A 3-year project to provide rural Alaska teachers with access to the University of Alaska-Anchorage's Special Education Program used distance education in learning applications as well as in developing a knowledge base. Previous Alaskan distance education programs had been criticized as "second class" compared to traditional on-campus programs. To assure quality control equivalent to the campus program, the project emphasized human contact and uniform evaluation criteria. Telecommunications systems--videocassette, audiocassette, teleconferencing--as well as site visits by faculty, student presentations, and weekly student meetings facilitated human interaction. Student assignments were graded by the same criteria as on-campus student work. Seven of 10 courses required for certification in special education were offered and students also attended on-campus summer school. Approximately 12 students enrolled at each of 3 remote sites. Seven students completed the certification program, 12 subsequently completed the program on campus, and 12 applied their credits to other programs. The distance education program required more faculty time and effort than the on-campus program, students needed more individual and group support, and technological problems and lack of student skills in using the technology had unexpected potential to disrupt training. (LFL)
AN INTEGRATED DISTANCE EDUCATION TEACHER TRAINING MODEL FOR SPECIAL EDUCATION TEACHERS IN RURAL SETTINGS

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For three years the University of Alaska, Anchorage (UAA) Special Education Program conducted a federally supported pilot project to provide access for rural Alaska teachers to the existing special education teacher certification program. Vast distances, expensive and precarious travel, and a dearth of trained special education teachers were factors which influenced the decision to try a non-traditional, distance education model for developing specialized teaching skills. When the pilot project began, the authors were naive about the differences in presentation and organization that would differentiate the Distance Education efforts from the already familiar traditional delivery of graduate programs. The life of the project paralleled the emergence of the bulk of literature on Distance Education. The literature now reveals that many of the problems as well as the solutions were similar to what colleagues around the world found in developing Distance Education programs that work for teachers and learners.

Distance Education remains a challenge for the future in Alaska. The potential of Distance Education utilizing telecommunication instruction for the specific purpose of teacher training where the objectives must go beyond the development of a knowledge base and into the realm of learning application is relatively unexplored. This pilot project was successful in developing a model that offered training -- not just courses; quality graduate education -- not just credits. It taught the instructors a new way of teaching that was not only beneficial in Distance Education but has had a positive effect in on-campus education as well. It offered a population of students the chance to practice professional motivation and to become self-directed learners; actively involved in their own education.
INTRODUCTION

For three years the University of Alaska, Anchorage (UAA) Special Education Program conducted a federally supported pilot project to provide access for rural Alaska teachers to the existing special education teacher certification program. Vast distances, expensive and precarious travel, and a dearth of trained special education teachers were factors which influenced the decision to try a non-traditional, distance education model for developing specialized teaching skills. When the pilot project began, the authors were naive about the differences in presentation and organization that would differentiate the Distance Education efforts from the already familiar traditional delivery of graduate programs. The life of the project paralleled the emergence of the bulk of literature on Distance Education. This paper presents the Alaska pilot project and focuses upon the difficulties encountered in delivering a Distance Education teacher-training program to rural sites. The literature now reveals that many of the problems as well as the solutions are similar to what colleagues around the world found in developing Distance Education programs that work for teachers and learners.

A PERSPECTIVE ON DISTANCE EDUCATION

Distance education efforts have a long history. Various instructional and organizational models have been developed and applied in numerous educational and cultural contexts. Opportunities for an "education at a distance" have existed in some parts of the world for as long as 100 years (Baath and Willen, 1984). Until the late 1960's, Distance Education efforts most commonly were characterized by the correspondence lesson or in some cases singular radio broadcasts, examples being the BBC radio school programs. Correspondence colleges and school programs traditionally focused on the autonomous learner, providing little if any face-to-face contact; communication between the instructors (or tutors) and the student almost always takes the form of written comments. Purely correspondence colleges/programs, certainly one viable form of Distance Education, continue to operate internationally.

In the late 1960's to early 1970's some countries began to combine other media with correspondence. This may have occurred in response to consistently high drop-out rates of correspondence students, or perhaps because of the wider availability of certain media possibilities in various countries of the world, or maybe simply to better meet a particular need. In Latin America and Africa, correspondence and radio broadcasts started to be used in combination with correspondence lessons to conduct large education projects. Targeted student audiences were secondary aged students whom the public schools could not accommodate, adults who did not have the opportunity to continue school for a variety of reasons and public school teachers lacking necessary qualifications. Despite impressions to the contrary, most Distance Education efforts remain firmly anchored in the
tradition of printed instructional materials (Holmberg, 1985 and Keegan in Sewart et al., 1983), but most have combined correspondence with other instructional media to enhance instructional and communication possibilities.

