely a reflection of the numbers of students registered in those courses, the enhancements available, the requirement to complete research assignments, and the provision of "Supplementary Materials Lists" to guide students' research efforts. High library usage related to English courses reflects the requirement to submit research papers and, once again, the presence of "Supplementary Materials Lists" in course packages. Radio broadcast enhancement is present for one English course. It is interesting to note here that the ENglish discipline is the only area which reflects high library usage without the presence of radio or television broadcasts or specific "library project" assignments. The high percentage of library use in communications is likely linked to the presence of an assignment in which students receive a videotape, along with an assignment booklet which they complete as part of their course.

Low library use clusters appear in some expected areas: computing science, chemistry, environmental studies, finance, industrial relations, public administration, and social science. In these cases, either registrations are low, or courses are designed so that students are self-sufficient, as is the case in chemistry and computing science. Of interest to the library are those disciplines where the potential for library use exists by virtue of registrations and the nature of the discipline, but actual library use is low. Examples are administration, economics, and organizational behaviour. It is possible that courses have been designed with the intention that students require little or no additional materials, but it is more likely that the library information within the course packages does not adequately inform students of the library's holdings to support these courses.

In summary, then, a number of factors seem to have been active in establishing patterns of library use by course concentrations over the four-month period:
- the presence of radio or television enhancements
- high general percentages of registration
- research requirement of the course or discipline
- presence of a required or optional "library project"
- course design and content

Location

As was expected, the greatest concentration of library users was from the Alberta region (77.2%), with an additional concentration of users from the Saskatchewan area (11.7%). Each of the other provinces and territories, with the exception of Prince Edward Island, was represented over the four month library use period for a combined total of 11.1%.

Table 7

Requests by Location

Province/Territory	% Library Requests (#)
British Columbia	2.5 (17)
Alberta	77.2 (527)
Saskatchewan	11.7 (80)
Manitoba	3.4 (23)
Ontario	1.0 (7)
Quebec	.7 (5)
Nova Scotia	.3 (2)
New Brunswick	.1 (1)
Newfoundland	.3 (2)
Northwest Territories	2.2 (15)
Yukon Territory	.6 (4)
Total	100.0 (683)

The highest concentration of users from the Alberta region is a reflection of high registrations in that area:

Table 8

Registrations and Requests by Location

Location	% Registrations (# in 1987)		% Library Request Sample (#)	
Alberta - Edmonton	25.9	(3886)	17.6	(120)
Alberta - Calgary	21.2	(3190)	15.4	(105)
Alberta - South	13.7	(2065)	25.9	(177)
Alberta - North	14.2	(2132)	18.3	(125)
Saskatchewan	7.5	(1131)	11.7	(80)
Other Provinces & Territories	17.5	(2627)	11.1	(76)
Total	100.0	(15031)	100.0	(683)

Proportionately higher use of library services was made by students from northern and southern Alberta exclusive of Edmonton and Calgary than was made by students from those urban areas. Edmonton and Calgary have well-developed municipal, college, and university libraries which can serve as possible alternate sources of material, while it is expected that students outside those areas have fewer alternate library resources available and are more dependent on the Athabasca University Library for their library materials. Library use by Saskatchewan users is proportionately higher than expected, and while it is possible that this percentage reflects high use of the Athabasca University Library by rural registrants, there is insufficient breakdown of data to verify this supposition. Proportionately lower library usage amongst students from areas other than Alberta and Saskatchewan may result from more reluctance to use library service at a distance because of mailing times to those areas, particularly if alternate library resources are available.

In summary, then, a high percentage (77.2%) of library requests in the sample period were from Alberta students, as had been expected. However, a higher than anticipated rate of requests (44.2%) was generated by students in areas outside the main urban centres in the province. This tendency reaffirms the library's belief that it provides a valuable service to those students who live in areas that might not otherwise have library services which are adequate for academic needs.

