THE STUDY OF THE APPLICATION OF A SELECTED EVALUATION METHODOLOGY IN A HIGHER EDUCATION, DISTANCE EDUCATION SETTING

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by

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Abstract

The purposes of this study were (1) to evaluate the first approved graduate distance education course at Memorial University of Newfoundland, and (2) to test the suitability of the Stake Responsive Evaluation Model as modified by Lertpradist (1990) for that particular setting.

The modified evaluation plan included procedures for identification of stakeholding audiences, their concerns and issues, and the establishment of evaluation standards. Data were gathered through interviews, questionnaires, tests, and analysis of documents and records.

The data indicated that the course - Education 6521 Instructional Development - was successful. Student achievement in terms of knowledge and competency gains was high, and students were very favourable about all elements of the course. Course documents and records indicated that the course was well-organized, administered well, and met both student and graduate program needs.

Recommendations based on the implementation of the Responsive Evaluation Model were made, including recommendations for the further study of higher level distance education evaluation and for minor improvements in the course offering of Education 6521 - Instructional Development.

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Special thanks go to my parents, June and Willis Janes, my sister, Sharon Janes Tobin and her husband Rick and daughter Hillary, my brother Keith Janes and my grandmothers Mildred Steele and Maude Janes. Also acknowledged here are my parents-in-law, Theresa and William Walker and their children, especially Carol Walker Quinlan and David Walker.

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This thesis is dedicated to the memory of

Mark Edward Steele

(1908-1991)

Ambrose Janes

(1908-1993)

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CHAPTER I

Background of the Study

Introduction

The purpose of this study is to describe the evaluation of distance education at the graduate level in a university setting, with a view to providing guidelines for the future evaluation of distance education and graduate level courses, and providing a methodology that can be applied in similar settings or adapted for use in other settings.

Background Information

The course evaluated within this study is entitled Education 6521 - Instructional Development. It was originally developed as an on-campus course in the early 1970s and refocused in the early 1980s. Until the distance offering of the course, it had been a core course in the graduate program in Educational Communications and Technology, leading to a Masters Degree in Education (M.Ed.) conferred by Memorial University of Newfoundland. Education 6521 is also listed as a required course on two other programs leading to an M.Ed. degree: the School Resource Services program, and the Teaching program. It is a closed elective (completed by approximately 90% of students) on the

Curriculum and Instruction program, and an open elective on the Educational Administration program. It is now also a required course in the Master of Nursing Education program recently established at Memorial University.

As a regular offering Education 6521 was conducted on campus in St. John's, using the traditional classroom/live instructor delivery mode. The course involves the study of the development of instruction for all settings - the formal school system; the post-secondary system including community colleges, the university, and nursing schools; the military; and business and industry training. Students are introduced to the basic principles of instructional development from a historical and theoretical perspective. They then apply knowledge in the development of an instructional module (see Appendix D for a description of the course).

Education 6521 was the first formally approved graduate distance education course offered by Memorial University of Newfoundland under the School of Graduate Studies distance education regulations. The School of Graduate Studies regulations indicate that graduate distance education courses (a) are acceptable in a graduate program, subject to approval by the School of Graduate Studies; (b) shall not exceed 50% of the total number of courses required on a

given graduate program; (c) require the submission of formal proposals to the Advisory Committee on Distance Education before approval is given, with approval dependent on sufficient library and technological resources; (d) shall only be accessed after at least one on-campus graduate course from the candidate's program is completed.

Following a year of course development by an instructional development team consisting of a subject matter expert, an instructional developer, and an evaluator, the graduate distance education course, Education 6521, was offered on a pilot basis during the Fall semester, 1992. For the initial offering enrolment was limited to a maximum of 15 students. The course was administered by the School of General and Continuing Studies, Memorial University of Newfoundland, and was offered by the regular Education 6521 course instructor, assisted by an Educational Technology laboratory instructor.

Significance of the Study

Despite growth and development of distance education on a global scale, and the sterling reputation of institutions such as the Open University, many of those in formal education doubt the efficacy of students studying and

learning removed from the classroom setting or institutional environment. This is particularly true of graduate study, which is deemed to be highly scholarly in nature. While many institutions in North America offer undergraduate distance education courses there is a dearth of graduate level courses, and a reluctance on the part of institutions to expand distance education to the graduate level, despite demand. It is therefore important that the first graduate distance education course be evaluated in a comprehensive manner, to provide evidence of its efficacy and to allay the fears of those who are sceptical of the notion of graduate distance education.

It is also important to examine and test a particular evaluation approach, thereby perhaps providing a model for future evaluations within distance education. This study builds on two previous studies. One study was completed by Lertpradist (1990) entitled A Study of the Application of A Selected Evaluation Methodology in an Extension Setting. The other study by Kettle (in progress) examined the use of a similar methodology in a non-credit distance literacy setting. This particular replication is designed to test the methodology in the area of higher education (graduate level) distance education.

It is important to expand the research in the area of evaluation in distance education, since all too often distance courses are evaluated by narrowly focusing on outcomes and comparing the results to those of live courses. Yet the live courses which are used as a standard for comparison are often never themselves evaluated. Therefore it is questionable whether the outcomes that are used as a benchmark are indeed an acceptable standard. In addition, by narrowly focusing on outcomes, many aspects of distance education courses remain unexamined. It is assumed that, if results equal those obtained in live courses, the course experience is efficient and effective.

Limitations of the Study

It is understood that this study will have limitations and that these limitations exist for several reasons.

First, this study is designed to test only one evaluation approach. While the approach chosen, based on Robert E. Stake's Responsive Model of Evaluation, is very comprehensive, there may be other approaches or models that would be of value to apply in this particular setting. It was not feasible, however, to have tested two or more evaluation models at the same time.

Second, this study is applied to only one graduate course, rather than a series of courses or a whole graduate program. Obviously it would be of value, in the case of distance education at the graduate level, to evaluate more than one course. However this was not feasible during the period of the study, since Education 6521 was the only graduate course to be offered by distance, for at least a one year period.

Finally, this study involves the evaluation of a pilot or first offering. While it would be ideal to formally evaluate several semesters of Education 6521, and indeed evaluation will be ongoing for the next year, it was not a practical option to await a number of offerings within the timeframe of this study.

Despite these limitations, the evaluation of Education 6521 can add to the body of knowledge concerning the application of this particular evaluation approach in a variety of informal and formal educational settings.

Definition of Terms

The following are some of the terms and definitions that will be used throughout this study.

Distance Education. "Formal or nonformal instructional situations where learning takes place at sites removed from the point of origination and is characterized by varied degrees of access to the teacher, tutor or peers". (Zigerell, 1984 p. 55)

Evaluation. "The act of examining and judging, concerning the worth, quality, significance, amount, degree or condition of something. In short, evaluation is the ascertainment of merit". (Brookfield, 1986 p. 264)

Responsive Evaluation. "An educational evaluation is responsive evaluation if it orients more directly to program activities than to program intents; responds to audience requirements for information; and if the different value perspectives present are referred to in reporting the success and failure of the program". (Stake, 1975, p. 14) Responsive evaluation is emergent in design and evaluation standards are derived from the concerns and issues of the various audiences.

Instructional Design. Briggs (1977) defined instructional design as "the entire process of analysis of learning needs and goals and the development of a delivery system to meet the needs". (p. xx) It is "... the science of creating

detailed specifications for the development, evaluation, and maintenance of situations which facilitate the learning of both large and small units of subject matter". (Richey, 1986 p. 9)

The Audio-tutorial System of Instruction. The chief characteristic of the audio-tutorial method [is] "... individualized audiotapes as the main medium of communication, with printed materials taking a supporting role ... [T]he method's strength lies in its attempt to present instructional activities in the sensory mode preferred by the learner and to integrate experience from various modes into a meaningful whole". (Romiszowski, 1984 p. 24)

Organization of the Study

This study has been organized in the following manner: Chapter One discusses the background to the study including the significance and limitations of the study, and the definition of terms to be used; Chapter Two reviews the related literature, specifically in the areas of distance education, evaluation, and evaluation within distance education; Chapter Three presents the methodology of the study to be employed, including consideration of the model

to be examined, the development of instruments, the stakeholders involved, the evaluation standards, and the evaluation schedule; Chapter Four describes the implementation of the evaluation, including data collection and data analysis; Chapter Five presents the summary, conclusions and recommendations of the study.

CHAPTER II

Review of Related Literature

Introduction

In this chapter the historical and current literature on distance education and educational evaluation will be reviewed, with a view toward establishing an approach to the evaluation of distance education programs in general, and specifically to the evaluation of Education 6521.

Distance Education

Instructional Development

According to D. R. Garrison (1989) "...to study correspondence education is to study the roots of distance education" (p. 62). Holmberg (1986) concurs, suggesting that the origin of distance education is correspondence education. He goes on to say that:

> Other terms including distance education, distance study, and distance teaching were often tied to correspondence education even though distance education has only gradually become the accepted term ... Distance education has been adopted as a more neutral term. It can be considered a wider, more inclusive designation. (p. 1)

The earliest mention of what could be called distance education was in the Boston Gazette of March 20, 1728. In the Gazette, Mr. Caleb Philipps, "Teacher of the New Method of Short Hand" advertised that any "Persons in the Country desirous to Learn this Art, may by having the several Lessons sent Weekly to them, be as perfectly instructed as those that live in Boston" (Holmberg, 1986, p. 6). Although not verified as two-way communication, by benefit of doubt many attribute Mr. Philipps as a pioneer of distance education.

In 1833, a weekly published in the Swedish town of Lund offered "Ladies and Gentlemen an opportunity to study composition through the medium of the post" (Holmberg, 1986, p. 7). Isaac Pitman in 1840 reduced the principles of his shorthand system to fit postcards. Students were then invited to transcribe into shorthand, bible passages to be sent to him for correction. Students used the new penny post system introduced to England earlier that year (Verduin and Clark, 1991, p. 15).

Other landmark early attempts at distance education in the 19th century include Toussaint and Langenscheidt, who in 1856 founded a school in Berlin organized to teach language by correspondence. It continued to operate in the late

1980s (Verduin and Clark, 1991. p. 16). In 1865, American Anna Eliot Ticknor founded the Boston-based Society to Encourage Study at Home (Holmberg, 1986, p. 7-8).

In 1878 Skerry's College, Edinburgh began preparing candidates for Civil Service Exams by correspondence (Holmberg, 1986, p. 8). In 1882 William Rainey Harper, the "father of American Correspondence Study", induced Chautauqua educators to allow him to start a correspondence study program for his residential summer school students. (Verduin and Clark, 1991, p. 16). In 1892 he became first president of the University of Chicago and founded the first university-level correspondence study division in America (Verduin and Clark, 1991, p. 17). A year earlier in 1891, Thomas J. Foster, editor of the Mining Herald of eastern Pennsylvania, attempted to teach mining and methods of preventing mine accidents. This was the beginning of the ICS, the International Correspondence Schools (Holmberg, 1986, p. 9). According to Holmberg, "...The provision of both academic and practical occupational study opportunities was to be typical of distance education in the twentieth century" (p. 10).

Rayner (1949) notes that Australia's involvement with distance education dates back to 1911 and it has been

generally accepted that "Australia can claim to be the first country to have shown in a systematic way, and on a large scale, that it was possible to provide by correspondence a complete primary and secondary education for children who had never been to school" (p. 12).

While there were some developments in Europe during the later part of the 19th century, most pivotal early advancements in distance education took place in the United States of America (Young, 1984). By 1910 there were more than 200 correspondence schools in the United States.

Garrison (1989) ascribes the growth to "rapid transition to an urban society and ... the only opportunity for many to improve their socio-economic condition" (p. 52). Harris and Williams (1977) agree, indicating that the rapid growth of correspondence education which began during the 1910s and 1920s, were years of intensive industrial and war disruption. Growth continued through the 1930s and economic recovery from the Depression years, with continuing growth during the war years of the 1940s, and particularly in the recovery years after the Second World War. They suggest that it was no coincidence that correspondence education's beginnings occurred shortly after the postage stamp was introduced, growing when radio was pioneered in the 1920s

and telephone in the 1930s and 1940s. Perry (1978) writes that

> Foremost among the causes (for the rapid growth of the phenomenon in adult education known as distance learning) is [a] deep seated dissatisfaction (primarily outside of the United States) with the traditional higher education structure, which is steeped in elitism and favours only the young and privledged. (p. 105)

Notwithstanding the innovations in structuring curriculum for correspondence education, the outlook for correspondence study in the late sixties was "bleak" according to Perry (1981). With completion rates ranging from 5 to 70 percent, Garrison (1989) suggested that "what appeared to be lacking were imaginative methods of facilitating mediated communication between teacher and student" (p. 57). He goes on to say that by the early 1970s correspondence education began to evolve, with additions such as radio and television, audio cassettes and study centres, all of which were integrated into various curricula in a systematic manner.

Also pioneered during this part of the evolution of distance education was the "unique concept" of team course

developers in the development of courseware (Garrison 1989, p. 57). Holmberg (1986) notes that "the steady expansion of distance education occurred until 1970 without any general radical change in organizational structure, but with gradually more sophisticated use of methods and media..." (p. 29).

