

# Facilitating 'Extended Campus' Graduate Education Through Electronic Communication

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**Abstract:** The Extended Campus Program is offered jointly by the departments of Educational Administration, Educational Foundations, and Elementary Education at the University of Alberta. This graduate program makes it possible for students in centers remote from the Edmonton campus to meet the residency requirements for a Master of Education degree while retaining their full-time jobs. After describing the Extended Campus Program in general, this paper concentrates on the use of electronic communication to provide access to central campus library resources, staff services, and computerized databases. The paper then discusses a number of evaluations of the Extended Campus Program and ends with a consideration of future plans.

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## BACKGROUND

During the past 15 years, strong pressure has been placed on universities to provide greater access to students who, for reasons such as geographic remoteness from a university campus or personal commitments to full-time jobs, have not had the opportunity to further their education at the university level. Rumble and Keegan (1982) explain the rationale for establishing distance teaching universities throughout the world:

The foundation of distance teaching universities in the 1970s stemmed in part from an increased concern . . . for greater equality of opportunity of access to higher education. This led not only to an expansion of conventional universities to provide places for more school leavers, but to the feeling that higher education should be made available to those adults who had at an earlier stage in their careers missed the opportunity to attend a university. Coupled with this was an increasing belief . . . in the need for adults to have access to educational opportunities throughout their lives, in order to renew or update their knowledge. (p. 10)

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The University of Alberta is a traditional university, not a distance teaching university, but it does offer some distance courses as well as a few distance programs. This article is concerned with one of the distance programs: the Extended Campus Program (ECP). The ECP is an alternative residency program currently offered by the departments of Educational Administration, Elementary Education, and Educational Foundations. This program offers graduate students the opportunity to pursue their Master of Education degrees in locations remote from the central Edmonton campus of the University of Alberta, while maintaining their full-time jobs. Begun in 1981 as a five-year pilot project funded by Alberta Advanced Education, the Extended Campus Program has received a funding extension until 1991.

After briefly describing the Extended Campus Program, this paper focuses on the electronic communications and computer technology which are used to facilitate its delivery and reports on the evaluation of the program. The basic intent in the program was to use technology as a support system, rather than a delivery system per se, to provide ECP students with services as nearly equivalent as possible to those available to 'traditional' M.Ed. students in residency at the University of Alberta.

When planning was undertaken for a graduate program to be delivered at some distance from the University campus, the first decision which had to be made was to what extent this would be a true distance education program. According to Keegan (1980), distance education comprises the following six essential elements.

- 1) The separation of teacher and learner which distinguishes it from face-to-face learning.
- 2) The influence of an educational organization which distinguishes it from private study.
- 3) The use of technical media, usually print, to unite teacher and learner and carry the educational content of the course.
- 4) The provision of two-way communication so that the student may benefit from or even initiate dialogue, which distinguishes it from other uses of educational technology.
- 5) The teaching of students as individuals and rarely in groups, with the possibility of occasional meetings for both didactic and socialisation purposes.
- 6) The participation in a more industrialised form of education (based on view [*sic*] that distance teaching is characterised by division of labour; mechanisation; automation; application of organisational principles; scientific control; objectivity of teaching behaviour; mass production; concentration and centralisation). (cited in Keegan & Rumble, 1982. pp. 13-14)

Because Extended Campus is a graduate program, it differs in significant ways from the majority of distance education programs described in the literature especially the many high school, vocational or upgrading programs, but even those offered by universities, which are mainly at the undergraduate level. Since the University of Alberta is not a distance education university, members of the Department of Educational Administration had little experience with the preparation of a distance education course, not to mention a complete distance education program. While Holmberg

(1981) identifies prepackaged course materials as characteristic of most distance study programs, such prepackaged materials were considered inappropriate for use at the graduate level. It was therefore decided at the outset of the program that course material would be delivered in a face-to-face manner. While this would seem to remove this program from consideration as a distance education program as defined by Keegan, graduate education is much more than what occurs in the classroom. Two of Keegan's elements, specifically those concerned with dealing with students as individuals and establishing two-way communication, were considered primary areas for consideration of distance education techniques.

Graduate study is an individual pursuit requiring a great deal of independent study, with a need for access to a number of diverse resources (e.g., books, journals, expert consultants). Holmberg stresses that distance study has a special potential for developing 'academic socialization' through independence and training in autonomous study:

This is concerned with the methods of unprejudiced search for truth, the use and recognition of sources of knowledge, critical scrutiny of theories and arguments and similar habits and approaches. There is every reason to assume that academic socialization is adequately catered for [sic] by distance study. (1981, p. 14)

Holmberg's view of distance education is that "learning by the individual student is seen as the central aim of the educational process . . . as long as there are facilities for proper non-contiguous two-way communication" (1981, p. 19). Providing such two-way communication was essential in the Extended Campus Program, and providing adequate access to library services was equally important.