Item - Specific/Subject Request

While it was anticipated that there would be a greater tendency for students to request specific items by author or title than materials in general on a subject, the user analysis revealed a higher than expected tendency toward the former. Ninety-four percent (641) of requests received were "item-specific", compared with 6% (42) of requests which called for general materials on a subject. Findings in this area were looked at in the context of whether students were from "urban" or "rural" environments to determine if preferences for either type of request might result from the type of library service that exists in their immediate locales. Very little variance appeared, although a slightly higher request rate for materials on a general subject appeared for the "rural" user.

Table 9

Request by Item/Subject

	% Item Request (#)	% Subject request (#)
Urban	94 (333)	6 (20)
Rural	93 (308)	7 (22)

It seems, therefore, that the tendency to request specific items rather than general subject material is a function of the course material rather than the urban or rural environment within which students live.

It is assumed that specific references were derived from "Supplementary Materials Lists" which appear in course manuals, from tutor references, or from textbook bibliographies and that the high percentage of item-specific requests reflects a preference on the part of the student to request known or cited materials. The findings here reinforced the validity of the library's sense of obligation and commitment to purchase and make available all items referred to on course "Supplementary Materials Lists," and to invite tutors to suggest purchases for student use. The preference to request specific cited items reinforced, as well, the value of including reading lists or Supplementary Materials Lists in the course packages, to which students can easily refer when additional materials are required.

Format Requested

As was suggested in the section entitled "Course Concentrations," a substantial proportion of student requests was for audiotape or videotape material:

Table 10

Requests by Format

Format Requested	% Requests (#items)
Print Material	39 (1010)
Audiotapes	23 (590)
Videotapes	37 (973)
Language Labs	1 (20)
Total	100 (2593)

A combined total of 60% of library items requested were for audio-video materials, and therefore related to the radio or television enhancements, to videotape based library projects, or to audio language laboratory enhancements. As mentioned earlier, students are able to request tapes of broadcasts should they not have them available in their areas, or should they have missed the broadcasts or wish to review them. The following table is a breakdown of the format requests received within the four-month sample period according to the discipline areas to which the requests were related.

Table 11

Requests by Discipline and Format

Discipline	% Print Items Requested (#)	% A-V Items Requested (#)	% Both Requested (#)
Accounting	67 (2)	33 (1)	
Administration	100 (5)		
Anthropology*	13 (7)	83 (45)	4 (2)
Applied Studies	100 (8)		
Biology	50 (3)	50 (3)	
Chemistry	100 (1)		
Communications*	11 (4)	89 (32)	
Economics	100 (1)		
English*	70 (36)	24 (12)	6 (3)
Environmental Studies	100 (1)		
French*	22 (30)	76 (102)	2 (3)
Geography	100 (2)		
Geology*	3 (1)	97 (36)	
History*	66 (58)	31 (28)	3 (2)
Humanities*	24 (19)	66 (53)	10 (8)
Industrial Relations	100 (1)		
Mathematics	7 (2)	33 (1)	
Nutrition	100 (2)		
Organizational Behaviour	100 (2)		
Philosophy	100 (10)		
Political Science*	92 (23)	8 (2)	
Psychology*	49 (48)	47 (46)	4 (4)
Public Administration	100 (1)		
Social Sciences	100 (1)		
Sociology	100 (9)		
Sociology/ Anthropology	100 (3)		
Women's Studies	86 (6)		14 (1)

Note. 13 requests missing format designation, therefore n = 670

*   disciplines with courses that have radio or television broadcasts enhancements, or videotape based projects

     Audio-visual requests in those areas where no enhancements
exist (i.e., accounting, biology, mathematics) are likely for

materials unrelated to the course, but in which the student may have a personal interest (i.e., "World at War" broadcast series). English, history, humanities, and psychology reflect students' interest both in print-based research materials and audio or video enhancements. High audio or video requests originate in areas where radio or television broadcasts occur as enhancements to the courses, or a video-based project is part of the course: anthropology, communications, French, geology, humanities, and psychology. As can be expected, little or no audio or video requests result with courses in which neither broadcast enhancements nor projects appear.

The percentages of library activity in total dealing with audio or video requests reveals both the popularity of the formats with our distance students, and the popularity of the radio and television enhancements when they are available options with courses.