The catalyst for innovation in distance education, according to Garrison (1989), was the British Open University (BOU). First opened to students in 1971, it was the first large scale public correspondence institution. It tried to provide opportunities for higher education "thrcugh multi-media systems that harnessed educational broadcasting to correspondence teaching and methods" (Perry, 1977, p. 9). BOU tried to reduce the isolation of the distance student and used the concept of course development teams. It is, according to Garrison (1989) "a model for over 20 universities around the world" (p. 58). Keegan (1986) notes that BOU is more than a materials production process.

> It is the institution's concern for the quality of support in a distance system that has been the Open University of the United Kingdom's success in solving the age old problem of distance systems - the avoidance of the avoidable drop-out". (p. 106)

Holmberg (1986) saw the British Open University as marking "...the beginning of a new era in which degree-giving distance teaching universities with full degree programs, sophisticated courses, new media and systematic systems evaluation crop up in various parts of the world and confer prestige on distance education" (p. 29). From this period on the public's recognition of distance education and the funding of distance education programs can be seen "...as the beginning of a new prestigious era in the history of distance education" (p. 30).

Holmberg (1986) summarizes the characteristics of distance education today. The basic characteristics include:

(a) non-contiguous communication

(b) pre-produced courses

(c) two-way communication between student/tutors and others

(d) almost exclusively used by adults

(e) the choice is taken because one either cannot or does not want to do on-campus courses

(f) the economics of distance education is strongly influenced by mass education

(g) distance education serves the individual learner. (p. 141-142)

Holmberg (1986) observes that "distance education has undergone an evolutionary process, which is illuminated by the fact that the concerns of the pioneers are still largely relevant both to theoretical considerations and to educational and administrative practice" (p. 143).

Higher Education

What is the impact of distance education on higher education? When one hears the term 'higher education', it is usually equated with university level courses. This position is supported by Koul and Jenkins (1990) who state "By higher education we mean post upper secondary education which is effected at universities or colleges" (p. 1).

Obradovic (1987) concurs, noting "... for centuries, a university education was available only to those who could study on a full-time basis" and "[that] this was true in almost every country in the world" (p. 1). Prior to the Second World War a small number of post-secondary institutions began offering evening classes, making it possible for some adults to complete a degree part-time. No unusual concessions were made for the courses, neither in design, delivery or evaluation. They were simply day offerings for full-time students placed in more convenient evening time slots. Needless to say, a mature student often

needed "... an excessively long time to complete a degree" (Obradovic 1987, p. 1). Adults began to seek other alternatives to the traditional classroom. Roul and Jenkins (1990) state: "The demand for such education has been on the rise since the beginning of this century, but the rate of this rise has been phenomenal during the period following the second world war" (p. 1). They suggest there are four main causes for the growth in the higher education phenomenon. They are:

1. awakened aspirations of the new nations born of the process of decolonisation;
2. increasing awareness of and urge for higher education in a world of greater socio-political consciousness which promises social mobility;
3. considerable progress in communication technology and research in pedagogy; and
4. the political will in favour of spreading higher education for purposes of socio-economic progress. (p. 1)

Koul and Jenkins (1990) suggest that the conventional face-to-face teaching/learning techniques would not adequately meet the increasing demand for higher education. Hence the attempt by various nations to try innovations in

education. Distance education was seen as a viable alternative delivery mode for education, as distance education emerged in response to the increased demand for higher education.

Obradovic (1987) notes that "Higher education through distance learning has created an alternative opportunity for adults for whom traditional class attendance is impractical" (p. 2). Today there are many examples of distance higher learning opportunities throughout the world. Probably the most famous in distance terms is the Open University of the United Kingdom, also known as the British Open University. As Harry (1990) notes, the BOU offers over 130 courses at the undergraduate and graduate level, including the degrees of B.Phil., M.Phil. and Ph.D. (p. 16).

While no means an exhaustive list, other examples of graduate distance higher learning include Allama Iqbal Open University's program in Pakistan (Satyanarayana and Koul, 1988), Sukhothai Thammathirat Open University in Thailand (Chaya-ngam, 1990), the Open Learning Institute in Canada (Mugridge and Kaufman, 1986) and Deakin University in Australia (Moran, 1990).

Chaya-ngam (1990) in his discussion of the Open

University in Thailand indicates that there are both strengths and weaknesses to be found in distance education at the higher levels. He suggests that strengths include (a) it is an effective and economical way to extend opportunities to large numbers in countries where resources are limited; (b) the less privileged can benefit and improve their prospects; and (c) self-study is often attractive to mature adults, offering privacy and freedom to work at one's own pace. (p. 53) The weaknesses of higher learning distance education, as seen by Chaya-ngam (1990), are important to acknowledge. He suggests that some of the weaknesses include (a) higher learning distance education requires self-discipline, often difficult for some to develop especially when coming from a teacher-centred tradition; (b) younger students may prefer the social interaction found in the traditional classroom; (c) some face-to-face contact with teachers may be required to allow for questions, explanations and clarifications; and (d) the availability of the equipment needed to use all of the integrated media may be a problem for remote areas (p. 53).

As Van Enckevort, Harry, Morin and Schutze (1986) recognize there are many indications

> ... that virtually all OECD [Organization for Economic Co-operation and Development] countries

> have been, or presently are, developing some form of distance higher education. ... Distance higher education has become not only an accepted form of learning for an academic degree but has also been the source of a number of innovations that have begun to influence the provision of higher education as a whole - or are likely to do in the future. (p. 24)

Conventional versus Distance Universities

Since the early 1970s researchers in the area of distance education have been trying to cope with the topology of distance education teaching systems and the need to differentiate between conventional universities offering distance courses and fully distance institutions offering higher education degrees (Peters 1971; El Bushra 1973; Neil 1981; Goodman n.d.; and Keegan and Rumble 1982). According to Verduin and Clark (1991) distance education programs have been classified in several different ways, from "autonomous" schemes where schools or open universities teach through full correspondence to "mixed/hybrid" schemes where conventional educational institutions distance-teach through independent divisions, seminar/home study or integrated internal and external teaching (p. 14).

Verduin and Clark (1991) describe six commonly occurring models of distance education as follows:

Type 1. postsecondary educational institutions offering college degrees to students they have not directly taught;

Type 2. postsecondary educational institutions offering degrees to students who they have already taught;

Type 3. conventional universities that offer distance education through extension, independent study or continuing education units;

Type 4. a consortia of education-related institutions formed to provide distance courses in common or over a wide geographic area;

Type 5. autonomous institutions established specifically for the teaching of distance students;

Type 6. involves educational media developed by recognized educational or informational organizations used without the assistance of an educational organization by informal distance learners. (Verduin and Clark, 1991, p. 35-57)

Kaye and Rumble (1981) note that conventional education involves formal classroom instruction in an institutional setting, with teacher and students physically contiguous. They attempt to clarify the conventional versus distance

education issue below (see Table 1).

Table 1

Comparison of Conventional and Distance-Learning Schemes

DIMENSIONS	'CONVENTIONAL' SYSTEM	DISTANCE EDUCATION SYSTEM
Students	- relatively homogenous - same location - largely 'dependent' learners - controlled situation	- probably heterogeneous - scattered, at a distance - independent learners - relatively uncontrolled
Student Records	- do not need to be highly developed nor very detailed	- accurate student records essential
Student Support	- automatically built-in to face-to-face systems	- need for special provision of local backup services to help student with learning problems and minimize drop-out - ways of bridging the gap between student and central institution need to be designed - distance implies control and response (time) problems to be met
Student Assessment and Accreditation	- problems of validity and and reliability minimised - relatively 'cheat-proof'	- assessment at-a-distance increases problems of validity - use of large numbers of correspondence tutors decreases reliability - cheating/impersonation a potential problem: credibility
Media/ Methods	- essentially face-to-face teaching - labour intensive - teaching skills need to be fairly well defined	- essentially 'mediated' teaching - capital intensive - skills needed generally not readily available
Courses	- relatively simple, few and well-defined creation, production and distribution - low start-up costs but high student-variable costs; tendency for many options/courses with a few students in each	- more complex, course creation - production distribution processes, with specialised staff functions arising from divisions of labour - high start-up costs but low student-variable costs; tendency for few options with many students per course, to achieve economies of scale
Organisation Admin.	- little administrative support required: vast majority of staff in schools and colleges are the teachers - main administrative problems are concerned with time-tabling of teaching periods and with management of teaching staff	- strong administrative framework needed to link together student support and record functions, course creation functions, course production and distribution functions - some specialist functions may need to be carried out outside the distance learning system (ie. printing)

Control	· conventional problems of planning, scheduling, evaluation, leadership, decision-making	· these problems are magnified and in certain cases are qualitatively different
Cost	· basicly labour-intensive, and related primarily to numbers of students; unit costs per student/year do not vary significantly with numbers per course	· basically capital intensive, and related more to course creation and production costs than to student costs; unit costs per student/year drop significantly with increased numbers per course

Note. From Distance Teaching for Higher and Adult Education by Anthony Kaye and Greville Rumble (editors), 1981, London: Croom Helm. Copyright 1981 by The Open University.

Faith (1988) indicates that "... the clearest distinction between distance education (that is, home study) and face-to-face classroom instruction is in methodology, and new technologies have been a factor in the rapid growth of the worldwide distance education movement" (p. ii).

Peters (1983) questions the basic character of distance education by asking "...Is distance education nothing but a vehicle of distribution or is it a type of education in its own right that can only be described and analyzed to a limited extent using traditional educational terms" (p. 96). If it is education in its own right then perhaps to compare it to conventional education is to ask one to compare apples and oranges; neither right nor wrong, merely different. Van Enckevort, Harry, Morin and Schutze (1986) state:

> ... it appears that the boundaries [sic] between traditional, campus-based, face-to-face tuition

> and distance education and independent learning are getting increasingly blurred as new communication and information technologies are conquering both higher education as well as private households. While distance provision will increasingly make allowance for elements of social learning, such as teleconferencing or tutoring through regional centres, traditional provision will include independent research and learning through computer terminals that are linked to mainframes that provide both instruction and vast amounts of information and data. (p. 12)

Distance Education Course Design

Chang, Cromberg, van der Drift and Moonen (1983) suggest that one cannot design a distance education course merely by choosing a conventional course and limiting its face-to-face contact.

The key challenge of distance education is to create curriculum that are to learner's needs. Pentz and Neil (1981) note:

> ...the learners in a DLS [distance learning system] can and do "vote with their feet". They simply walk away from what they perceive as being

> irrelevant to them. This brings into rather sharp focus the need for DLS's to be student centred ... Obversely, and from experience, when opportunities arise for relevant learning, adults in a DLS can demonstrate levels of motivation far higher than those usually encountered in students attending conventional educational institutions. (p. 76)

Kaye and Rumble (1981) note three characteristics of learning materials and teaching methods of distance learning systems to be taken into account during the design process. They are:

(a) flexibility in the curriculum and content
(b) conscious and systematic design of the materials
(c) planned uses of media. (p. 18)

Kaufman (1989) also offers three essential elements of distance education course design. He suggests control by the learner, including power and support; dialogue; and the development of thinking skills (p. 61-67). He compares what he calls the three generations of course design in distance education: correspondence education (or first generation), distance education (or second generation), and finally open distance education (or third generation) using the characteristics of control, dialogue and thinking skills

(See Table 2).

Table 2

Three Generations of Course Design in Distance Education

CORRESPONDENCE EDUCATION (FIRST GENERATION DISTANCE EDUCATION)	
CONTROL	No choice provided to the learners Learner has no power Little support besides written feedback Evaluation mainly by final exam
DIALOGUE	Low dialogue Mainly by post, some telephone, air/radio forum
THINKING SKILLS	Little or no emphasis Focus on coverage of content

DISTANCE EDUCATION (SECOND GENERATION)	
CONTROL	Some learner choice of courses within a program Some choice of topics/projects undertaken within a course Learner has no power Some pre-enrolment counselling/study skills training by phone
DIALOGUE	Modern dialogue available at specified times Mainly postal service Use of telephone and audio teleconferencing Interactive television
THINKING SKILLS	Some emphasis in this area Focus still on content coverage

OPEN DISTANCE EDUCATION (THIRD GENERATION)	
CONTROL	Learner choice of why, what, how, where, and when to study Some learner choice of how their learning will be evaluated Power is mainly in the hands of the learner Institution and other learners provide on-going support to assist the learner in becoming independent
DIALOGUE	High dialogue available All methods, plus computer-mediated communication
THINKING SKILLS	Major emphasis throughout curriculum on problem-solving, decision-making, critical thinking

Note. Adapted from "Third Generation Course Design in Distance Education" by David M. Kaufman in Post Secondary Distance Education in Canada by Robert Sweet (editor), 1989, Athabasca University: Canadian Society for Studies in Distance Education.

Kaye and Rumble (1981) suggest that there are two issues to be aware of in the use of media in the design of distance learning materials: (1) the need to identify the media to which students will have access; and (2) the need to identify the resources, in the widest sense, that the project will be able to access. Finally they delineate what they consider the criteria for good quality distance learning materials:

(a) The materials are acceptable "academically".

(b) The presentation and organization of materials

should take into account the students' resources, capacities and abilities.

(c) The materials need to be "self-instructional". (Kaye and Rumble 1981, p. 56)

McKinnon (1989) recommends, based on his research, several "signposts to course developers" (p. 183). They include: learning materials must use examples, situations, and case studies with an adult ... focus; course material should be balanced to include ... topics that appeal to females as well to males; materials should be designed in manageable chunks; and learning materials need visual and audio components to supplement or indeed replace textual material.