R.K. Fisher, in a major study of library services to university extension students in the United States (1978), points out that off-campus students require the same access to library resources as on-campus students:

[The off-campus student] needs a focal point, preferably a learning centre with a library, audio-visual materials, and a counsellor to talk to. In other words an off-campus student needs his own 'local campus'. . . . Even if a student can survive without this, for most courses he cannot survive without books, and it is precisely here that he should not be disadvantaged in comparison with his campus counterpart. (p. 8)

Fisher goes on to stress that for graduate extension courses, "the demands on library services are likely to be particularly heavy, and such courses need special attention according to their subject and locality" (1978, p. 8). His comment on the special needs of graduate students in distance programs is particularly relevant to the needs of Extended Campus students. He says that graduate students

are generally disadvantaged if they live some distance from the main campus or a major branch campus. At some universities there is evidence that courses needing library resources to any extent tend not to be held off-campus; but this seems to be denying one of the main principles of extension work, to extend the facilities of the university into the community, especially to those who cannot regularly attend on campus. At other universities there is a new thrust into

[graduate] and professional education off-campus, and in some cases these new developments are going to put considerable strain on library facilities and may encounter difficulties with accreditation. . . . An easy way out is to base courses on textbooks and on pre-packaged material, but it cannot be claimed that this is a desirable method of teaching in a university context or a good way of encouraging students to read widely and to see their subject in a wider perspective. (Fisher, 1978, p. 36)

Fisher concludes that "library services to extension students in the USA are still in many respects inadequate, especially with regard to off-campus courses" (1978, p. iii). His recommendations focus on developing much better university extension library services to both American and British off-campus students. Likely because his research was conducted ten years ago, however, he does not discuss the possibilities of using computer technology to facilitate such services. In a current book, Bostock and Seifert (1986) encourage the use of computers as resources or 'convivial tools' in adult education. They conclude their article "Adult Learning With Microcomputers" with an interesting comment:

In present and future learning environments where machines are the major knowledge resource for learners, the traditional role of the teacher is undermined and therefore either teachers will recruit computers as their tools to maintain that authority or else they will adopt a new role of encouraging personal learning, the traditional method of liberal adult education. We strongly support the value of the latter in all education of adults. (Bostock & Seifert, 1986, p. 32)

Keegan stresses the need for two-way communication, Holmberg stresses that distance students have a special potential to become academically socialized, Fisher stresses the need for graduate students in distance programs to have access to information sources, and Bostock and Seifert identify the computer as a potential resource. Arguments such as these, plus our own experience in information retrieval and electronic messaging, led the developers of the Extended Campus Program to consider using the computer as central to the program in two ways: first, to facilitate two-way electronic communication; second, to facilitate library research and access to resources.

#### EXTENDED CAMPUS PROGRAM: RATIONALE AND PRIOR DEVELOPMENTS

The Extended Campus Program can be considered a hybrid, with some features of distance education programs, more features of traditional graduate education programs, and some unique features of its own. The basic philosophy of the program is to offer an 'equivalent residency experience' to students. The program is offered in conjunction with community colleges and adult education centers in locations as remote as 500 kilometers by air from the central campus.

#### ***Stakeholders' Demands***

The demand for the program initially came from many different stakeholders in the

graduate education system, including prospective students, their employers, and the provincial government. Some prospective students had been promoted to administrative positions for the first time and felt the need for further training in educational administration, yet they were unwilling or unable to take a full year of academic leave from these new positions to attend classes. In rural areas, many prospective students suggested it was almost impossible to uproot a family and move to 'the big city' for a year of residency. Many institutions employing prospective students were and still are finding it increasingly difficult to justify and pay for a full year of academic leave for their employees. The government of Alberta had received complaints from many 'remote' communities that graduate university education was much more accessible to those who live in the large urban centers of Calgary and Edmonton. Some universities, both within and outside Alberta, had met such demands by removing the residency requirement and allowing students to complete a Master of Education degree by completing a number of courses and, possibly, a thesis or colloquium.