Number of Items Requested

It was anticipated that, once students prepared to contact the library by telephone or mail, they would be likely to request blocks of material at one time, rather than single items. The analysis revealed that a total of 2593 items were requested through the 683 requests made, an average of 3.8 items per request. While a high incidence occurred where four, five, or six items were requested at one time (107, 59, 44 respectively), requests for one, two, or three items did occur with surprising frequency (237, 85, 73 respectively).

Table 12
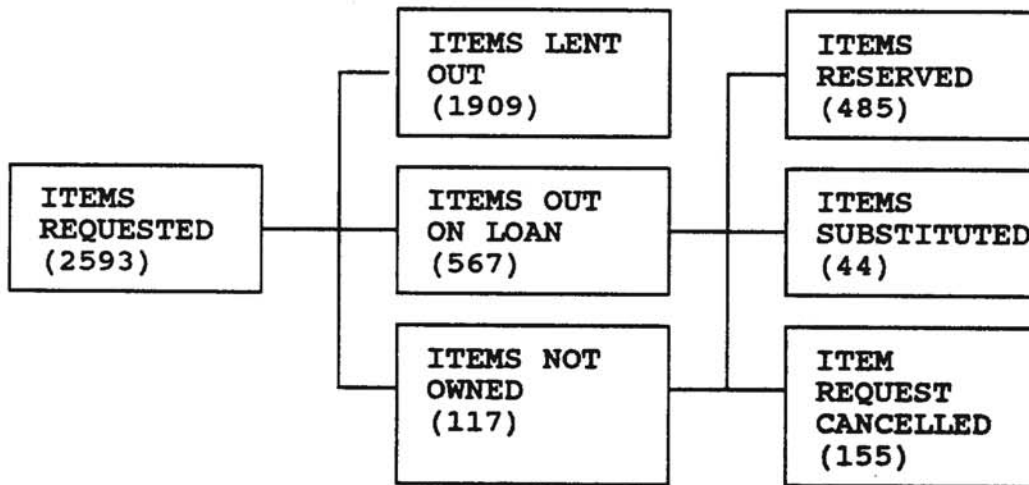
Requests by Number of Items Requested

Number of Items
Requested   Frequency

Number of Items Requested	Frequency
1	237
2	85
3	73
4	107
5	59
6	44
7	22
8	32
9	11
10	7
11-17	20
18-36	6

Results in this area indicate that the library may be able to realize some efficiencies if it encourages students to reduce the number of single-item requests by consolidating their requests or planning their library research needs more carefully. Once again, while the overall average of 3.8 items per request is acceptable, the incidence of single item requests is higher than would be desired in terms of telephone and mailing costs incurred in delivering services.

Fulfillment Rates

Rates of fulfillment, as produced in the user analysis over the four-month period, indicated a higher than expected ability to meet student demands. Of the 2593 items requested, 1909 were supplied at the time of request (73.6%),67 were owned but out on loan (21.9%), a117 were not (4.5%). In the event that materials were out on loan or not owned, library staff either placed reserves on items, provided substituted material, or responded to a cancellation request, as is depicted in the chart which follows (numbers refer to items):

Table 13

Rate of Fulfillment

```
                    ┌──────────────┐        ┌──────────────┐
                    │ ITEMS LENT   │        │ ITEMS        │
                    │ OUT          │        │ RESERVED     │
                    │ (1909)       │        │ (485)        │
                    └──────────────┘        └──────────────┘

┌──────────────┐    ┌──────────────┐        ┌──────────────┐
│ ITEMS        │    │ ITEMS OUT    │        │ ITEMS        │
│ REQUESTED    │    │ ON LOAN      │        │ SUBSTITUTED  │
│ (2593)       │    │ (567)        │        │ (44)         │
└──────────────┘    └──────────────┘        └──────────────┘

                    ┌──────────────┐        ┌──────────────┐
                    │ ITEMS NOT    │        │ ITEM         │
                    │ OWNED        │        │ REQUEST      │
                    │ (117)        │        │ CANCELLED    │
                    └──────────────┘        │ (155)        │
                                            └──────────────┘
```

Overall, the Library collection was able to meet student demands to a satisfactory level. However, the number of times that owned materials were out on loan indicates that more multiple copy purchasing may be necessary in some areas. As well, the low incidence of substitution suggests that more efforts can be made by Library staff to provide alternate materials when requested items are out or not owned.