Looking to the future of course design and development in distance education, Seabourne and Zuckernick (1986) identify a number of trends in this area. They are the reallocation of resources by provincial governments to support distance education, the establishment of structures which support inter-institutional collaboration, the involvement of the private sector as 'underwriters' of distance education especially at the post secondary levels, the integration of computers into both the design and the delivery of distance education, and finally, the

establishment of consortia for the sharing and joint delivery of courseware.

EVALUATION

What is evaluation? Webster's New Compact Dictionary defines it as a way to "find or state the value of..." (Webster's, 1988). Stufflebeam (as quoted in Brookfield, 1986) in 1975 based his definition of evaluation on the work of Scriven: "Evaluation is the act of examining and judging, concerning the worth, quality, significance, amount, degree or condition of something. In short, evaluation is the ascertainment of merit" (p. 264).

Worthen and Sanders (1987) indicate that the role of evaluation vis a vis education includes all of the following functions:

1. To provide a basis for decision making and policy formation;
2. To assess student achievement;
3. To evaluate curricula;
4. To accredit schools;
5. To monitor expenditure of public funds;
6. To improve educational materials and programs.

Considering that evaluation plays many roles within education, why would one conduct an evaluation? Brophy, Grotelueschen and Gooler (1974) outline three major reasons for conducting evaluations. They begin with the planning aspect, indicating the importance of evaluation in planning procedures, programs and/or products. The second reason is to improve existing procedures, programs and/or products. Finally, they believe that evaluation leads to the justifying (or not justifying) of existing or planned procedures, programs, and/or products. These reasons demonstrate that evaluation can serve both a summative and formative purpose in education.

History of Evaluation

Historically, according to Worthen and Sanders (1987) evaluation was first noted in the year 2000 BC when Chinese officials conducted civil service exams. From then until the mid-1800s, little formal evaluation was conducted. In the United States, Henry Barnard, Horace Mann and William Torrey introduced the practice of collecting data on which to base educational decisions. Between 1838 and 1850, Mann wrote twelve annual reports to the Board of Education of Massachusetts. In 1845 the Boston School Committee undertook the Boston Survey, the first use of printed tests for wide-scale assessment of student achievement.

F. ard Lee Thorndike, considered the father of educational testing movement, in the early 1900s convinced educators that the measurement of human changes was a valid research area. By 1918 the testing movement was firmly entrenched and individual tests or group tests were developed for use in the making of many educational and psychological decisions. Into the 1920s and 1930s, testing flourished with the growth of school accreditation agencies. Ralph W. Tyler, from 1932 to 1942 conducted the Eight Year Study. The manual from this evaluation effort dominated the thinking of evaluators for the next twenty-five years.

According to Guba and Lincoln (1981) there were six characteristics of the post war period of evaluation:

1. Evaluation and measurement were virtually interchangeable concepts;
2. Measurement and evaluation were tied to the scientific paradigm;
3. Evaluation focused on individual differences, and in education, on narrow ranges of differences relating to subject matter content;
4. Evaluation and measurement had little relationship to school programs and curricula;
5. Evaluation was oriented to standardized and objective measures that were norm-referenced;

6. Evaluation and measurement fit in well with the prevailing industrial metaphors guiding schools - scientific management. (p. 1-3)

By the 1950s a consolidation was taking place in evaluation as new applications of earlier evaluation developments were put into action. Tests and test development, accreditation school surveys and the formation or selection of acceptable educational objectives became the methods used. Major advances were made in the late 1950s and 1960s with the publication of taxonomies of possible educational objectives by Bloom (1956). This development provided a much needed structure around which to organize evaluations.

A world event in 1957 was perhaps the pivotal point in the history of evaluation. Sputnik 1 was launched and so was the United States paranoia regarding Soviet space prowess. The U.S. Government poured millions of dollars into evaluations, using them as the tool to improve American programming, standards in education and cost-effectiveness. In response to Sputnik and to the Elementary and Secondary Education Act (ESEA) which for the first time authorized the use of evaluations and other educational research, development and dissemination activities, academics in the

late 1960s and early 1970s offered up a flurry of new evaluation models for examination and use. Finally, in 1980, the Joint Committee on Standards for Educational Evaluation (1980) produced the Standards for Educational Evaluation, the first organized statement of principles for sound educational evaluation. Since the early 1980s, the professionalism of evaluation has grown and various models continue to be debated in the literature.

Evaluation Models

There are a number of evaluation models and a number of taxonomies to give order to these models. For the purposes of this thesis, Worthen and Sanders' (1987) taxonomy of the major evaluation models, as classified by six categories, will be used. Guba and Lincoln (1981) place the following models into each of the six categories (See Table 3).

Table 3

Six Evaluation Models

Taxonomy: Worthen & Sanders	Model: Guba & Lincoln
Objective-oriented	Tyler's Model
Management-oriented	CIPP (context-input-process-product) Model
Consumer-oriented	Scriven Model
Expertise-oriented	Connoisseurship Model
Adversary-oriented	Judicial Model
Naturalistic and participant-oriented	Stake's Responsive Model

Tyler's Model

Guba and Lincoln (1981) characterize Tyler's model as coming from

> ...Primitive concepts of evaluation that began to be formulated at the turn of the century and that at first were entirely measurement oriented [but] were reshaped by Ralph W. Tyler during the 1930s and 1940s into the Objectives-oriented approach that people typically think of when the term evaluation is used today." (p. x)

As research director of the Eight Year Study, Tyler had a great impact on the field of evaluation. For close to twenty-five years, his model was considered the standard for

evaluations. According to Guba and Lincoln (1981) "Tyler's main contribution was to insist that curricula needed to be organized around certain objectives". (p. 4) As Tyler (1949) said in his landmark work Basic Principles of Curriculum and Instruction:

> The process of evaluation is essentially the process of determining to what extent the educational objectives are actually being realized...However, since educational objectives are essentially changes in human beings, that is, the objectives aimed at are to produce certain desirable changes in the behaviour pattern of the students, then evaluation is the process for determining the degree to which these changes in behaviour are actually taking place. (p. 105-106)

In an attempt to establish to what extent a program's objectives were being met in an evaluation, Tyler suggested the following steps:

1. Establish broad goals and objectives;
2. Classify the goals and objectives;
3. Define objectives in behavioral terms;
4. Find situations in which achievement of objectives can be shown;
5. Develop or select a measurement technique;

6. Collect performance data;
7. Compare performance data with behaviorally stated objectives.

Tyler's model has a number of strengths as described by Guba and Lincoln (1981). The Tyler model was an advancement over the pupil centred, measurement-oriented approach that had been used until the introduction of Tyler approach. The rationale was systematic and logical. The concepts of evaluation and measurement were finally challenged as being different, with measurement being one of the many methods of use within evaluation. The rationale was easy to understand and apply and it had ideas such as feedback implicit within it.

Tyler's model also had weaknesses. Its critics noted that the model lacked a "real" evaluative component. It lacked standards by which to judge the importance of the objectives. It ignored the value of the objectives in and of themselves. It neglected the context in which the evaluation takes place. Finally the critics indicated that Tyler omitted evidence of program value incidental to the objectives and that it promoted a linear, inflexible approach to evaluation (Worthen and Sanders, 1987).

Transitional Phase of Evaluation

By the late 1950s and early 1960s a number of concerns regarding Tyler's model, and its ability to be all things to all programs, appeared. Cronbach's (1963) paper, Course Improvements Through Evaluation, makes three major points in response to the problems being identified in the evaluation field:

1. If evaluation is to be of maximum use to new program developers, it must focus on the decisions that they have to make during the start-up phase of the program;
2. Evaluations need to look at ways in which improvements or refinements could occur while in development;
3. Evaluation should be more concerned with course performance than comparative studies.

A variety of models were suggested during the 1960s, relatively responsive to the identified needs and problems of the evaluation field. While objectives-oriented models continued to flourish, evaluators were looking at other pivotal points for evaluation focus.

CIPP Model

The Context-Input-Process-Product (CIPP) Model presented by Stufflebeam (1969) sought another focus for evaluation. It is based on the concept that evaluation does

not need an objectives orientation, but rather needs to focus on what decisions are being made, who is making them, on what schedule and using what criteria (Guba and Lincoln, 1981).

The management approach of Stufflebeam and his CIPP Model was directed to the decision makers within the organization or program requiring the evaluation. He suggested that evaluators should incorporate or concentrate on four types of decisions when conducting an evaluation.

1. Intended ends (goals or objectives) determined through a series of planning decisions [These decisions are serviced by the context evaluation, continuous assessment of needs, problems and opportunities of the decision maker's domain];
2. Intended means (processes or procedures) determined through a series of structuring decisions serviced by input evaluation which assesses alternative means for achieving the specified ends;
3. Actual means determined through a series of implementing decisions (following a plan or schedule outlined by the intended means) and serviced by process evaluation which monitors and "debugs" the process s to keep them in as close

uniformity with intended means; makes adjustments based on actual experience;

4. Actual ends lead to recycling decisions (terminate, adjust, recycle as is) serviced by product evaluation concerned with comparing actual to intended ends; also takes into account unintended effects. (Guba and Lincoln, 1981)

The CIPP Model's advantages were numerous. It was the first model to go beyond the objectives theory-base and it responded to the new demands being placed on evaluators. It was excellent for projects with multi-dimensionality and scope. It was rational and systematic, and guidelines were available for its application.

The model also had a number of serious flaws. It made assumptions about the "rationality of decision makers"; assumptions about the "openness of the decision making process"; it ignored human relations and politics, a reality for all evaluators (Guba and Lincoln, 1981). Like the Tyler model, it failed to deal with the need for standards. But unlike the Tyler model, it was very expensive to implement, making it impractical for most evaluation settings.

Goal-Free Model

Described by Michael Scriven in the late 1960s, the Goal-Free Evaluation Model was designed to avoid the organizers of Tyler (objectives) and Stufflebeam (decision-making). Rather it was a call to recognise that many evaluations did not take into account the side effects or inadvertent products of programs. Scriven suggested the evaluation be conducted without the knowledge on the part of the evaluator of the program's goals or objectives. He felt that the evaluation should be initially "goal free" so that the evaluator could "evaluate actual effects against a profile of demonstrated needs in education" (Guba and Lincoln, 1981). Scriven's focus became the effects, rather than the goals or decisions.

The Goal-Free Model was conducted by using two pieces of information: an assessment of actual effects; and a profile of needs against which importance or salience of effects might be assessed. Basically, Scriven maintained that if an evaluator could find that a program fulfilled a need, then the program should get a good evaluation.

The Goal-Free Model earned a series of approvals from other evaluators. They appreciated that evaluation could occur even in the absence of stated objectives and that all

effects, intended and unintended, should be considered in judging a program.

Unfortunately the weaknesses of the Goal-Free Model were significant. Scriven's model failed to identify what to look for when examining effects. Experts were needed to perform evaluations, as only an experienced evaluator would know what to look for. And again, standards were not explained or expanded upon.

Connoisseurship Model

Proposed by Eisner, the Connoisseurship Model used humans as the measurement instrument, and as Guba and Lincoln (1981) note "data collection, analysis, processing and interpretation take place within the mind of the judge and are not open to direct inspection" (p. 19).

The Connoisseurship Model was based on two ideas. That of educational connoisseurship and educational criticism. Drawn from the metaphor of the art critic or wine taster, this model trusted the "expert" to use his/her expertise, training and instinct to evaluate a program using observation and other subjective data-gathering methods.

Eisner's Model demonstrated strengths when in use. It

was a truly non-scientific model which was powerful and useful in evaluation; the first to clearly make the break with the scientific approach. As Worthen and Sanders (1987) point out, "[its] greatest strength lies in translating educated observations into statements about educational quality" (p. 110).

Again, weaknesses in various areas impacted on the Model's use. There were no operational guidelines for users. The traditional educators had a hard time dealing with the high value placed on the evaluator as an expert and the air of theatre that went with an art critic persona. Also the specific preparation needed by the evaluator to take on this role was enormous, as was noted by Smith (1984).

The Judicial Model

As indicated by Worthen and Sanders (1987) where most evaluations approaches attempt to reduce bias, the adversary-oriented approach aspires to balance it, attempting to assure fairness by incorporating both positive and negative views into the evaluation itself (p. 114). An evaluation is adversarial if both sides of the question or issue are argued, one side by advocates (in favour) and the other by adversaries (opposed).

The notion of an adversarial approach had been evidenced in the literature prior to the development of an actual model of evaluation. Rice (1915) proposed a "judge and jury", while Guba (1965) proposed the use of a legal model. Owens (1971, 1973) expanded on the idea using pre-trial conferences, hearings and summaries by the prosecution and defence. Wolf (1973) was responsible for the development of an adversarial model - the Judicial Model.

Wolf's Judicial Model (Wolf 1973, 1975, 1979) proposed the following four stages:

1. Issue generation - the identification and development of possible issues to be addressed in the hearing;
2. Issue selection - elimination of issues not in dispute and selection and further development of those issues to be argued in the hearing;
3. Preparation of arguments - collection of evidence, synthesis of prior evaluation data to develop arguments for the two opposing cases to be presented;
4. The Hearing - including pre-hearing discovery sessions to review cases and agree on hearing procedures and the actual hearings' presentation of cases, evaluation of evidence and arguments and

panel discussion.