The Department of Educational Administration at the University of Alberta had received pressure to do away with the residency requirement for master's students, but Department members felt that simply offering a graduate degree to those who completed a specific number of courses would not provide an educational experience equivalent to that enjoyed by those in residency. To meet the needs of students, employers, and government, the Department developed two programs not requiring students to take a full year of leave from their jobs. To meet the needs of the Department, these programs had to be academically credible and equivalent to the traditional M.Ed.

### ***Administrative Development Program***

The first alternative to the traditional M.Ed. program was the Administrative Development Program (ADP), initiated in 1972. ADP students meet their residency requirement by attending classes on the University of Alberta campus one afternoon a week for two full academic years, completing their course work and an individual research project during spring, summer, and evening credit sessions. Basic requirements for ADP students are essentially the same as for students in the traditional M.Ed. program: completion of five required courses, nine optional courses, and a research project.

The Administrative Development Program was designed so that each class be kept together as a cohort while completing the residency requirements; in addition, the format included a core program with a primary emphasis on the design and management of educational research projects, rather than having students select their courses from all those available. In the second year of their program, each student cohort undertakes a joint research project (usually contracted by an outside agency) as part of the course load.

While the Administrative Development Program met the needs of students within about 100 kilometers of Edmonton (and a few students each year who commuted from much greater distances) there was an increasing demand for service from students and jurisdictions in more remote areas of Alberta. Community colleges, the provincial Department of Advanced Education, and a number of individual students made strong

representation to the Department of Educational Administration to develop a program which could be offered in remote local communities.

#### EXTENDED CAMPUS PROGRAM: DESIGN AND DESCRIPTION

In 1981, the Extended Campus Program was designed using, among other things, the experience gained from offering the Administrative Development Program. Two major observations of ADP students which were felt to have serious implications for any program delivered in a location remote from campus were that students found it difficult to access the library and library materials and to arrange to spend individual time with staff members.

#### ***Equivalency Criteria***

The Extended Campus Program was designed with the primary condition that students should have 'equivalent experiences' to those in the full-time residency program at the University. Six specific conditions of equivalence were initially adopted (Ingram, Ward, Montgomerie, Peters & Dancik, 1984).

- 1) The opportunity for both formal and informal professor-student contact during the full regular academic year. Contact with advisors, instructors and other professors is essential.
- 2) The opportunity for student-student interaction as an integral part of the program for the full year. This interaction would be related to the student role as opposed to interaction as professional educators.
- 3) The opportunity for appropriate access to library facilities of the University of Alberta.
- 4) The opportunity to obtain access to computer technology and other instructional resources.
- 5) The opportunity to share in special lectures and other experiences similar, or identical to, those provided in Edmonton.
- 6) Teaching of courses by staff with qualifications similar to those of staff teaching Educational Administration courses on the Edmonton campus. Where possible, current professional staff of the department serve as course instructors, program advisors, and individual study project supervisors.

Four other criteria were added at a later date.

- 1) ***Time for Study.*** It is expected, although not required, that on-campus students work full time on their programs over a period of two University terms (e.g., September to April). During this period of time students usually register in from eight to ten half-courses. This consumes approximately 300 to 400 hours of instruction plus a further 300 to 400 hours of study and preparation. This works out to approximately 40 hours of instruction per half-

course, plus a further 40 hours for study and preparation. Therefore, an equivalent "time off" expectation for instruction for Extended Campus students would be . . .240 hours for the full residency requirement. This would amount to approximately 30 eight-hour days of release time for instruction for a core program of six half-courses.

- 2) **Program Quality.** The program quality in off-campus locations, as measured by indicators such as content, time devoted to courses, delivery mode, materials, resources, course experience and student achievement, should be equivalent to the quality of on-campus programs.
- 3) **Program Requirements.** Entry requirements, residency requirements (three courses in each of two terms), number and types of courses required, time limits, grade standards, etc. should be the same for off-campus and on-campus programs.
- 4) **Costs.** Total program costs should not be substantially more for either program. However, in calculating these costs both University and student costs should be taken into account.

### **Program Description**

One of the reasons the Administrative Development Program has been judged successful is the primary emphasis on a single topic or core; the Extended Campus Program was designed to continue this primary emphasis on the design and management of educational research projects. The requirements are similar to those for the traditional M.Ed. and the ADP programs: 14 courses and a research project.

Students in the Extended Campus Program must have a letter from their employer releasing them from 30 full days of work during the first academic year of the program and 13 full days during the second. During their first year, Extended Campus students take six courses in or near their home community, three per semester in 10 three-day blocks. All students take all classes; hence a very strong cohort (including both students and staff) develops each year.