Conclusion

Part I. Telephone Survey

This study provides some interesting data about the information and library use patterns of distance education students. The important role of the tutor as the front-line contact for the student is reaffirmed. From the Library's perspective this means that efforts to increase awareness about AU Library services must be directed to both students and tutors to maximize results. Secondly, the lower response to the use of study guides and course texts by all except BA and BGS students should be analyzed in relation to the purpose these guides and texts serve in distance education. The Library may have to highlight more prominently for students the availability of materials referred to in the study guide and texts.

In terms of the use of libraries the study confirmed that students with less access to other libraries used AU Library more

and especially students from northern Alberta. The study also showed that students in Edmonton and Calgary had a higher propensity to use libraries of all kinds. This would indicate that better awareness of libraries generally leads to proportionately higher library use.

The study further confirmed that there was a link between programme of study and library use. Students in the BA, BGS programmes (registering predominantly in humanities and social sciences courses) and students in the applied studies transfer programmes of nursing and social work indicated a higher use of AU Library. BAdmin students indicated the least use of any libraries. There was also significantly higher use of AU Library by women students.

The increase in use of AU Library in relation to the number of courses taken was confirmed in the study. This increase in use would be the result of both the higher level of courses taken (and the requirement for more extensive research essays) and by the increasing familiarity with the Library service available.

All of these findings are important to AU Library in an environment where the University is attempting to increase retention rates, to increase students registered in "programme" as against "non-programme" categories, and to increase the number of students from northern Alberta.

Part II. User Analysis

In conclusion, the Library user analysis confirmed several assumptions about students' use of Athabasca University Library and provided valuable information for further development of services.

The percentage of eligible students who actually used the Library between September and December, 1987, was 9%, indicating that we have succeeded to an extent in ensuring that students are aware of our Library service. Further efforts can be made to expand the user base such as more distinct promotion of services in course materials, more attention to library projects within course packages, more required interaction with the Library for research projects. Each of these factors has revealed higher Library awareness and use to date.

The highest percentage of service is requested and provided to students from the Alberta and Saskatchewan areas. Proportionately higher usage of service is requested by students living outside the major urban areas of Alberta, indicating that

the library serves a vital role for its non-urban students.

The tendency on the part of students to request specific items rather than general subjects reinforces the value of having "Supplementary Materials Lists" included with packages, and of having contact with tutors who can suggest useful titles to them. Both the lists and tutor-Library interaction are seen as beneficial and to be encouraged by the Library to further assist students in selecting specific citations.

As was expected, audio and video materials are popular formats with distance students, and the analysis confirms the validity of growth in this area of our collection. Although the average items per request of 3.8 is acceptable, the Library can make further efforts to encourage students to, and assist them with, planning their library requests so that the number of single-item requests is reduced.

The overall rate of fulfillment of 73.6% reinforces that the Library's collection development policy for student materials is effective. The growth of the collection based on recommended reading lists, and tutor or coordinator suggestions has provided a useful collection upon which students can draw. Further attention can be paid, however, to multiple copy purchasing and to the provision of alternate materials.

The telephone survey and the user analysis confirmed that the Library serves a vital role in supporting students to succeed in education at a distance. The study provides an indication of how institutional plans will affect the use of Library services and areas of service that need further development. It is expected that the next few years will be spent in further developing existing services, promoting those services, and ensuring that course materials make appropriate references to Library activities.

Library Questionnaire

Hello, may I please speak to ____? Hello,____, my name is ____
and I'm calling from Athabasca University. The library at AU is
currently conducting a survey of our students to gather
information that will help us to improve library services. Your
name has been randomly selected from the student records system.
I'd like to ask you to assist in our research by answering a few
questions about your library usage and about the ways you have
chosen to collect information for your course projects and
assignments. The survey will take only 2 or 3 minutes, and
naturally, your responses would be held in the strictest
confidence. Would it be all right if I went ahead with the
survey?