While not rigorously tested in real evaluation settings (it was tested by Wolf in Indiana in 1975 and in Hawaii in 1977), the Judicial Model on the surface has a number of strengths. Building on opposing viewpoints reveals both the positive and negative points of a program. The information collected is broad and the adversarial posture creates a great deal of interest in the audience. As Worthen and Sanders (1987) state "everyone loves a contest" (p. 121). It anticipates and dissipates criticism, and substantial planning for the evaluation is required. It is strong in its use of experts and it is open to new viewpoints.

The Judicial Model does have weaknesses. It has only been tested twice, in the recent literature, and its critics argue this is not enough rigor to pass as a model. The legal jargon may confuse the issue, and the model depends on both sides being equally able in the defense and argument of a position. This model has also been described as a crisis model and not suited to a non-adversarial evaluation. There are questions as to its ability to provide all of the necessary information needed to decide on an issue. Some suggest that compromise in revealing information because of a need to win may be a possibility in some situations.

Other issues of concern include the lack of an appeal process, the win-lose situation created, the manipulation of data during a debate, and the cost-benefit of the case preparation time (80%) verses the actual hearing time (20%) (Worthen and Sanders, 1987, p. 126).

Stake Responsive Model

The Stake Responsive Model was according to Guba and Lincoln (1981) an emergent form of evaluation that has as its focus the "concerns and issues of the stakeholding audiences" (p. 23). Stake had established his reputation on his early work with the Countenance Model and this slowly evolved into the Responsive Model.

Stake used as his basis the belief that every program is different, with different evaluation needs, and that there is no one way to evaluate. He believed that "... evaluators should have a good sense of who [they] are working for and their concerns" (Guba and Lincoln, 1981, p. 24).

Stake used a series of twelve events in the Responsive Evaluation Model to show evaluators the process needed to conduct a responsive evaluation. Using the circular clock with step one as twelve noon and step twelve as eleven

o'clock, one could progress from step to step. Stake emphasised that one did not need to follow the circular motion, and that an evaluator was free to move clockwise, counterclockwise or if events suggest, do several of the steps at the same time. In other words, whatever is needed to be responsive to the needs of the evaluation. Figure 1 presents the steps in the Stake Responsive Model (Stake 1975):

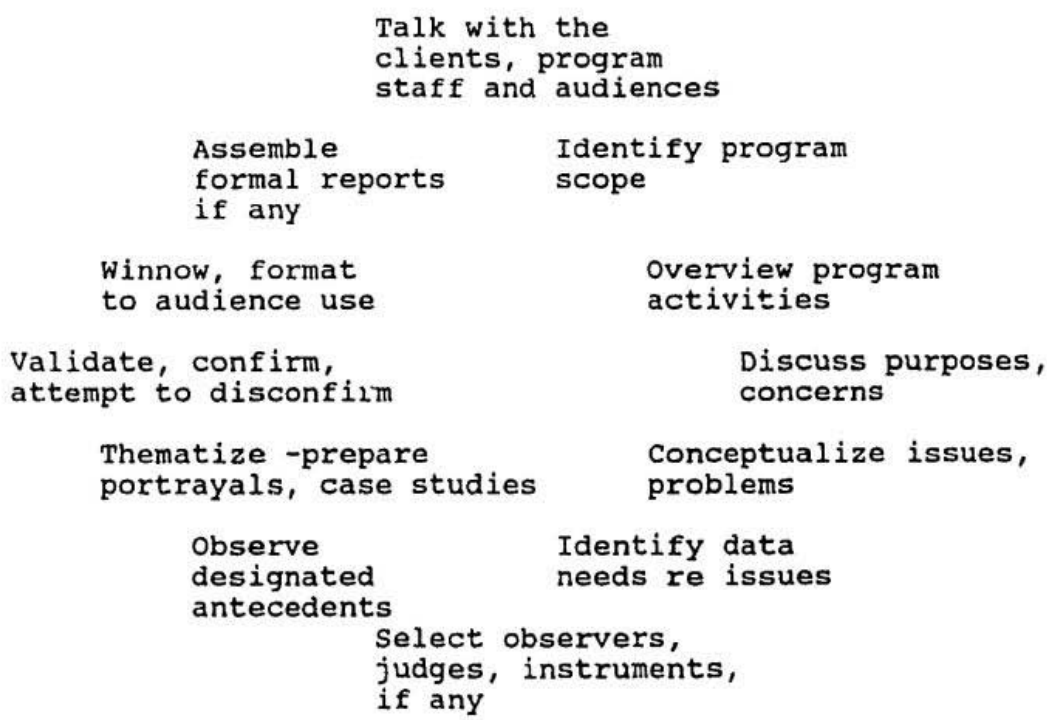

Figure 1. Activities encompassed in conducting a Responsive Evaluation as delineated by Stake (1975).

The strengths of Stake's Model are varied. It emphasises the human element, giving evaluation a potential for new insights and new theories. It is flexible and gives credence to context and the collection of multifaceted data. It is credible to audiences and takes into account their issues and concerns.

While his supporters are widely dispersed, there are criticisms of the Responsive model. Its complexity may be a limitation, as is its subjectivity. It has been accused of being "loose and unsubstantiated" and its intuitive data is a potential source of bias. (Worthen and Sanders, 1987, p. 142) It is time consuming and its focus on evaluator impartiality a possible problem.

Post-Model Evaluation

Lipsey, Crosse, Dunkle, Pollard, and Stobart (1986) suggest that in post-model evaluation, the dominate methodological approach to program evaluation research has been based on the experimental paradigm, that is quantitative measurement of dependent variables with controlled designs to establish cause-and-effect relationships. However, based on their research they conclude that program evaluation is often poorly done within the experimental paradigm, a widely acknowledged fact. They

base this conclusion on two very different factors:

> (1) there are numerous practical difficulties inherent in the matching of good research design to practical program circumstances;
> (2) social scientists, for the most part are not very well trained to do methodologically exacting research under field conditions. (p. 154)

Lipsey, Crosse, Dunkle, Pollard, and Stobart (1986) go on to declare that there are impressive alternatives to the experimental paradigm, lending insight and understanding into and of social programs: program monitoring or information system mode (Attkisson, Hargreaves, Horowitz, and Sorensen, 1978); naturalistic observational and survey studies (Guba and Lincoln, 1981); and other such rational-empirical investigations (Cronbach, 1980; Glass and Ellett, 1980; Scriven, 1974). They note that "these approaches are generally superior to the experimental paradigm for answering a broad range of important questions about social programs, many of which cannot be handled well within the experimental paradigm" (p. 172).

Guba and Lincoln (1986) suggest that post-model evaluation has "moved through three generations of development and is currently entering the fourth generation"

(p. 70). They go on to define the four generations as follows:

> (a) First generation - technical with the evaluator as technician;
>
> (b) Second generation - characterized by description of patterns of strengths and weaknesses with respect to stated objectives with evaluator as role of describer;
>
> (c) Third generation - characterized by efforts to reach judgements in which the evaluator is the judge;
>
> (d) Fourth generation - characterized as responsive, taking as a point of view ... the claims, concerns and issues put forth by members of a variety of stakeholding audiences. It is based on negotiation. (p. 70-74)

Guba and Lincoln (1986) further state "[that] fourth generation evaluation is neither a competitor nor a replacement for earlier forms; instead, it subsumes them, while moving the evaluation process to higher levels of sophistication and utility" (p. 85). However, they caution that fourth generation evaluation cannot become a fully functioning reality unless two conditions are met:

> (1) it must achieve acceptance and legitimization

> in the evaluation community; and
>
> (2) it must be implemented by practitioners who are properly trained in its methods and socialized in its values. (p. 86)

Palumbo and Nachmias (1984) note that

> ...now, more than in the past, there is some acceptance for an alternative methodology sometimes called 'qualitative' evaluation research and sometimes called 'naturalistic' inquiry or ethnographic research (Guba and Lincoln, 1981; Patton, 1980). This methodology is becoming somewhat more popular because it resolves the evaluators predicament by attempting to represent all significant value positions in the evaluation (House, 1980). At the same time, some find it more effective for purposes of utilization. (p. 106)

Conner, Altman and Jackson (1984) see that a "long-standing dispute in the evaluation research literature has centred on the advisability of using quantitative or qualitative methods" (p. 16). They indicate that this has created an unfortunate 'either/or' situation. They suggest that evaluators in the later years of the twentieth century

have gone beyond this 'either/or' distinction. Instead modern evaluation has been replaced by how "we can capitalize on the complementarity of these approaches to design more sensitive studies" (p. 17).

Lam (1992) regards the new path "...of program evaluation ... [as one that] acknowledges the complexity and restrictions of field research, encourages evaluation approaches that are multiplicative, broadly evidentially based, theory driven, cognizant of the uncertainty in program effects estimate, and reliant on both research methodologies and human judgement". Finally Palumbo and Nachmias (1984) suggest that there is "...no ideal evaluation paradigm: the dominant model is both methodologically and institutionally inadequate. Perhaps, like all Holy Grails, the ideal evaluation paradigm in all its pristine trappings might will be eternally beyond our grasp" (p. 113).

Evaluation in Distance Education

Holmberg (1981, 1986) suggests that a good deal of both theoretical study and practical work has gone into the evaluation of distance education, both of a formative type (to improve course and tuition) and of a summative type (to describe and provide a kind of product declaration). He

indicates that the basis of evaluation are:

- learning objectives
- performance standards
- consultation with future employers/teaching bodies
- achievement tests
- student opinions
- specialist opinions

He notes a special concern for distance education evaluators, that of the cost-benefit analysis in relation to distance education (Holmberg, 1986, p. 62).

According to Verduin and Clark (1991) program evaluation takes on additional meaning when applied to distance education. Distance educators tend to assume that distance education reduces certain barriers to learning, provides for more learner-centred instruction, is more convenient and meets the needs of adults more effectively than conventional education.

Thorpe (1988) suggests several important reasons for distance education evaluation. She indicates that distance educators have difficulty in gathering information about their learners and their wants and needs, because of the

lack of face-to-face contact. She believes that distance educators should be responsive to learners' needs, but that formal assessment is required to establish these needs (p. 183-184). Thorpe (1988) states

> ...that evaluation is needed because distance education is still in an embryonic, innovative stage, with considerable developmental activities taking place. Different models, strategies, and systems are being tried and tested, and educators need to determine effectiveness on a comparative basis. Consistent evidence through regular evaluation can provide for a more structured process and prevent random activity. (p. 183)

Evaluation, suggests Thorpe, will reveal what is effective and what is not. She notes that distance education should use evaluation similar to business and industry evaluation models; to ensure that customers are satisfied. Finally, Thorpe states:

> ... Any effective distance education organization, because of its unique place in educating adults, must have a plan for evaluating the program to determine its value and accomplishments. A sound evaluation plan would be holistic in nature to ensure that all parts of the program are

functioning successfully. (p. 195)

Implications of the Literature

The evaluation of distance education is, for the most part, the evaluation of adult learning, since the majority of distance education experiences, to date, take place in post-secondary and community education settings. In choosing an evaluation approach, it is important to consider the needs of the main audience group - adult learners.

In a discussion of which general evaluation framework to adopt in adult education, Grotelueschen (1980) suggests that it should include democratic and naturalistic approaches. Beder (1979) and Ruddock (1981) stress the need for adaptability and flexibility while conducting the evaluation in adult learning settings. Ruddock (1981) lists the methods that could be used in an evaluation process, including experimental analysis, statistical analysis panels, sociometric analysis, participant observation, illumination evaluation, critical incidents, role analysis, in-depth interviews, life histories, document analysis and participatory research.

Brookfield (1986) proposes several approaches that appear most likely to qualify as the framework for

educational evaluation. These include:

(a) participatory evaluation, where the major precept of adult education, namely involvement of the adult in all stages of education and the control over his/her learning, is advanced to evaluation - i.e. adults evaluating their own success;

(b) the perspective discrepancy assessment, based on the assumption that "the educational process can be best understood by examining how those involved perceive and understand the process and themselves in relation to it" (Mezirow 1978, p. 52) - i.e. the model concentrates on the identification of key decision areas and the crucial questions facing those involved in decision making; and

(c) andragogy and the collaborative models of evaluation - this model, while offering no data collection ideas, suggests that changing the relationships among group members can be examined through a detailed analysis of verbal interchanges. (p. 276-279)

In choosing an evaluation model for the evaluation of Education 6521, Memorial University of Newfoundland's first

approved graduate distance education course, the researcher carefully considered all models presented in the literature. The researcher chose the Responsive Evaluation Model of Robert E. Stake. In choosing this model, the researcher was influenced by two factors: (1) the adult education/evaluation literature which, while not naming the Stake Model does suggest many of the characteristics of Responsive Evaluation; and (2) the desire to replicate a modified Stake model, twice used by other researchers to evaluate adult education programs in the areas of literacy and extension education. In using this model in this particular setting, the researcher would be providing another opportunity to establish its applicability to adult distance education programs.

CHAPTER III

Evaluation Methodology

The Course to be Evaluated

Education 6521 - Instructional Development is a graduate course offered by Memorial University of Newfoundland. It is an introductory course on instructional design, included as a required course on the graduate programs Educational Communications and Technology, School Resource Services (School Libraries) and Teaching. It is a closed elective, completed by approximately 90% of the students on the Curriculum and Instruction Program. It is also an open elective by the Educational Administration Program. Recently, it has also been approved as a required course on the Master of Nursing Program for specialists in Nursing Education.