One of the equivalency criteria for the program is that both formal and informal interaction among students, and between students and professors, is essential. Classes are therefore scheduled so that students have extensive exposure to staff members and to each other. Courses are taught by full-time University of Alberta staff who travel to the local community college or adult education center to offer the seminars that are typical of traditional graduate education programs. The Extended Campus Program also takes the formal and informal socialization process that occurs in traditional graduate programs one step further: by design, the development of strong student cohorts is encouraged and has indeed taken place in each year that the program has been running.

During the second year of their program, students undertake their individual research projects. Staff from the Extended Campus Program travel to the Extended Campus site four times each year to meet with the students. During these meetings each student makes a short presentation to the total group on the current status of his or her individual project, and staff members meet with students for traditional project advising.

In the last two years, a large group research project has been introduced in addition

to the individual research project. Students are encouraged, however, to work in small groups (up to two or three) on the 'individual' research projects, hence gaining a much more realistic view of the kinds of projects undertaken in real life. The size and scope of the project are, naturally, increased when more than one student works on it.

During the first three years of the Extended Campus Program, only the Department of Educational Administration was involved, and students also took two 'practicum in educational administration' courses. In 1984 the Department of Educational Foundations joined the program and offered one of its courses in place of one of the practicum courses. In 1985 the Department of Elementary Education joined the Extended Campus Program, and the second practicum course was replaced by an Elementary Education course. All students, regardless of whether they are enrolled in Educational Administration, Elementary Education, or Educational Foundations, take the courses offered as the Extended Campus core, and all three departments have agreed to accept those courses as part of the student's M.Ed. program.

### PROVISION OF SERVICES TO EXTENDED CAMPUS STUDENTS

Those who were planning services for Extended Campus students realized that the concept of equivalence would mean the use of quite different techniques to achieve the same end. Essentially, since each Extended Campus site was remote from Edmonton and many of the students lived away from the Extended Campus site itself, equivalent service depended upon fast, reliable, easy-to-use communications. Identified areas of equivalency included access to professors, the library, and other facilities (such as computer facilities) on campus.

#### ***Electronic Messaging***

At the inception of the program, electronic messaging was instituted to allow staff and students to keep in touch. This was incorporated for two reasons: staff members travelled so much that it was often impossible to contact them by long distance telephone, and the automatic recording nature of the electronic messaging system made it possible to record the actual time a message was sent and received and to generate a 'hard copy' of the message and response. Staff and students have been extremely positive about the electronic messaging system. They can gain access to the electronic messaging system from anywhere in North America to read and respond to messages. Students know they can leave a message and be guaranteed a response, usually much more quickly than if they had left a phone message with a secretary.

#### ***Library Services***

Another major concern was that Extended Campus students have reliable, fast access to library services. Copies of the University of Alberta Libraries' card catalogue and serials list on microfiche were purchased for each Extended Campus center. Microfiche readers were purchased for Extended Campus centers that did not have them. A number of bibliographic databases are maintained on the University of Alberta's computer system and are available for student searching. These include a



current awareness version (latest five years) of the ERIC database, the Alberta Education Index, the Government of Alberta Publications database, a database of all Education theses completed at the University of Alberta, and a database of materials held in the Educational Administration Laboratory. The databases are all held under the Stanford Public Information Retrieval System (SPIRES), a relatively user-friendly database management system. Students at Extended Campus centers are taught how to search SPIRES databases and are given exercises to develop their skills in searching bibliographic databases. The Education Librarian of the University of Alberta Libraries also travels to each Extended Campus site to offer a full-day seminar on the University library facilities and use of the catalogue and serials list on microfiche.

#### *Extended Campus Assistants*

While students could be given access to the catalogue and serials list of the University of Alberta Libraries, they were still unable to be on campus to check out books and read journal articles. To deal with this problem, a number of full-time graduate students were hired each year as Extended Campus Assistants (ECAs) to act as the embodiment of the student on the campus. Affectionately nicknamed 'gophers', these ECAs were given signing rights for each Extended Campus student. The services they provide for students include copying journal articles, checking out materials from the University of Alberta Libraries, obtaining materials from private collections (such as the Educational Administration Laboratory), arranging for materials through the interlibrary loan service, and acting as the students' advocate if there is an overdue book. A special service the ECAs provide is trying to act as the student's surrogate on campus; for instance, if the student says, "I need some general information in an area, but I'm not really sure where to start," the ECA will seek information by asking appropriate staff members or browsing library shelves to locate books or articles which might provide the student with a starting place for his or her investigation.