Thank you.

Question #1

I'd like to ask you first about how you gather information when
you work on your AU course projects and readings. I'm going to
list several possible information sources, and for each, I'd like
you to say whether you NEVER, SELDOM, SOMETIMES, OFTEN or ALWAYS
rely on these sources of information.

                                   NEV SEL SOM OFT ALW

a) Discussions with people you know
    other than your tutor.   [ ] [ ] [ ] [ ] [ ]

b) Discussions with or advice
    from your tutor.   [ ] [ ] [ ] [ ] [ ]

c) References or books available
    where you work.   [ ] [ ] [ ] [ ] [ ]

d) References or books borrowed
    from another person.   [ ] [ ] [ ] [ ] [ ]

e) References that are referred
    to in the AU study guide.   [ ] [ ] [ ] [ ] [ ]

f) References that are mentioned
    in the course texts.   [ ] [ ] [ ] [ ] [ ]

g) Your personal library or
    references.   [ ] [ ] [ ] [ ] [ ]

h) Reference material or books
    from a library.   [ ] [ ] [ ] [ ] [ ]

i) Are there any information sources, other than those I have
    already mentioned, that you rely on when you work on course
    projects and assignments?

    [ ] yes
    (specify):_____
    [ ] no

If answer to (h) is "never", proceed to Question #5.   Otherwise,
continue to Question #2.

Question #2

I'd like to ask what purpose you use libraries for. I'd like you
to say whether you generally use libraries for each of the
following purposes.

                                             Y   N

a) doing course projects or assignments.   [   ]   [   ]

b) obtaining recommended course readings.   [   ]   [   ]

c) studying for tests and exams   [   ]   [   ]

Question #3

I'd like to find out more about your use of libraries. I'm going
to list several types of libraries, and for each, I'd like you to
say whether you NEVER, SELDOM, SOMETIMES, OFTEN or ALWAYS use this
library to help you with your AU course or courses.

                                          NEV SEL SOM OFT ALW

a) Your local public library.   [ ] [ ] [ ] [ ] [ ]

b) A community college library.   [ ] [ ] [ ] [ ] [ ]

c) A local public or secondary
    school library.   [ ] [ ] [ ] [ ] [ ]

d) A library where you work.   [ ] [ ] [ ] [ ] [ ]

e) A university library other
    than Athabasca University.   [ ] [ ] [ ] [ ] [ ]

f) Athabasca University library.   [ ] [ ] [ ] [ ] [ ]

If answer to (f) is "never", proceed to Question #5. Otherwise,
proceed to Question #4.

Question #4

In your experience, is the AU library generally able to fill your
requests for books and other library materials?

        [   ]   yes
        [   ]   no
        [   ]   don't know/no response/no opinion/na

When requesting books or materials by mail or phone, were you
generally satisfied with the time it took to receive those books
or materials?

        [   ]   yes
        [   ]   no
        [   ]   don't know/no response/no opinion/na

Overall, how would you rate the quality of the service you received from AU's library: VERY GOOD, GOOD, ADEQUATE, POOR or VERY POOR?

    [   ]   very good
    [   ]   good
    [   ]   adequate
    [   ]   poor
    [   ]   very poor
    [   ]   don't know/no response/no opinion/na

Proceed now to Wrap-Up.

Question #5

You indicated that you do not use libraries to obtain information for your course projects and assignments. Were you aware that Athabasca University has a library from which students can request materials by mail or phone?

    [   ]   yes
    [   ]   no

If yes, continue to Question #6.
If no, proceed to Question #7.

Question #6

Are there any reasons why you have not used the AU Library yet?

    [   ]   have no need - materials available elsewhere
    [   ]   not convenient to request materials
            by phone or mail
    [   ]   not satisfied with stocks
    [   ]   other (specify):

    _____

Proceed now to Wrap-Up.

Question #7

Would you like us to send you any information on the AU library,
and on how you can request books or materials by mail or phone?

    [   ] yes
    [   ] no

Wrap-Up

That ends my questions. I'd like to thank you very much for
taking the time to help us with our research, and we wish you all
the best in your studies with AU. Good-bye.