It was chosen for development as a distance education course at the graduate level for the following reasons:

1. Its yearly enrolment is between 60 and 70 students, and it is offered at least three times per year. Potential enrolment was considered high enough, in terms of the cost-effectiveness of course development, for the School of General and Continuing Studies to commit to the funding of the

course.

2. Education 6521 was already an approved graduate course. Therefore it did not require, at least from a content perspective, the exhaustive process of committee sanctioning by the Faculty of Education, the School of Graduate Studies, and Senate.
3. It was not like the majority of graduate courses, in that it incorporated a practicum. It did not require a heavy reading load reliant on library access.
4. It was not a straight lecture course, but rather it incorporated a variety of media and methods in its on-campus format such as lecture, consultation, assigned readings and of course, a practicum.

While the offering of Education 6521 by distance education required significant alteration of the on-campus course, the alterations were in the way the live course was structured and the methods of delivery, rather than in the course content. In designing Education 6521 for distance delivery, the course development team chose a system developed by Samuel Postlethwait in the early 1960s - the audio-tutorial system of instruction. The basic structure

of the audio-tutorial system of instruction is as follows:

1. the main medium of delivery is audiotape. A series of audiotapes contain informal lectures or "conversations" which include the basic course content and personal anecdotes and experiences of the instructor;
2. audiotapes are supplemented by other media, most notably print in the form of a course manual and/or workbook. These provide a structured sequence of learning activities;
3. other media are used to provide visual instruction - these media might include realia, slides, films, or videotape, depending on the purpose of the instruction and the content to be presented. (Postlethwait, 1977)

It was believed by course developers that the audio-tutorial approach to distance education, especially at the graduate level, would have certain advantages over live courses delivered by traditional lecture, including repetition (the amount of which is controlled by the student), concentration (again within the students decision-making power), size of subject matter units, use of appropriate media and communications vehicles for particular

objectives, and the integration of learning activities and situations into the course design.

Because the main component of this course was audiotapes, a set of twelve "fireside chats" or armchair conversations about the various elements of instructional development and the author's experiences in doing instructional development were created. Each tape was related to a section of the print materials provided.

In addition to the audiotapes there were four videotapes. The first introduced the course, its creators, the off-site instructor (during the pilot offering) and the on-site laboratory instructor. The three remaining videotapes focused on the key aspects of instructional development including task analysis, objectives and testing, and instructional methods and delivery systems.

The print materials included a programmed instruction textbook, designed to provide the student with both content and practice in applying instructional development to specific instructional settings. This would be considered similar to a laboratory workbook. A book of readings included a set of twelve selected articles that provided students with the content of much of the current lectures

and readings required in the on-campus course. A commercial textbook provided a basic framework in instructional design. Two audio teleconferences were scheduled by the instructor and laboratory instructor in order to assist with any problems, to encourage project development, and to stimulate learner interaction.

The use of all course materials was directed by a course manual, which included information on the assignments and main project, and the final exam. Also included in the course manual was the scope and sequence for the course, laying out suggested dates and time lines for assignments and readings.

Procedures of the Evaluation

In selecting a model for the evaluation of Education 6521, the researcher examined a number of approaches espoused in the literature. The Responsive Evaluation Model, developed by Robert E. Stake (1975) was selected because of its flexibility, its comprehensiveness, and its particular application to two other distance education programs in recent years (Lertpradist, 1990; Kettle [in progress]).

Responsive evaluation has two major characteristics as

follows:

1. Its design is emergent. While it may be possible to anticipate that any number of activities may occur within a responsive evaluation, how and when they occur cannot be specified in advance. Even instruments cannot be fully developed until the evaluation is ongoing, since each data-gathering activity is dependent on the results of the data collected previously. An inherent part of responsive evaluation, then, is that data are analyzed as they are collected, and subsequent evaluation activities emerge from the ongoing analysis of the data.

2. Its basic framework for the collection of data is the concerns and issues of the various stakeholders - or audiences - of the program being evaluated. The information needs of these groups guide the evaluation, hence an early step in the implementation of a responsive evaluation is the identification of audience concerns and issues.

Adherence with these two basic tenets - evaluation focused on audience information needs and evaluation that is emergent in design, is all that is required for an

evaluation to be considered responsive. In addition, responsive evaluation permits the inclusion of data from multiple sources and the collection of data through multiple means, resulting in both quantitative and qualitative data and a comprehensive evaluation on all aspects of a given program.

Stake's Responsive Evaluation

Stake used a series of twelve events in the Responsive Evaluation Model to show evaluators the process needed to conduct a responsive evaluation. Using the circular clock with step one as twelve noon and step twelve as eleven o'clock, one could progress around the clock. However Stake emphasised that one should not necessarily follow the circular motion, and that an evaluator was free to move clockwise, counterclockwise or if events suggest, do several of the steps at the same time. In other words, whatever is needed to be responsive to the needs of the evaluation (See Figure 1, p. 46).

Based on Stake's Responsive Evaluation Model, this study implemented a responsive evaluation as modified by Lertpradist (1990) in her work entitled A Study of the Application of A Selected Evaluation Methodology in an Extension Setting and work by Blair Kettle (in progress).

Both of these studies explored the utility of a responsive evaluation approach in a distance education setting. Lertpradist (1990) collapsed certain steps in Stake's diagram, resulting in an eight step evaluation process (See Figure 2).

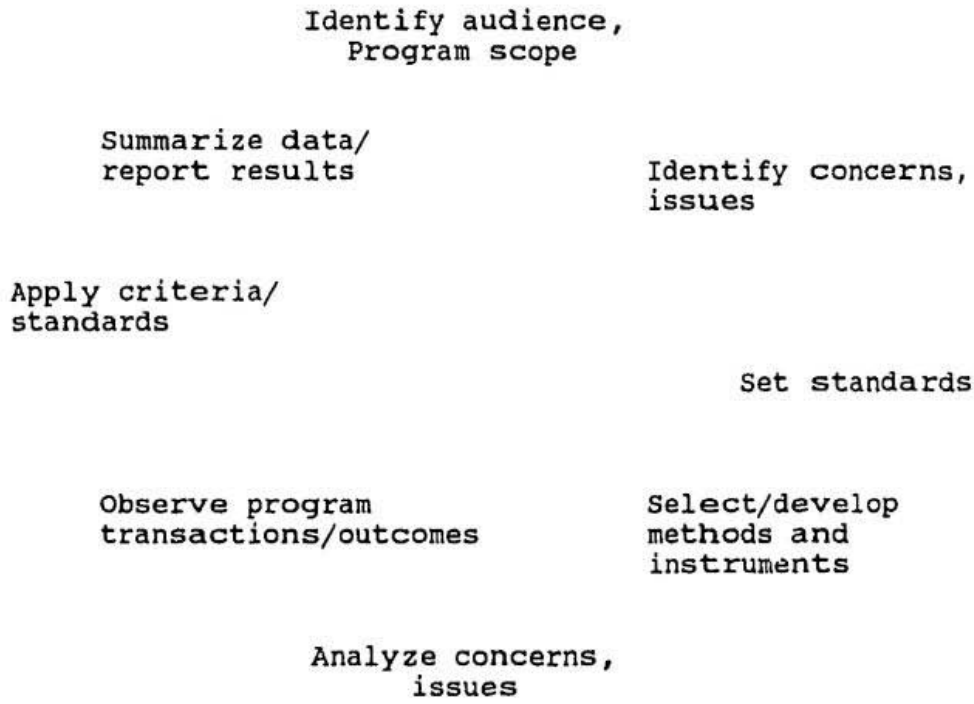

Figure 2. Adaption of Stake's prominent events in the Responsive Evaluation (Stake 1975) to Education 6521 by distance.

Implementation of the Evaluation Model

The evaluation was designed and implemented during Fall Semester 1992, as the pilot offering of the course was occurring. Early steps in the evaluation process included a

survey of audiences to gather information on their concerns and issues, and the setting of evaluation standards based on audiences' concerns. In addition a student profile sheet and a pretest were distributed to learners.

The student profile sheet was designed to gather demographic data on learners, including their educational backgrounds, age range, professional backgrounds, and career experiences. The pretest was based on the objectives of the course, and it was designed to establish the entry level knowledge of the learners regarding instructional development.

Data were gathered through other instruments and methods, including document and record analysis, interviews, and written questionnaires (see Appendix B for instruments). A post-test (the same as the pre-test) was administered at the end of the course and was used to establish learners' knowledge of instructional development upon completion of the course. A student evaluation questionnaire was also administered at the end of the course. This instrument had two parts: the first part sought feedback from learners on their cognitive experiences, and the second part measured learners' affective course experiences.

Interviews were conducted both formally and informally, throughout the course offering. The evaluator was in frequent contact with most students in her role as laboratory instructor, and she randomly conducted interviews on course progress when students sought assistance with the course assignments.

Document and record analysis was frequent and ongoing. The two teleconference sessions were audiotaped, and the tapes were transcribed and analyzed for pertinent data from learners on their problems and experiences. The evaluator kept notes on telephone calls from students seeking assistance. The focus of this analysis was the types of assistance required by the learners and the types of responses or assistance provided by the laboratory instructor and the course instructor. Also analyzed were the assignments, projects, and examinations submitted by students, and the grades submitted by the course instructor.

The Stakeholders

The researcher identified six audience groups as having a stake in Education 6521 Instructional Development. They are as follows:

1. The students who enroled in the course.
2. The instructor, who was responsible for course

design and delivery of the pilot offering.

3. The course development team, which included the course instructor, an instructional developer, and an evaluator.
4. The School of General and Continuing Studies, who were responsible for funding the development of the course and also for the administration of the course delivery system.
5. The Faculty of Education, in particular the Associate Dean of Graduate Programs, since it was this group that gave initial approval for the development of the course.
6. The School of Graduate Studies, which grants approval for all graduate course and program offerings, and which developed the regulations governing the offering of distance education courses.

All stakeholder groups were contacted for the purpose of eliciting their evaluation concerns, issues and information needs.

Evaluation Standards

A number of evaluation standards, and the criteria for these standards, have been formulated for this study. They are:

1. Evidence of Instructional Design Criteria.

   This standard will be evidenced by the presence of objectives; the student evaluations in relation to the achievement of objectives; content development that is guided by a task and concept analysis, which are based on a needs assessment.

2. Administrative and Management/Logistic Contingencies Support the Course.

   This standard will be evidenced by the following criteria: materials received on time; mail response time is acceptable; teleconference schedule is appropriate; telephone access to the laboratory instructor is acceptable; materials are received by the students in a functioning order; turnaround time on assignments and feedback is adequate.

3. Course Results in Positive Cognitive Outcomes.

This standard will be evidenced by the achievement of the learners; their achievement versus past experiences and examination outcomes.

4. Instructional Materials Provide Comprehensive Content Coverage.

This standard will be evidenced by a materials package that is professional in appearance; the effectiveness as viewed by the learners; incorporation of mechanisms for learner feedback; the comprehensiveness of the package; the provision of adequate preparation for evaluation measures; the appropriateness to learner needs.

5. Course Development Results in Positive Affective Outcomes.

This standard will be evidenced by positive feelings on the part of learners about the course experience; a positive attitude about the self-directed nature of the course; its built-in student control; the pre-packaged nature of the

course materials; the learners access to a course distant from Memorial University of Newfoundland's main campus.

6. Evaluation Measures are Suitable to the Course.

This standard will be evidenced by the effectiveness of course assignments in developing the final project; the suitability of the main project with regard to the goals and objectives of the course; the adequate measurement of theoretical content by the final examination.

Evaluation Schedule

The evaluation of the pilot distance education course Education 6521 took place between September 1992 and December 1992.

Prior to the course beginning, in August 1992 the first instrument was mailed to all stakeholders, excluding the students of the course. Analysis of the content of this instrument guided the completion of the list of standards and the final form of evaluation procedures and instruments.

During the course, interviews and calls were ongoing

between the laboratory instructor and the learners. Assignments and other documents were monitored, including adherence to the scope and sequence chart in the course manual.

Post-course evaluation included the distribution of instrument five to the learners, the analysis of final products, examinations, and instructor grades, and the summarizing of data from all sources.

CHAPTER IV

Implementation of Evaluation

Introduction

The evaluation of Education 6521 Instructional Development took place during the first or pilot offering of the course in the Fall semester, 1992. Data were collected through interviews, questionnaires, and document and record analysis throughout the semester, and for a two-week period after the course had ended. Preliminary data collection identified all audiences and their concerns and issues, in order that the evaluator could develop evaluation standards. The summary of all data is presented here in terms of the evaluation standards.

The Audiences

The evaluator identified a number of stakeholders in the course. They are the students who enroled in the course, the course instructor, the developers of the course, the Learning Resources Program Group, the sponsor of the course - namely the School of General and Continuing Studies at Memorial University, the Faculty of Education as represented by the Associate Dean for Graduate Programs and the School of Graduate Studies.

The Students. The first offering of the distance education version of Education 6521, restricted the number of students to fifteen. This was the size restriction of the on-campus version of the course. Fifteen students were registered for the course by the end of registration on August 21, 1992.

These students represented five regions in Newfoundland including the St. John's region, the Avalon/Burin Peninsula region, the Central Newfoundland region, the West Coast region and the Labrador region (see Appendix C for a map of the home communities of the students who participated in the pilot offering). While students were all enrolled in graduate degree programs leading to a Master of Education, their backgrounds showed considerable range. They had previously completed between one and three undergraduate degrees or diplomas. Their teaching experiences ranged from one to more than twenty years. The were currently employed in a variety of educational roles, including remedial reading specialist, teacher-librarian, secondary teacher, junior high teacher, program co-ordinator for a school district, and community college student advisor (see Table 4).