Students communicate with the Extended Campus Assistants by electronic mail. An ECA reads the electronic mail each day and, immediately upon receipt of a message, sends a 'positively reinforcing' message to the student acknowledging the request. The ECA then goes to the appropriate library, checks out books or copies the appropriate articles, and sends them via the Government of Alberta Courier Service to the Learning Resources Center (LRC) at the Extended Campus site or, where special arrangements have been made, to a government office in the student's locale. The ECA then sends an electronic message to the student reporting on the status of the request, for example, what was sent, materials not available, etc. ECAs attempt to have materials in the courier service within 24 hours of receiving the original request. In our experience, the materials are usually delivered to the local LRC within two to four days. The normal library loan period for graduate students is six weeks, with 'right of recall' after 2 weeks. The University of Alberta Libraries have agreed to recall books from Extended Campus students only under extreme need. To our knowledge, during the five years of the program, recalls were exercised only twice. Students return books directly to the Education Library at the University of Alberta via the Government Courier Service.

It has been our experience on reading some of the collected communications

between the ECAs and the Extended Campus students that, although they may never meet in person, they become quite friendly over time.

### ***Computing Services***

It is obvious that in the Extended Campus Program, a great deal of reliance is placed upon access to computer services. The contract with each Extended Campus center provides for the location of at least one computer terminal or microcomputer equipped with a modem and a telephone line at each center. All students and staff members are given an individual Computer Services Identification (CSID) and have their names registered on the User Directory on the computer system at the University of Alberta. All computing charges for Extended Campus students and staff, including communications charges, are paid for out of ECP funds.

The University of Alberta's computer system is a Datapac host, meaning that it has an address on Datapac (the Trans Canada Telephone System's packet switched network) and accepts calls originating from a terminal in a 'collect call' mode. Three Extended Campus centers are located in areas served by a public access Datapac node: Keyano College in Fort McMurray, Red Deer College, and Grande Prairie Regional College.

Alberta Government Telephones has provided low-cost access for digital (computer) traffic through a system called the Tele Information Network of Alberta (TINA). The computer at the University of Alberta is also a TINA host. Under TINA, any telephone in Alberta can be used to connect to a TINA host for the same cost: 11 cents per minute during prime time and 9 cents per minute during non-prime time. All TINA charges are directed to the originating telephone. Two Extended Campus centers are located in areas which do not currently have a public access Datapac node: the North Peace Adult Education Center (Peace River) and Lakeland College (Vermilion). In these locations the Extended Campus Program pays for the installation of a telephone for use by the program and for all TINA charges.

Students are taught how to connect the computer terminal or microcomputer to either Datapac or TINA and how to use the electronic mail system and database management system (SPIRES) available on the University of Alberta's computer system. They are also encouraged to locate microcomputers or terminals in their own community (or home) and to use them as much as possible. Individual instruction is given to students who have access to personal computers as to how they can be used to communicate with the University's computer.

### ***Use of Computers in Courses***

When the Extended Campus Program was begun in 1981, microcomputers had not evolved into the sophisticated, 'user-friendly' machines we have today. Student use of computers was limited to using the mainframe system for database searching, electronic messaging, statistical analysis using *the Statistical Package for the Social Sciences*, Version 8 (Nie et al., 1975), and demonstrations of network construction and critical path calculation. Over the term of the program, although the use of the mainframe for electronic messaging and database searching has been maintained and even increased, the use of microcomputers has steadily been incorporated in areas such as statistical analysis and project management.

The first use of the microcomputer in the program came with the announcement of MacProject™ (Apple Computer, Inc., 1984). Since project design and management are part of the Extended Campus Core, it was believed important to show students that a program such as MacProject, and an inexpensive and easy-to-use microcomputer such as the Macintosh, could be a powerful tool for the individual project manager. Such power was previously available only on large mainframe computers but now makes project management a realistic tool for educators.

The second use of microcomputers originated from a change in philosophy in the statistical analysis course. A more intuitive and graphic approach to data analysis called Exploratory Data Analysis (EDA), originally proposed by John Tukey (1977), was felt to be a better way of helping students grasp the basics of statistical analysis than the traditional inferential statistics approach used previously. Since the EDA approach is graphic in nature, an Exploratory Data Analysis program was developed by this author for the graphically oriented Macintosh computer. This program is used by the instructor for demonstrating EDA techniques on a large screen monitor, and each student is given a copy of the program for individual use in completing assignments and analyzing his or her own data.