There is a growing demand for educational opportunities offered outside of established, institutional situations. Many individuals who cannot come to a central location for a variety of reasons, i.e. travelling distance, weather conditions, disability or family and financial responsibilities, have found Distance Education a viable alternative. There is also a growing recognition of Distance Education by individuals, institutions and governments as a possible solution to many educational commitments. As a result, in the last two decades, Distance Education universities, institutions, programs and individual projects have been developed and in some cases become permanently established.

Distance Education is greatly enhanced by a developed system of telecommunications. The use of telecommunications in assisting non-contiguous study generally includes, depending upon the availability, audioconferencing, teleconferencing, direct telephoning, mailing support materials such as videotapes, audio tapes, and printed matter and instructor visitations. Alaska has a highly developed telecommunications system which has been used only minimally for isolated course offerings and almost never for program development in higher education.

THE ALASKA PILOT PROJECT

The UAA special education pilot project described in this paper was, for two and a half years, an example of Distance Education utilizing the telecommunications capabilities of Alaska to meet a specific teacher-training need outside of Anchorage. An initial phase of the project included contact with perspective students throughout Alaska through supervisory and administrative staff. These contacts were made by mail because telecommunications systems such as the electronic mail system and the computer network, SpecialNet, were not available at the beginning of the project. Letters were sent to special education directors, principals, school superintendents and community college directors in all school districts in Alaska. As a result of this first inquiry 85 responses were received from interested teachers around the state.

The project coordinator then contacted these 85 teachers directly for reaffirmation of their interest in a graduate program. From the responses to this letter four sites were selected for possible distance delivery based on the largest interested populations. The sites selected were Kodiak, Kenai, Fairbanks and Delta Junction. All sites are away from the campus program at Anchorage but one, Fairbanks, was a smaller urban community and three of the four are connected by roads to Anchorage. Kodiak, an island community, is connected by commercial airservice. Not enough participants volunteered from
the remote communities or villages of Alaska, which are characterized by their geographic isolation and inconvenience and/or expense of travel, to qualify as a pilot site.

Counseling meetings were set-up at each of the four sites with the individual teachers. The coordinator explained that the Special Education Program at UAA requires thirty-three specified semester credits for teacher certification. Only students who already hold basic teaching credentials qualify for the additional specialized training required for working with handicapped children. Students could choose to link the certification requirements with a master's degree in special education. The teacher's needs and expectations were explored and the proposed details of the project were explained. The graduate program requirements as well as the special demands that would be made on rural students due to the nature of Distance Education were discussed. At this point the teachers in Delta Junction withdrew from the program. The remaining population, approximately twelve people in each of the three sites, enrolled in the pilot project.

It was found through the counseling sessions that several types of student needs could be met by the pilot project. Some students wanted to begin their graduate work and move through the entire program. Others had previously taken some summer courses in special education and were interested in continuing. Still other teachers were already certified in special education, but were interested in updating their skills in certain areas and a few were pursuing advanced degrees in areas other than special education and hoped to use the courses as program electives. Because of these situations the population did not remain stable throughout the pilot years. Each semester two or three people left or joined the program in each site. A core group of about nine students remained in each site throughout the life of the project.

Classes were scheduled for the three sites as illustrated in Table 1. The content of each course was the same as the course regularly taught on campus. Classes were scheduled so that students could enter the program at any point and no student, upon entering the program, was forced to take a class every semester in order to finish. This flexibility was intentionally designed into the schedule to allow the pilot project to serve as many needs as possible. The off-campus students were required to attend summer school at UAA for the purpose of meeting and working with their on campus peers, using the library resources and observing and working in the broad range of services available for handicapped children in urban Anchorage.
Table 1. Off campus and summer session offerings to accommodate pilot project participants.

<table>
<thead>
<tr>
<th>Semester</th>
<th>Kenai</th>
<th>Kodiak</th>
<th>Fairbanks</th>
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</thead>
<tbody>
<tr>
<td>Spring '80</td>
<td>ED 471 Issues &amp; Trends</td>
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<tr>
<td>Summer '80</td>
<td>ED 460 Exceptional Child</td>
<td>ED 471 Issues and Trends in Special Education</td>
<td>ED 478 PrePracticum in Special Education</td>
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<tr>
<td>(On Campus)</td>
<td>ED 471 Issues and Trends in Special Education</td>
<td>ED 486 Curriculum Materials in Special Education</td>
<td>ED 604 Diagnosis and Correction of Reading Deficiencies</td>
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<tr>
<td></td>
<td>ED 680 Theories of Learning Disabilities</td>
<td>ED 682 Diagnosis of Learning Disabilities</td>
<td>ED 687 Advanced Practicum in Special Education</td>
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<tr>
<td>Fall '80</td>
<td>ED 487</td>
<td>ED 471</td>
<td>ED 471</td>
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<td></td>
<td>ED 680</td>
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<tr>
<td>Spring '81</td>
<td>ED 682</td>
<td>ED 680</td>
<td>ED 680</td>
</tr>
<tr>
<td>Summer '81</td>
<td>ED 460</td>
<td></td>
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<tr>
<td>(On Campus)</td>
<td>ED 471</td>
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<td></td>
<td>ED 487</td>
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<tr>
<td></td>
<td>ED 683 Remediation of Learning Disabilities</td>
<td>ED 687</td>
<td></td>
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<tr>
<td>Fall '81</td>
<td>ED 486</td>
<td>ED 682</td>
<td>ED 682</td>
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<td>Spring '82</td>
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<td>Summer '82</td>
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<td>ED 687</td>
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<tr>
<td></td>
<td>ED 689 Individual and Classroom Management</td>
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</tbody>
</table>