Table 4. Student Demographics of those Enroled in the Pilot Offering of Education 6521 Instructional Development

Range of Age		
	Under 25	1
	25-30	4
	31-40	3
	41-50	4
	Over 50	1
Sex		
	Female	9
	Male	4
Location		
	St. John's	1
	Avalon/East Coast	3
	Central	3
	West Coast	1
	North Coast/Labrador	5
Degrees Held		
Two Degrees	(B.Ed.+ B.A.)	3
	(B.Ed.+ B.Sc.)	1
	(B.Ed. + B.Spec.Ed.)	1
One Degree	(B.A.Ed.)	5
	(B.Ed.)	3

By the end of the 'drop and add period' of October 27, 1992, a timeframe used by Memorial University for students to adjust their enrolment status, two of the original fifteen had dropped or left the course without academic prejudice (one from the St. John's region and one from the Avalon/Burin region).

The Instructor. The instructor for the course had over twenty years of teaching experience in both the K - 12 school system and a university setting. She had taught Education 6521 for approximately 10 years on-campus, and had redesigned the course shortly after taking responsibility for the course in the early 1980s. She was instrumental in its development as a distance education course, working as a member of the instructional development team during the two years of its formal development. After completion of the distance version, she was the off-site instructor, while temporarily residing in Victoria, British Columbia.

The Course Developers. The team of course developers for the Education 6521 was comprised of three people: the course instructor and two graduate students. Each graduate student took on a distinct role within the team, one as instructional developer and one as evaluator. The course instructor assumed the role of subject matter expert.

The instructional developer was a graduate student in Educational Communications and Technology at Memorial University with an undergraduate degree in Arts. She was employed as a program co-ordinator with a large metropolitan school board.

The evaluator was a graduate student in Educational Communications and Technology at Memorial University with an undergraduate degree in Arts. She was employed as a laboratory instructor with the Faculty of Education at Memorial University. She also acted as on-site coordinator for Education 6521.

Learning Resources Program Group. The Learning Resources Program Group was identified as one of the stakeholders of the evaluation of Education 6521. The six members of this group included members of the Faculty of Education, sessionals and contractual lecturers who taught Learning Resources designated courses and the Learning Resources laboratory instructor. They were identified as stakeholders because of the group's function, that of an informal "overseer" of the development, delivery and evaluation of program offerings within the academic area of Learning Resources. Both the on-campus course and the distance education course in Instructional Development were considered offerings of the Learning Resources Program Group.

Division of Continuing Studies. Although an academic course with the Faculty of Education, Education 6521 in its distance format, was delivered throughout the province using

the facilities of the Division of Continuing Studies, a branch of the School of General and Continuing Studies. The Division of Continuing Studies administers programmes and courses for part-time students. In the fall and winter semesters, approximately 4,500 students register for non-degree credit and degree credit courses in the distance education programme and the evening programme. In the distance education programme, courses are offered in over 40 centres throughout Newfoundland and Labrador using a multi-media format. Education 6521 was the first graduate course developed and delivered through the Division of Continuing Studies, and there was considerable interest on the part of the Division in the outcomes of the experience.

Faculty of Education. As the on-campus version of the course Education 6521 is an offering of the Faculty of Education, the Faculty was identified as a stakeholder in the evaluation of the distance education version of the course. This stakeholder group was represented by the Associate Dean of Graduate Programs, Faculty of Education.

School of Graduate Studies. Also identified as a stakeholder in the development and delivery of the graduate level course by distance was the School of Graduate Studies. The School was represented by the Associate Dean of Graduate

Studies.

The Audience: Issues and Concerns Identification

To identify the issues, concerns, and questions of all the named audiences, the researcher used questionnaires, interviews and other survey instruments with each of the representatives of the various audiences. In addition, students were asked to complete pretests and student profile sheets. From the data the following categories of concerns and issues emerged:

1. Administrative concerns/issues;
2. Materials design and development concerns/issues;
3. Evaluation concerns/issues;
4. Communication concerns/issues;
5. Maintenance of perceived graduate standards concerns/issues;
6. Learners concerns/issues

Administrative Concerns/Issues. Many of the concerns of the audiences were administrative in nature. One of the concerns of the developers was the efficacy of the delivery system, given that they were redesigning an on-site course for delivery via distance means. This was especially important during the pilot offering, since the on-site coordinator would be the laboratory instructor, and the

course instructor would be living in British Columbia. It was deemed especially important to ensure that the delivery system was supportive of the learners, providing as much information as possible for the successful completion of the course and as much opportunity for dialogue and feedback as could be given. It was also an administrative concern of the developers that the materials be accurate and that they be delivered in a timely manner.

The Learning Resources Program Group also had an administrative concern. This concern related to the students' access to resources, and that such access be adequate.

The Division of Continuing Studies, as its administrative issue/concern, asked: How could the course be technically improved? In a telephone interview, the Division representative expanded on this question by noting the importance of acquiring data from the evaluation on student attitudes and experiences regarding access to the university library. Information was needed on their use of LIBLINE, a service of Memorial University's Library where distance students can access reading materials required by the course that are not included in the materials sent to the students for various reasons, including lack of

permission to reprint for student use at the time the materials are needed.

Materials Design and Development Concerns/Issues. The instructor, the developers, the Division of Continuing Studies, the Faculty representative and the School of Graduate Studies representative all noted well- designed instructional materials as an issue and concern. The developers went on to indicate that a particular concern was that materials design follow an instructional development framework and that evidence of instructional development be obvious in the structure, organization, and integration of all course materials and resources.

Evaluation Concerns/Issues. The majority of stakeholder groups indicated positive student evaluations and adequate performance of students in terms of grades as evaluation issues and concerns.

The Faculty of Education representative went on to suggest that "I would like to see the evaluation deal with the appropriateness of the course as a distance education course. For example, what difficulties did students encounter due to the course being offered by distance education."

The School of Graduate Studies representative cautioned that a positive student evaluation response may be tied to the requests by students for more distance education at the graduate level, even if the course is judged to be inferior by graduate standards. He went on to indicate that it would not be, in his opinion, an ideal situation for whole graduate programs to be delivered via distance, even though there might be an audience for such programs. Finally he suggested that adequate grade performance could be of some indication of success.

Communication Concerns/Issues. All audiences noted the importance of an adequate communication link between students and instructor/institution. The Learning Resources Program Group also suggested "... the ability [for students] to interact on a human level (perhaps once a semester) which would provide an interesting addition [to the course] ...".

Maintenance of Perceived Graduate Standards Concerns/Issues. This issue seemed to be the most contentious. While most of the audiences asked for graduate-level standards, most on-campus courses have been designed and delivered without such standards and are often not evaluated at all.

The Learning Resources Program Group felt that students off campus should be able to receive credit for a course that is equivalent to an on-campus course. It was also suggested that it would be "... interesting to compare on-campus and off-campus results".

The Division of Continuing Studies representative indicated success in terms of course objectives, the same (objectives) as that of the on-campus course (should be achieved). The course should demonstrate the feasibility of quality graduate courses by distance education and should reflect requests for additional distance education course offerings. Finally the representative asked "Were the systems and resources used adequate to provide a suitable graduate learning experience [to the pilot group]?"

The representative of the Faculty of Education felt that the distance version of Education 6521 '...should serve as an integral part of the graduate program in Learning Resources for students on that program. For all students, it should not be a 'stand alone' course but its relationship to program components should be obvious."

Finally the School of Graduate Studies representative indicated that Education 6521 should achieve "no difference

between 'on-campus' and 'distance education' [that is] making the experience equivalent especially since there is no designation of 'DE' on the distance course [which would identify it as non-on-campus course on students transcripts]." In addition, he asked "Is the distance education course a good course? Does its workload equal graduate level work? Does the course [require] personal initiative [of students]?"

Learners' Concerns/Issues. Here the instructor indicated that the course should be a "valuable experience for learners in terms of their needs being met" and there should be "achievement gains in ID knowledge and competency as indicated on evaluation measures". In addition, the students' attitudinal data regarding the course experience should be taken into account.

The developers suggested that from the initial needs assessment, the issue of commonality of background (namely that all the learners would meet the minimum requirements for entry into the graduate programs offered by Memorial University), while at the same time exhibiting vast diversity of experiences and work histories, was an issue and concern to be dealt with. Knowing that the learners would expect meaningful training in the subject matter in

order to benefit their immediate or particular situations and yet be in positions requiring a range from expert to rudimentary knowledge, was a concern.

The Learning Resources Program Group felt that student satisfaction regarding feedback on projects/assignments should be examined as an issue and concern of the learners.

The Faculty of Education representative asked that the evaluation include the students views on how well the goals of the course were achieved, in order to address learners' issues and concerns.

Evaluation Standards

The data gathered from the various stakeholder groups and the course objectives were synthesized by the evaluator. From this synthesis activity the following evaluation standards, and the criteria indicating that standards have been met, have been formulated.

Standard 1. There is evidence of an instructional development framework in the course design and materials.

Criterion 1: Presence of clearly delineated objectives

Criterion 2: Student evaluation based on objectives

Criterion 3: Presence of task analysis

Criterion 4: Content development guided by task analysis

Criterion 5: Evidence of needs assessment

Standard 2. There is administrative and logistical support for the course.

Criterion 1: Materials received on time

Criterion 2: Mail response time is acceptable to students and instructor

Criterion 3: Teleconference component is scheduled appropriately

Criterion 4: Materials are error free

Criterion 5: Turnaround time on assignments/feedback is adequate

Standard 3. The course results in positive cognitive outcomes.

Criterion 1: Achievement on examinations/assignments

Criterion 2: Comparative final grade results with past offerings

Standard 4. The instructional materials provide comprehensive content coverage.

Criterion 1: Effectiveness of materials as judged by the students

Criterion 2: Adequacy of content coverage in relation to

assignment/examination preparation

Criterion 3: Effectiveness of materials as judged by the Learning Resources Program Group

Criterion 4: Professional/technical quality of materials

Criterion 5: Adequacy of student feedback mechanisms ir instructional materials

Standard 5. The course results in positive affective outcomes.

Criterion 1: Student feelings regarding the distance education course experience

Criterion 2: Student attitudes regarding the self-directed nature of the course

Criterion 3: Student attitudes regarding built-in student control of timing and pacing

Standard 6. There is evidence of suitability of evaluation measures of the course.

Criterion 1: Suitability of 3 minor course assignments in relation to objectives

Criterion 2: Effectiveness of 3 minor assignments in terms of their contribution to the major assignment

Criterion 3: Suitability of the major assignment in relation to the course objectives

Criterion 4: Effectiveness of the final examination in

measuring the theoretical content of the course

Evaluation Results

Standard 1. There is evidence of an instructional development framework in the course design and materials.

The first standard that was applied in this evaluation was evidence of instructional development framework. An early indication of instructional development was discovered through the inspection of the records of the instructional developer and the other members of the course development team. Thorough examination of those records provide evidence that a needs assessment formed the basis of a detailed task and concept analysis. Review of the course manual, sent to each student by the Division of Continuing Studies at the beginning of the course, indicated the presence of objectives based on the task and concept analysis, which in turn were the basis for the course evaluation plan. In fact, the evaluation description noted on each component the applicable objective being tested. The content development was systematic and systemic, following the task and concept analysis, the objectives and the evaluation criteria for Education 6521.

An attitude questionnaire in the form of a Likert Scale was distributed to the students of Education 6521 by the Division of Continuing Studies after the course's completion. Ten of the thirteen participants in the course responded to the questionnaire. (see Appendix B for a copy of the full questionnaire.) Three questions were included which were directly and/or indirectly related to the standard evidence of an instructional development framework.

Table 5. Student Responses to Items Reflecting Evidence of an Instructional Development Framework.

Questionnaire Item	N=10	
	Strongly agree /agree	Strongly disagree /disagree
1. The instructor made it clear what was expected of me at the beginning of the course.	9	0
4. The instructor seemed to know the subject.	10	0
7. The course was well organized.	10	0

Standard 2. There is administrative and logistical support for the course.

Materials Delivery. One of the aspects of Education 6521 which concerned and affected the students the most was the administration and management of the course logistics.

On examination of the on-site coordinator's notes and records it was shown that most of the materials from the Division of Continuing Studies did arrive on time for the students use. The one exception, in the majority of cases, appeared to be a delay in the delivery of the Book of Readings.

Only one student had a major problem with late arrival of materials. Upon investigation it was discovered that he had not changed his address with the Division of Continuing Studies when he moved to the coast of Labrador. Because of this his materials were shipped, along with his other belongings, by coastal boat to Labrador instead of flown in by Canada Post. This caused a delay of about three weeks.

The only major delay with the materials delivery occurred at the other end of the process - that is the delivery of the final examinations and assignments to the instructor. Because of inadequate numbers of staff at the Division of Continuing Studies (one person is responsible for all incoming and outgoing mail, examinations, and projects for all distance program offerings relying on student assistants who usually disappear at the end of semester since they too, have exams or other course commitments), and the fact that the instructor was located

in British Columbia for the semester, there was a delay in the materials reaching the course instructor. Despite efforts to decrease delays by using fax machines where possible, only three final grades were submitted to the Registrar's Office by December 21, 1992, the normal deadline for submission of Fall grades. Students for whom grades were not submitted, were issued "incompletes" until the final evaluation by the instructor was completed. All but one of the remaining grades were submitted by the first incomplete deadline, January 18, 1993, and the final grade for an extended incomplete requested by one student was submitted to the Registrar's Office by February 5, 1993.