With the inclusion in 1985 of programs which required the student to use the Macintosh computer, it was decided to place a Macintosh computer and modem in each new Extended Campus Program location, in place of a terminal. A number of programs (e.g., word processors, spreadsheets, communications) have also been placed with the Macintosh computers. Student response to the use of the Macintosh has been very positive. While no objective measures have been taken, a number of students have recently purchased Macintosh computers — a reasonable sign of acceptance.

One other sign of acceptance of microcomputers is the increase in the number of assignments being completed on word processors. For the past two years, students have written the majority of their group project final report on word processors. They have even learned how to transfer computer files from a word processor on one type of microcomputer to a different word processor on a second microcomputer in order to merge the various sections of their report.

## EVALUATION OF THE EXTENDED CAMPUS PROGRAM

The Extended Campus Program has been reviewed and evaluated both internally and externally, and the results of these evaluations have been uniformly positive. External evaluators have confirmed the conclusions of internal evaluations, and Alberta Advanced Education has extended funding of the first five-year pilot program to 1991. Both evaluations have focussed mainly on program aspects rather than support services, but the following summary emphasizes aspects related to the use of electronic communications, computer technology, and library systems.

### *Internal Evaluation*

Extended Campus staff have conducted an ongoing evaluation of the program by interviewing and observing students and by administering an extensive questionnaire to students in all three programs — traditional, ADP and ECP — at the end of each

academic year. In 1984 an internal evaluation of the first three years of the program (Ingram et al., 1984) was conducted. The key criterion used in the assessment was equivalency with the other graduate programs in the Department of Educational Administration with respect to the ten equivalency criteria listed earlier. Program documents, records of students in all three M.Ed. programs, questionnaires to all M.Ed. students, interviews with employers of Extended Campus and Administrative Development students, and interviews with departmental staff in both alternative programs were used to collect data for the assessment.

On the basis of the data collected, it was concluded that the Extended Campus Program was providing a viable alternative to the conventional program and the Administrative Development Program. Student satisfaction was found to be generally higher in both the ECP and ADP than in the conventional program. The Extended Campus Program was found to be equivalent to, or better than, the other programs on all ten criteria used, and it was concluded that the program was very successful in meeting its objectives. While some minor problems were identified, these were all concerned with issues apart from computer and electronic support services (e.g., ensuring that Extended Campus students had adequate release time for study, providing more supervisory time for students, integrating the program more fully into the operations of the Department of Educational Administration, bringing staff of other Faculty of Education departments into the program, and maintaining adequate funding). Modifications have since been made which address all of these issues.

One of the major concerns of the ECP, and of particular interest in this paper, is the amount and quality of student-staff interaction in the program. Students were specifically asked their perceptions of the degree to which their program was characterized by student-faculty interaction and their satisfaction with that interaction. Tables 1 and 2 (see *next* page) show the results of an analysis of these two questions. As can be seen from the tables, students in the Extended Campus Program both perceived more student-faculty interaction and were more satisfied with it than students in the other two programs ( $p = .0001$ ).

In all three programs, no significant dependence was found between students' perception of the amount of student-student interaction and their satisfaction with it. However, students in the Extended Campus Program both perceived more student-student interaction and were more satisfied with that interaction than students in the other two programs.

Extended Campus students reported satisfaction with the support systems set up to provide access to library facilities at the University of Alberta and access to computer technology and other resources.

### **External Evaluation**

The Extended Campus Program recently underwent an external review (Boberg & West, the results of which confirmed the conclusions of the internal review. The external evaluators used the same evaluation criteria and essentially the same data collection instruments as those used in the internal review. However, they collected additional data by the following means: group and individual interviews with both Extended Campus and Administrative Development students; observation of staff

TABLE 1  
Student Perception of Degree to which Their Program was Characterized by Student-Faculty Interaction

Group	Response Categories					Total
	Not At All	Little	Some	Much	Very Much	
Administrative Development Program	0 <i>0.3</i>	0 <i>4.4</i>	11 <i>12.0</i>	18 <i>16.7</i>	24 <i>19.7</i>	53
Extended Campus Program	0 <i>0.3</i>	0 <i>4.4</i>	4 <i>12.0</i>	15 <i>16.7</i>	34 <i>19.7</i>	53
Traditional Program	1 <i>0.5</i>	16 <i>7.3</i>	29 <i>20.0</i>	28 <i>27.7</i>	14 <i>32.7</i>	88

$\chi^2 = (8, N = 194) = 52.34, p < .0001.$

Note: Observed frequencies are in plain type, expected frequencies are in italics.