Seven of the ten courses required for certification in special education were presented off-campus during the life of the pilot program. The materials for one additional course (ED 689) were developed but never delivered and the remaining two courses (ED 604 and ED 460) were neither developed nor delivered because they were not needed by enough of the pilot population of teachers for off-campus scheduling.

As a result of this project, seven teachers successfully completed the necessary special education coursework and were recommended for certification by the UAF program. An additional twelve teachers partially completed the program but were out of sequence for some of the courses because of later entry dates. They were able to complete the program in on-campus summer sessions. An additional population of approximately a dozen teachers took the off-campus special education courses for updating (in-service) skills or to apply toward other degree programs.

DECIDING ON A DELIVERY MODEL
The actual model for the distance delivery of coursework to rural students was designed as a result of the first year's investigation into the concerns of the university, the availability of telecommunications and the literature concerning distance education. Many marginally successful approaches to teacher training in rural Alaska had been tried over the years, each with specific drawbacks. Unfortunately, some of these attempts have not enhanced the reputation of Distance Education in the state.

The most popular model had been the contracted workshop which takes place generally over a 2 or 3 day period. This condensed learning situation presents a hardship on both the learner and the instructor. Instructors end up "performing" far past the point of learner attentiveness; participants are required to either assimilate and/or apply information in too compressed a time space. Feedback, a necessary part of learning, is difficult once the instructor has left and returned to an institution sometimes thousands of miles away and too late to meet any prerequisite "critical moment" of learning. In addition, any follow up efforts are frequently too expensive because any one site may have only a fewer individuals in need of the advanced training.

Another common rural training model existing in Alaska is the packaged course created in another place and programmed for credit on a TV system. It is this model that has occasioned many fears in institutions of higher education and perhaps justifiably so. In this model students "burn out" quickly. Their only interaction with the materials is one way--from screen to them. There is no chance to question, to find out how what is being taught applies specifically to their environment or to have any personal contact with the new information. The learner can and does frequently take an entirely passive role and soon sees himself as marking time and "buying" credits.

When the issue of delivering courses through off-campus models is considered, traditional university programs generally state the potential loss of "quality control" as a major factor against participation. An argument is tendered that because of the distance between professor and student and the frequent lack of any appropriate monitoring procedure, students may be required to "do less" than is expected of students taking the same course on campus where course contact time is computed to include not only direct instruction but group interaction, outside work and the use of library resources. The charge of "easy credits" is an oft' heard generalization, and whether appropriate for any individual course or not, the criticism frequently has rendered the credits earned in non-traditional delivery a "second class" status. Such credits earned by correspondence, through prepackaged courses or in workshops which include a day or two of direct instruction and then a follow-up student project, generally count for salary increases and credential update but frequently do not transfer to graduate programs at the University of Alaska or other institutions.
The Distance Education model described in the remainder of this paper illustrates attempts to avoid earlier pitfalls of distance delivery in the State, assure quality control equivalent to the accredited on-campus program and apply information from the literature and earlier proponents concerning specific teacher and learner needs in Distance Education.

A DISTANCE EDUCATION MODEL

The importance of human contact between teacher and student was seen as a very important part of the model. The project coordinator and other university faculty were scheduled to visit the three sites at what were considered the most critical points in each semester. The coordinator was on-site for the first class meeting of each semester. The purpose of this visit was to orient students to the procedures they would be expected to follow and to impress upon them the different kind of responsibility that they would be expected to assume while learning under this new model. The remaining three visits each semester were used for delivering content and generating discussions. Particularly in the semesters before audio conferencing was available, these face-to-face sessions were used to answer student questions about procedures and expectations. For the two methods courses, Diagnosis and Remediation of Learning Disabilities, the final on-site visit was used to conduct individual competency evaluations.

The students at each site met weekly as a group to receive information through various formats. Under the supervision of the project coordinator, video-taped lectures were made and mailed out. Accompanying these tapes were pre-viewing guides designed to focus the student's attention on the issues to be dealt with and to arouse their curiosity. A lecture guide for use during the viewing contained not only a notetaking outline, but also short activities which were performed during indicated points on the video tape. Student study and review guides were developed for many of the course materials including the textbooks. Developing student interaction with the ideas and materials presented was considered essential.