Communications. First contact for most students was by telephone, with the coordinator making some of the first contacts, while some of the students initiated communication. Later in the semester two pieces of correspondence were mailed to the students: one to ask them to participate in the evaluation of the course, and the second to forewarn them that incomplete grades for the course might be necessary because of the mail delays that were experienced both at the Division of Continuing Studies and Canada Post.

The mail response was somewhat slow especially during

the end of the semester, which was close to the Christmas season. The students and on-site coordinator, and the on-site coordinator and the course instructor, began communications via fax almost immediately after the beginning of the course, in addition to conventional mail and telephone. In total there were 75 faxes sent among the students, on-site coordinator and the course instructor. In two instances the students communicated directly with the course instructor, when the questions or issues needed input or direct decision-making by her.

In terms of telephone contact with the on-site coordinator, the records of the coordinator indicate that between August 27, 1992 and December 21, 1992 there were 92 telephone contacts between the students and the coordinator. (See Table 6).

Table 6. Telephone Contact in Education 6521.

Schedule of Calls by Month	N = 92
August	1
September	5
October	47
November	21
December	18
Call Initiation/Contact	**N = 92**
Initiated by Student	61
Initiated by Coordinator	31

The average contact with each student was eight phone calls over the semester, with the lowest contact being four phone calls and the highest contact documented at eleven phone calls. The telephone calls can be placed into seven categories, namely counselling/reassurance, course process inquiries, examination information, materials distribution inquiries, content inquiries, student reactions or responses and administrative inquiries.

Materials Quality. Almost all of the students reported receipt of instructional materials in functioning order. One student reported trouble with the sound quality of the audiotapes and a second student reported the first of the set of four audiotapes blank on arrival, on both sides of that tape. Two students reported that the lectures on the videotape were out of sequence, and that it was difficult to find lectures on videotapes that did not have counter markings, or any indication of the placement of the lecture on the tape.

Teleconference Schedule. The first teleconference was held on October 13, 1992 and nine of the 13 students were in attendance. Also on-line was the course instructor and the on-site coordinator. The second scheduled teleconference for the course took place on November 4, 1992. Again nine

students in addition to the course instructor and the on-site coordinator participated.

There were few technical problems, with only one or two students at teleconference sites having audio problems during the first few minutes of the conference. Once the operator was notified, the problems were corrected. Two students reported frustrations with their teleconference site assignments. One was given a site assignment close to her school, as she used her school address for correspondence, which was almost 2 hours drive away from her home. This meant she was waiting at her school from 3:00 pm until the teleconference start time at 7:00 pm and then had a 2 hour drive home after the teleconference. A second student requested a change in teleconference site assignment and was given an alternate site that did not support the teleconference mode assigned to the class by Memorial University's Telemedicine Department. He was not able to participate in the teleconference but was able to hear the teleconference as it happened. This was corrected for the second teleconference. Most students wanted additional teleconference time for contact with the instructor and the other participants in the course.

Administrative and Logistical Aspects. Using a five point Likert Scale regarding student experiences from an administrative course management perspective, students were asked about the course length, technical quality, content organization, and usefulness and appropriateness of the media in relationship to the course audiotapes, videotapes, programmed instruction text, book of readings and commercial text. Overall the student reaction to all of the instructional material components was very positive. The majority of students rated the course materials highly. Only two students noted the need for improvement in the audiotape technical quality, the audiotape content organization and videotape content organization. Table 7 presents a summary of student opinions regarding the administrative and logistical elements of the course.

Table 7. Student Opinions Regarding Administrative/Logistical Elements of the Course

Course Element	N = 13		
	Very Good/ Good	Adequate	Needs Improvement
Receipt of Materials	12	-	1
Materials Technical Quality	12	1	-
Communication/Messages	12	-	1
Mail Turnaround Time	10	1	1
Teleconference Schedule	12	1	-
Telephone Consultation	13	-	-

Students also responded to questions regarding the amount of student/instructor interaction, the timeliness of feedback on assignments and the adequacy of the teleconference component of the course. The majority were positive about the amount of interaction and the timeliness of feedback. While students indicated a preference for greater interaction with the course instructor, they indicated interaction with the laboratory instructor, was frequent and very beneficial. Most students did express a need for more teleconference time, with only approximately 25% feeling that the teleconference time was adequate (see Table 8).

Table 8. Student Opinions Regarding Amount and Quality of Communication Interaction.

Communication Element	N = 13		
	Very Good/ Good	Adequate	Needs Improvement
Interaction with Course Instructor	4	8	1
Interaction with Laboratory Instructor	12	-	1
Quality of feedback on assignments	9	-	-
Timeliness of feedback on assignments	7	-	1
Teleconference Interaction	3	-	6

(Totals of less than 13 indicate missing data).

The commercial text did not fair as well in the opinion of the students registered for the course. Only half of the students rated the commercial text as either good or very good. The remaining half felt that the text was inadequate or, at least, did not make a significant contribution to the course.

These administrative areas of concern on the part of students are indicated in the comments made by students on the survey instrument. A sample of the comments are presented here:

... I would have liked to have seen more feedback concerning assignments. I think students would probably benefit from this.

All correspondence with the course was very efficient. I would have liked more opportunities to discuss the projects and topics with other students through teleconference.

There were times when the course assistant [coordinator] was suppose to be available, however was not. However, I do realize that she was very busy and could not stay in her office at all times.

Telephone consultations were excellent and really helped me

with the assignments.

This is by far the most organized off-campus course I've completed. I've done several ... [The coordinator] was very helpful. An extra teleconference session would be good.

It was awkward not having all of the articles in the Book of Readings. ...Good course.

I was very impressed with the assistance I received from the co-developer [on site coordinator]. Her assistance throughout the semester was very much appreciated.

The telephone support was fantastic. It humanized the whole process.

Standard 3. The course results in positive cognitive outcomes.

Pre- and Post-test Results. Pre-tests and post-tests were used by the evaluator to partially assess cognitive outcomes of Education 6521. Of the 13 students, only 10 matched pre/post-tests are reported (of the remaining three students, two submitted the pre-test only and one submitted the post-test only). The tests were scored based on 5

questions with a weight of 2 points per question. Decisions regarding the assignment of points was conducted as follows:

- 0 - no attempted response or incorrect response;
- 1 - partial answer; some correct elements; shows evidence of some understanding;
- 2 - acceptable level of understanding of the question.

The need to be objective and operate within a small margin of variability led to the rationale for using the 2 point system. It should be noted that every attempt in the pre-test was credited. Post-test answers showed a marked improvement in understanding. It was found that even those credited with 2 point answers in the pre-test were able to elaborate on these answers in the post-test. The average score on the pre-test was 29%, while the average score of the post-test was 77%. This shows an average gain on 48% (see Table 9).

Table 9. Student Scores on Pre-tests and Post-tests in Education 6521 (Maximum score = 10)

Student	Pre-test	Post-test	Difference
1	4	10	+6
2	2	8	+6
3	3	10	+7
4	8	9	+1
5	1	7	+6
6	5	10	+5
7	0	7	+7
8	3	7	+4
9	3	5	+2
10	0	4	+4

Examination Results. A second criteria indicating that this standard was achieved was the final examination results as submitted to the Registrar's Office by the course instructor. Eight prior course offerings of the on-campus Education 6521 were chosen randomly from 1982 to 1988 and only the final grade was examined. A summary of past grades is presented in Figure 3:

Education 6521 Offering	Number of students	Range of Grades	Mean
Fall, 1982	22	75-90	83
Fall, 1984	9	80-95	84
Winter, 1985 (Sect. 1)	6	75-85	81
Winter, 1985 (Sect. 2)	9	F-85*	71**
Winter, 1986	20	80-90	82
Winter, 1987	8	75-85	81
Winter, 1988 (Sect. 1)	15	75-85	81
Winter, 1988 (Sect. 2)	10	75-85	80
Fall, 1992 (Distance)	13	F-85	79

*F = Fail (less than 65%)
** Low mean caused by submission of very low numerical F grade.

Figure 3. Comparison of Range and Mean of Grades between On-Campus and Distance versions of Education 6521.

The marks for the distance Education 6521 ranged from 60% to 85%, with a mean of 79%. The one student who received a 60% did in fact fail the course, since the

graduate programs in Education at Memorial University require that all students achieve grades of A or B to pass graduate courses (see Table 10 for grade results).

Table 10. Breakdown of Grades in Education 6521.

Grade	Range	N = 13
A	85%	4
A	80%	6
B	75%	2
F	60%	1

Both gains from pre-test to post-test and the comparative analysis of results with prior on-site offerings of the course indicate that Education 6521 resulted in positive cognitive outcomes. All students demonstrated significant gains from pre-test to post-test, and final grades, with a mean of 79%, are within one percentage point of the mean of 8 past offerings of the course (80%).

Standard 4. The instructional materials provide comprehensive content coverage.

One indication of this standard is the effectiveness of the materials as viewed by the graduate students in the course. The pilot participants were asked to rate the audiotapes, videotapes, programmed instruction text, the

book of readings and the commercial text on five characteristics: length, technical quality, content organisation, usefulness and appropriateness of the media. With the exception of the commercial textbook all instructional materials developed for the course were deemed very effective by students. Table 11 presents the positive ratings of the 13 students (those rating the materials as good or very good) in terms of percentages.

Table 11. Positive Student Ratings of Instructional Materials on Five Characteristics.

Characteristics	Audio-tapes	Video-tapes	Programmed Instruction Text	Book of Readings	Commercial Text
Length	100%	100%	100%	92%	54%
Technical Quality	77%	92%	100%	92%	54%
Content Organization	92%	92%	100%	100%	46%
Usefulness	100%	100%	100%	92%	31%
Appropriateness of Media	92%	100%	100%	92%	54%

Students were also asked about the comprehensiveness of the instructional materials, including the need for different media such as computers or additional teleconference time. The majority of students felt that materials were comprehensive and that there was no need for inclusion of materials in other media. Only two students felt that it might be worth investigating the incorporation

of other media, such as computers.

When asked about the presentation of course content in terms of the balance of theoretical and practical knowledge, students responded positively to the balance. All but one student saw the need for a heavy emphasis on theoretical knowledge, and they recognized the value of the theory as preparation for the final examination, and indicated that readings were very valuable in their understanding of the subject matter.

Standard 5. The course results in positive affective outcomes.

Students were asked to indicate their opinions of the course experience on a Likert Scale. It was found that most of the students felt that completing Education 6521 by distance was as beneficial to them as if they had completed the course on campus. All responded positively to statements indicating that they had learned a lot about instructional development, and that their knowledge of instructional development was such that they could now use the approach in their work. They agreed that the use and variety of materials made the course interesting, and as adult learners they appreciated the freedom to do the course on their own time.

The majority felt that being able to access a graduate distance education course at home made them feel more positive about their graduate programs, and they found that the self-instructional course format was a new and positive experience.

All students gave positive responses to the statement that the course provided them with knowledge they could use right away. Twelve of the thirteen students agreed that Education 6521 was one of the best courses taken, in comparison to the other courses taken by the students.

When asked their opinion regarding the workload, pacing, and self-directed format of Education 6521, most students responded positively to statements reflecting these issues. No students felt that the course was light in terms of workload, and while the majority of students found the workload to be heavy, they felt that the knowledge and experience gained made the effort required worthwhile. Most students found the pacing of the course acceptable, and they liked the ability to pace themselves within the course timeline. All students appreciated the self-directed nature of the course (see Table 12).

Table 12. Student Attitudes about Workload, Pacing, and Self-Directed Design

Course Aspect	N = 13
Workload	
Very Heavy	2
Heavy	4
Average/Acceptable	4
Pacing	
Too Fast	1
Acceptable	12
Self-Directed Design	
Enjoyable	13
Programmed Instruction Format	
Enjoyable	11
Not Enjoyable	2

In terms of completing graduate courses through distance education means, twelve students felt that there should be more opportunities to complete courses this way. They felt that the course experience was as valuable or more valuable, than on-campus graduate courses us.ng traditional delivery systems.

Standard 6. There is evidence of suitability of evaluation measures of the course.

Students were asked, on two instruments, their opinions regarding evaluation measures employed by the instructor in the course. The majority of students, in all cases, felt that the assignments and examination were suited to the

course objectives and content, were effective in terms of measuring their cognitive knowledge of instructional development, and were at an appropriate level of difficulty (see Table 13).

Table 13. Student Opinions Regarding the Evaluation Measures Employed by the Instructor in Education 6521.

Evaluation Elements	N = 13		
	Very Good/ Good	Adequate	Needs Improvement
Effectiveness of			
Short Assignments	13	-	-
Major Assignment	13	-	-
Final Examination	12	1	-
Difficulty of Assignments	7	3	-
Number of Assignments	5	5	-
Value of Assignments	10	-	-

(Numbers totalling less than 13 indicate missing data).

Drop Out Rate

Education 6521 limited initial registration for the pilot course, to fifteen students, the maximum number for the on-campus course. Within a few weeks of the beginning of the pilot offering, two of the fifteen students had dropped the course.