TABLE 2  
Student Satisfaction with Student-Faculty Interaction in Their Program

Group	Response Categories				Total
	Very Dissatisfied	Dissatisfied	Satisfied	Very Satisfied	
Administrative Development Program	0 <i>7.9</i>	2 <i>4.9</i>	27 <i>23.6</i>	24 <i>22.6</i>	53
Extended Campus Program	0 <i>1.9</i>	2 <i>5.0</i>	18 <i>24.7</i>	34 <i>23.0</i>	54
Traditional Program	7 <i>3.2</i>	14 <i>8.7</i>	42 <i>39.3</i>	25 <i>37.5</i>	88

$\chi^2 = (6, N = 195) = 27.98, p < .0001.$

Note: Observed frequencies are in plain type, expected frequencies are in italics.

members in classrooms at two Extended Campus sites; interviews with faculty members in the Department of Educational Administration as well as four faculty members external to the Department; interviews with liaison staff at the off-campus sites; and evaluation of a sample of theses completed by traditional students and projects completed by students in the alternative programs.

The major conclusions of the external evaluators were as follows:

In the opinion of the evaluators the Extended Campus Program provides a viable alternative form of graduate education for students living outside of the major centers. All of the stakeholders pointed out that the Program is of value and should be continued. Even though students in the first year noted that the workload was heavy, they enthusiastically endorsed the Program. . . . The employers also endorse the continuation of the Program. . . . The evaluators conclude that the Program has met the ten equivalency criteria and that the findings corroborate the findings of the internal evaluations. (Boberg & West 1986, p. 39)

Boberg and West did make some recommendations for improvement, most of which had to do with providing more information to prospective students, adequacy of release time, increased supervision in the second year of the program, course choice and sequencing, and examination of the possibility of integrating the program more fully with the Department and the Faculty. But they concluded their evaluation report on a very strong note: "this Program could be a model for adult education. The logistics and the benefits to the individual, school boards, and to students should be carefully documented and published in the public domain" (Boberg & West, 1986, p. 41).

Two of their 13 recommendations are particularly relevant to this examination of electronic communications and computer support services — namely, that computer borrowing and lease time be extended and that new developments in distance education such as teleconferencing be examined. Plans are under way to deal with both of these concerns.

Some of their specific findings are also relevant to this paper. For instance, they found that the majority of Extended Campus students felt that the message/delivery service worked well, and they rated library services and holdings as good to excellent. As Table 3 shows, ECP students were as satisfied with their access to library materials as ADP and traditional students were. Students' comments in group interviews regarding these library services were extremely positive. They pointed out

how beneficial it was being able to select their own materials by using the COM catalogue and Serial list. They also stressed the *[sic]* appreciation for those students who gathered, photocopied and packaged all information and citations to be sent through the courier service. . . . All of these services made the students feel as if they were using the University Library in-person. (Boberg West, 1986, pp. 13-14)

Table 4 (see next page) shows that ECP students were as satisfied with their access

TABLE 3  
Student Ratings of Library Services in Their Program

Group	Response Categories					Total
	N/A	Poor	Fair	Good	Excellent	
Administrative Development Program	0 <i>0.6</i>	0 <i>1.3</i>	4 <i>5.5</i>	24 <i>21.5</i>	16 <i>15.1</i>	44
Extended Campus Program	1 <i>0.7</i>	3 <i>1.5</i>	9 <i>6.2</i>	17 <i>24.5</i>	20 <i>17.2</i>	50
Traditional Program	1 <i>0.6</i>	1 <i>1.3</i>	4 <i>5.3</i>	26 <i>21.0</i>	11 <i>14.8</i>	43

$\chi^2 = (8, N = 137) = 11.12, p = .19.$

Note: Observed frequencies are in plain type, expected frequencies are in italics.  
Source: Boberg & West, 1966, p. 12

to computer services as ADP and traditional students were. A common complaint of ECP students, however, was that they had to drive to the local LRC to check their electronic mail. Extended Campus staff indicated to the interviewers that "there was probably a higher use of technology and innovative methods in the Extended Campus Program than in the Conventional Program" (Boberg & West, 1986, p. 13).

It can thus be seen that Extended Campus students have turned the necessity of using computer and electronic communications technology into an advantage.