During the first two years of the project, students placed collect phone calls to the coordinator and UAA faculty members following taped classes and/or specific activities. Faculty members discussed content points with students and made sure that everyone was processing the prepared materials satisfactorily. Students were also required to submit written correspondence and reactions to class materials. In the final year of the grant, audio conferencing followed the taped presentations either immediately or in the following class session. During these conferences students from all three sites taking the same course were able to interact with each other and the special education faculty at UAA. In an effort to help students overcome reticence to becoming involved in discussion, the project coordinator made a concerted effort to refer to various student's written work, ask for explanations, and "plant" questions among the students.
The coordinator also obtained photographs of students to help familiarize them with their peers in other communities and circulated personal data sheets as she visited the various sites.

In addition to the video cassettes, audio cassette lectures were developed to disseminate information. Specific activities were also designed to be directed by the students in their rural locations. Student activities included such things as organizing panels of local agency or service personnel, performing assigned demonstrations, leading assigned topical discussions, and participating in role playing situations.

Student assignments and continuous feedback sheets on each class meeting were sent by mail to the project coordinator. Student work was evaluated and graded on the same criteria as on-campus student work. Test materials were identical to on-campus materials for the same course. The competency evaluation for the methods courses was conducted individually on-site in the same manner as done on campus each semester.

As the project developed it became necessary to hire a local facilitator for each site. It was the responsibility of this person to receive and mail all materials, to set-up the classroom, to collect and return assignments, to contact the program coordinator weekly, and to arrange the audio conferences. In each case this person was not an educator, but a well-organized and enthusiastic community member who could help maintain group cohesiveness.

EVALUATION OF THE DELIVERY MODEL

Many of the procedures previously described in the distance delivery model were the result of the coordinator's teaching experience at the secondary and higher education levels. Both authors were accustomed to making instructional accommodations for students with special learning needs. What they found was that students at-a-distance had many of the same instructional needs as mildly handicapped learners not because of intraindividual differences but due in part to the lack of system/organizational readiness, appropriate learning styles/expectations and technological support. This background guided the authors in the development of instructional support materials (advanced organizers and feedback procedures), but in general, they were unprepared for the amount of extra time and effort that was necessary for implementing a Distance Education model. The simplest procedure in support of traditional instruction i.e., acquiring textbooks, was much more difficult and time consuming in Distance Education. Students needed more individual and group support than anticipated. They became more discouraged and negative about their own progress or minor communications problems at a much faster than their on-campus counterparts. The potential of technological "glitches" to disrupt training efforts was greatly underestimated, as were the skills of the individual students to use the technology as teaching/learning tools.
Throughout the pilot project, students were asked to evaluate the effectiveness of the various methods of delivery. Distance Education was as new to the instructors as learning by it was to the students. This feedback was particularly valuable when evaluating the use of the more sophisticated telecommunication systems. Students were asked such things as, was the presentation too fast or too slow, were the visuals clear, were the activities appropriate in content and length, were there enough intervals for discussion, should more materials have been sent, etc.? In addition to helping the faculty improve on future presentations, this feedback helped the students feel more in control of what was happening during class time. While their peers on-campus were giving eye contact or staring out the window to show their approval or disapproval of lectures, distance learning students sitting before a video monitor knew they, too, would have a chance to respond to the teaching style before them. Such attempts to relieve feelings of frustration or boredom and to involve students in the process of learning as well as the content were made whenever possible.

CONCLUSION

Compared to the on-campus program, the number of students completing the program via Distance Education could appear to be insignificant. But, the effort must be measured against the personal and monetary sacrifices of teachers in other parts of Alaska to attend a program in Anchorage or in another state for the proper perspective to be developed. In addition, the project encouraged local people to remain in rural sites where attrition is generally very high partially because of the lack of potential for professional development.

Distance Education is a growing educational innovation practices around the world. Training alternatives obviously need to be developed and there is growing pressure from prospective students throughout Alaska to have programs providing advanced training available to them in rural and even remote sites. However, as this student population begins to look beyond the desire for an accumulation of isolated courses, they must also be ready to change their commitment to their own higher education. Embarking upon a program is not like signing up for a course and pursuing a program of distance learning via telecommunications may be more difficult than on-campus education.

Distance Education remains a challenge for the future in Alaska. The potential of Distance Education utilizing telecommunication instruction for the specific purpose of teacher training where the objectives must go beyond the development of a knowledge base and into the realm of learning application is relatively unexplored. This pilot project was successful in developing a model that offered training -- not just courses; quality graduate education -- not just credits. It taught the instructors a new way of teaching that is not only beneficial in Distance Education but has had a positive effect in on-campus education as well. It offered a population of students the
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