### ***Evaluation of Library Services***

Dancik (1984) undertook a study of the provision of the University of Alberta Libraries services to off-campus students, mainly in the Extended Campus Program but also in the post-RN Bachelor of Science program and the Compressed Vocational Educational Program (the latter, offered in conjunction with the University of Calgary, is no longer functioning). Her comparison of the provisions for library access in all three programs showed that the Extended Campus Program was the most innovative and comprehensive in this regard:

A sizeable portion of this study, including a lengthy description of existing programs, the interviews with students and the evaluation of the use of collections and courier services, focuses on the Educational Administration M.Ed. Extended Campus Program. The service to this group was the most elaborate and therefore could stand as a bench mark. (Dancik, 1984, p. 6)

Dancik cited several reasons for the quality of library services provided to Extended Campus students: good liaison between Extended Campus staff and students and the librarians in both the University Libraries and the off-campus Learning

TABLE 4  
Student Ratings of Computer Access in Their Program

Group	Response Categories					Total
	N/A	Poor	Fair	Good	Excellent	
Administrative Development Program	0 <i>1.3</i>	3 <i>4.7</i>	15 <i>12.6</i>	19 <i>17.7</i>	6 <i>6.6</i>	43
Extended Campus Program	1 <i>1.5</i>	9 <i>5.5</i>	11 <i>14.7</i>	18 <i>20.6</i>	11 <i>7.7</i>	50
Traditional Program	3 <i>1.3</i>	3 <i>4.7</i>	14 <i>12.6</i>	19 <i>17.7</i>	4 <i>6.6</i>	43

$$\chi^2 = (8, N = 132) = 11.82, \quad p = .16.$$

Note: Observed frequencies are in plain type, expected frequencies are in italics

Source: Boberg & West, 1986, p. 12

Resource Centers; additions to off-campus library collections, funded by ECP; seminars for students in using the computer searching and messaging systems; and use of Extended Campus Assistants.

As part of her thorough review of library services to Extended Campus students, Dancik interviewed a number of students in each Extended Campus location, as well as the local librarians in each Learning Resource Center. She found that almost all students used both the microfiche catalogues and electronic mail extensively. Most students searched the on-line databases, although some admitted they still felt a little uncomfortable and tried to get colleagues in the class to assist them in their computer searches. All students 'enthusiastically endorsed' the use of the electronic message system because it was efficient and low-cost, and because the paper copy from the terminal provided them with a date-stamped record of their own requests.

Because Dancik's ultimate purpose was to suggest ways in which university library services to off-campus students could be improved, her recommendations assumed this focus. But she prefaced them by saying,

this assessment demonstrates both a need and desire for library service to off-campus students, and the programs that do exist, as described in the literature and demonstrated through the Alberta M.Ed. Extended Campus, have worked successfully to the benefit of students, faculty, and the library. (Dancik, 1984, pp. 41-42)

In other words, the Extended Campus Program was found to be exemplary in the way it has capitalized fully on the opportunities provided by computer and electronic communications technology to extend library access to off-campus students.



## THE FUTURE

The Extended Campus Program offered by the University of Alberta seems to be very successful. The provincial government recently extended the program funding for a further five years. An announcement taken out in the Alberta Teachers' Association newspaper indicating that the program might be extended to other locations in Alberta met with a large number of responses both from individuals and jurisdictions requesting that their community be considered. The Extended Campus Program will also be offered on the Edmonton campus for the first time this fall, to meet the needs of those who prefer to attend classes in 10 three-day blocks for one academic year, rather than once a week for two academic years in the Administrative Development Program.

New challenges continue to appear. The University of Alberta Libraries is terminating the production of microfiche serials and catalogue and will be making an integrated database of the complete collection searchable by computer. Unfortunately, at this time it appears that the new integrated database will be mounted on a different computer system than the one now used by students. Negotiations have begun to find out how students in remote locations will be able to search this database. Since more students will be enrolled in programs other than in Educational Administration, it remains to be seen how students with greatly differing interests will act as a cohort. At this time, all instruction is offered by direct face-to-face delivery. Consideration is being given to the use of technology in the delivery of instruction: work has begun on the development of computer-assisted instruction modules in statistics; the Apple Macintosh has become central in the delivery of both the Project Management and Statistics courses. Beginning in the 1987-88 academic year, staff will recommend to all ECP students that they arrange easy access to a microcomputer with a telephone modem. In addition, if students do not have a computer, they will be encouraged to purchase an Apple Macintosh for word processing, telecommunications, statistical analysis, and project management. Investigation has begun into remote instruction using teleconferencing, videoconferencing, and computer conferencing.

There is no doubt that the emphasis on the use of computer technology and the training of students to use computers has played an important supportive role in the success of the Extended Campus Program. Our challenge is to make sure that additional use of technology in the future does not reduce the quality of the program.

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