The first, a resident of St. John's and a graduate student in the area of Curriculum and Instruction, received

the course materials at the same time as she began work in a new teaching position with responsibility for the teaching of French from Grades 4 to 12. She indicated that she found it impossible to do both justice at the same time (Interview, October 9, 1992).

The second student, from Bay Roberts and also on the Curriculum and Instruction Masters' program, was specializing in the area of primary reading. She indicated that a number of reasons caused her to drop the course. At first perusal of the materials she did not feel that the course met her needs, namely primary reading. She admitted to not having watched the introductory video-tape nor to having examined the materials beyond the course manual. She did attempt to contact someone regarding the focus of Education 6521 by calling both the School of Graduate Studies and the School of Continuing Studies. Neither academic unit could answer her questions, nor did these units direct her to someone who could, namely the Associate Dean of Graduate Programs or his designate within the Faculty of Education, the instructor, or the on-site coordinator. In consequence she dropped the course (Interview, November 8, 1992).

Summary of Evaluation Results

In the evaluation of Education 6521 the researcher applied the Stake Responsive Evaluation Model, as modified by Lertpradist (1990). In the responsive approach audiences' concerns and issues, plus program or course objectives provide the basic framework for the development of a comprehensive set of standards. These standards, with clearly delineated criteria, are used by the evaluator to make judgements on the program or course.

In the case of the evaluation of Education 6521, the researcher collected a variety of data, primarily from the students through questionnaires and interviews, and from the documents and records of the course development team and the course. The data were summarized in relation to the six evaluation standards. The findings are as follows:

Standard 1. Instructional Development Framework. Evidence of an instructional development framework in the course design and materials was plentiful. An examination of the course manual disclosed that a comprehensive task analysis had been done incorporating all areas of course content, objectives were clearly stated and covered all course content, and objectives were clearly related to the evaluation measures employed in the course. In fact the

descriptive evaluation notes provided to students in the course manual indicate which particular objectives are being tested by each specific evaluation measure. The development of the course was also in response to a needs assessment preformed on a provincial basis.

Students were aware that the course was developed in accordance with an instructional development framework. Responses on a Likert Scale indicated that all students were in agreement with the instructor, through the course materials, made it clear what the course expectations were from the beginning of the course, that the course was well organized and thoroughly planned, and that the content coverage reflected the course objectives.

Based on the results of the data analysis, the researcher judged that Standard 1 was met.

Standard 2. Administrative/Logistical Support. Examination of the on-site coordinator's records indicated that materials were received by students on time at the beginning of the course. The one student who had a considerable wait for materials had failed to notify the administrative unit in charge of materials distribution that his address had been changed. In terms of materials

quality, overall the quality was deemed to be high as indicated in student questionnaires and interviews. However minor problems were noted. The videotaped programs were out of sequence on two tapes, the sound quality on one set of audiotapes was poor and one audiotape was blank on both sides. The lack of counter markings on the videotapes also created difficulty in accessing the specific video programs.

Students were asked to comment on various aspects of the course materials such as length, suitability in relation to course objectives, content organization, appropriateness of media/format and professional quality. Responses indicated that students were very positive for most of the materials. All students rated the programmed instruction text, the book of readings, the videotapes and the audiotapes highly. Only two students indicated any need for improvement in these components. The academic unit responsible for duplication of these materials uses one videotape for all four video programs and four audiotapes for the twelve audio lectures - students suggest that some indicator of each program start and finish be developed.

The commercial textbook did not receive such a positive rating. Approximately half of the students thought that the textbook was good, however half of those enroled indicated

that the textbook selection could be improved.

The majority of students indicated that the mail response time was too slow for feedback on assignments, particularly toward the end of the semester. Most students required more prompt and additional feedback

Two teleconference sessions were scheduled during the thirteen week course, during weeks six and nine. It was found that only nine of the thirteen students took part in the teleconferences - problems with professional commitments, site assignment, and weather prevented others from participating. Of those in attendance, the majority indicated a preference for more teleconference time. They cited as the reason for their opinions the need to have more contact with both the instructor and with their fellow students.

While some minor problems were evidenced in the administrative/logistical aspect of the course, based on the results of the data analysis, the researcher judged that Standard 2 was met.

Standard 3. Cognitive Achievement. Data on cognitive achievement were gleaned from pre-test and post-test results

and from final grade results. An overall gain of 48% on specific knowledge-based questions was evidenced, and course results as indicated by final grades were comparable with those of previous course offerings.

Based on the results of the data analysis, the researcher judged that Standard 3 was met.

Standard 4. Comprehensive Content Coverage. One indicator of this standard being met is the opinion of students regarding the effectiveness of course materials in relation to meeting objectives and preparing them for assignments and the examination. All students indicated that they appreciated the variety of media used. They indicated that the selection of certain media for specific purposes such as the programmed instruction text to help them in the application level of the course and the audiotapes for armchair lectures was highly effective. All students indicated approval of the amount of instructional theory and of the mixture of theory and practice. Most indicated that the course readings were very valuable, with only one dissenting opinion on this element of the course.

Students also indicated that the amount and timeliness of interaction and feedback provided by the on-site

coordinator and the instructor was adequate. In fact the majority noted the superiority of interaction over past course experiences, in particular the almost daily availability of the on-site coordinator for consultation on their assignments and course work.

Based on the results of the data analysis, the researcher judged that Standard 4 was met.

Standard 5. Affective Outcomes. The majority of students enjoyed the graduate distance education course and felt that the course experience was as beneficial as if they had completed it on-campus. They appreciated both the theoretical and the practical aspects of the course, and were especially appreciative of the ability to apply things learned through the course to their own work experiences. They expressed the view that being able to access a graduate course from their homes made them feel more positive about their whole graduate programs.

With the exception of one student, all agreed that Education 6521 was one of the best graduate courses they had taken. They cited increased self-confidence, noting that the self-instructional format was a new and exciting experience. They responded very positively to the course's

self-pacing and self-directedness. Similarly, all but two of the students liked the programmed instruction experience provided through one of the print components of the course.

Based on the results of the data analysis, the researcher judged that Standard 5 was met.

Standard 6. Evaluation Measures. Data collected from students indicated that evaluation measures employed in the course were effective. All students approved of the three minor assignments and the major assignment. One student felt that the final examination was adequate as an evaluation measure - the other twelve students ranked the examination as either very effective or effective. All students felt that the evaluation measures were valuable in terms of demonstrating an understanding of the course content.

Based on the results of the data analysis, the researcher judged Standard 6 was met.

While minor problems and suggestions for improvement emerged in the evaluation of Education 6521, it was established, based on the pilot experience, that the graduate distance education course is both effective and

efficient in terms of meeting student and graduate program needs.

Chapter V

Summary, Conclusions and Recommendations

Summary

The researcher chose the Stake Responsive Evaluation Model, as modified by Lertpradist (1990) for implementation in the evaluation of the graduate distance education course Education 6521 Instructional Development. She did so after reviewing of a number of evaluation approaches or models. The Responsive Evaluation Model was chosen because:

- it makes considerable use of naturalistic or qualitative methods;
- it addresses the eclectic information needs of all the audience groups;
- its emergent design permits the evaluator to respond to data as it is being collected, leading to a more significant and realistic evaluation.

Advantages of Responsive Evaluation Model for Higher Education Distance Education

The Responsive Evaluation Model provided the flexibility required of evaluation models which are to be implemented in higher education distance education settings.

From early September until the end of the semester in December, 1992 the distance version of Education 6521 Instructional Development became a part of the lives of thirteen graduate students, one professor, one on-site co-ordinator and numerous developers, officials and academic administrators. Each of these audiences, according to Stake, must have a voice in the focus of the evaluation through the eliciting of concerns and issues, and each audience deserves to be informed in the manner which best suits the audience. All participate and have equal opportunity to have input into the evaluation process.

The Responsive Evaluation Model, relying intensely on naturalistic methodology, gave the evaluator the opportunity for protracted interaction with and exposure to participants in the distance version of Education 6521. The course was observed over 14 weeks via direct contact and indirect contact. Such association gave the evaluator a reliable picture of the program, and lessened the possibility of events as observed being isolated occurrences.

The Responsive Evaluation Model provided rich material from a multiplicity of sources and data gathering procedures. Rich data, according to Guba and Lincoln (1981) are one of the major advantages of the Responsive Evaluation

Model. Much of the data served as grounding and was useful in triangulation. Data collected through one method or source were compared and contrasted with other data to ensure significance, validity and consistency.

The Responsive Evaluation Model gave the evaluator the opportunity to respond to unpredicted data because of its emergent design. This is particularly important to program evaluation in real world programs, in real world settings where influences of or reactions to a program cannot always be foreseen.

The model's accent on detailed description of all program components, rather than consideration solely of program outcomes, is very useful for program managers and other audiences. Evaluations which rely heavily on description provide such managers and audiences with detailed data on program strengths and weaknesses, and on areas requiring improvement.

Limitations of the Responsive Evaluation Model for Higher Education Distance Education

The implementation of a Responsive Evaluation Model is very time consuming. One evaluator spent over seven months

in daily contact with stakeholders during the evaluation of Education 6521. Analysis consumed approximately six months, and reports to the various audiences are not completed to date.

The complexity of a responsive evaluation may be a limitation. It relies intensely on multiple approaches to data collection in order to ensure against evaluator bias and to verify some measure of reliability. This complexity can manifest itself in the high cost of the evaluation and the time commitment needed by the evaluator.

The responsive evaluation method has been accused of being "loose and unsubstantiated" and its intuitive data is a potential source of bias (Worthen and Sanders, 1987, p. 142). These accusations can be overcome by the design and the addition of reliability checks such as step-wise replication. These additions, however, add to the cost and the time required to complete the evaluation.

While accumulating huge amounts of unrelated data for the purposes of authenticated rigor could be viewed as an advantage, the requisite time and money needed to conduct an analysis of the data may also be viewed as a disadvantage. The evaluator collected vast amounts of descriptive data

from various sites. The analysis of such data is often formidable, onerous and extremely time-consuming, often requiring concentration, patience and weeks of work, adding to the cost of conducting this kind of evaluation.

Conclusions

The application of Stake's Responsive Evaluation Model to higher education distance education as represented by the graduate distance education course Education 6521 permitted the researcher to reach the following conclusions:

1. Despite the limitations of the Responsive Evaluation Model this is a good model for the evaluation of graduate level distance education programs. It is adaptable, making it useful in assorted settings with various audience groups. It provides detailed specific information for program administrators, program developers and program implementors. It allows participants to communicate in their own colloquial speech, and to feel that they are a part of the evaluation process.

2. While the model is agreeable to the graduate level distance education setting, it is both time-consuming

and expensive to execute, making it imperative that program administrators be committed to the evaluation effort.

3. The Responsive Evaluation Model makes extensive use of naturalistic approaches and methods, including observation and interviews. These methods often appear easy to implement and requiring little training. Those with expertise in the area of naturalistic and responsive evaluation research understand the need for substantial credentials and specialization on the part of those involved in the evaluation; credentials and specialization not often provided by entry-level social science programs. Therefore, this type of evaluation might not be practical in cases where people with such credentials and specialization are in short supply.

Recommendations

As a result of the application of Stake's Responsive Evaluation Model to the graduate distance education course Education 6521, the researcher makes recommendations on both the course itself and on the evaluation approach as follows:

1. That all suggestion for improvement in instructional materials be implemented by the course instructor and the Division of Continuing Studies.

2. That the course instructor review the selection criteria for the commercial textbook, and consider replacing it with a text that is more acceptable to students.

3. That the course instructor and the Division of Continuing Studies consider adding another teleconference session in future offerings.

4. That recommendations for improvements in course design be re-examined following the next offering of the course in Winter semester, 1993.

5. That the same evaluation approach be implemented during the offering of the course in Winter semester, 1993.

6. That the course instructor and instructional design team consider developing other graduate courses to be offered via distance education.

7. That the Responsive Evaluation Model as modified by Lertpradist (1990) be implemented in the evaluation of any future graduate level distance education courses at Memorial University of Newfoundland in order to provide further trial of the evaluation approach.

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APPENDIX A

CORRESPONDENCE

August 21, 1992

Dear :

As part of my thesis, in partial fulfilment of the requirements of the Master of Education graduate degree, in Educational Communications and Technology, I am presently conducting research to evaluate the distance education pilot Education 6521 - Instructional Development.

The evaluation methodology that I am using is the responsive evaluation approach. This type of evaluation is guided by the information needs of various groups involved in the course offering, also called stakeholders.

Based on my initial research I have identified that you, in your position as _____, comprise one of those groups. It is my assumption that as a member of the stakeholding group, you are interested in the results of an evaluation of the first, formally approved graduate level distance education course offered by Memorial University of Newfoundland.

In order that the evaluation instruments reflect your specific concerns and interests, I would appreciate a few moments of your time and ask that you complete the enclosed questionnaire and return it to me before **September 3, 1992.** Please return the questionnaire to the following address:

D. P. Janes
Box 73, Room E 5011B
Faculty of Education,
Memorial University
A1B 3X8

As well, I would ask that you indicate on the questionnaire, if you would like to have a copy of the evaluation results. Final data collection would be anticipated by late 1992 with the results available to you by the spring of 1993. Should you have any questions before then, please do not hesitate to contact me by telephone at 737-3413.

Thank you for your time and consideration.

Sincerely,

Diane P. Janes

November 30, 1992

Dear :

The end of term is here and I would like to thank you for all of your effort over the semester. Of those I've seen, the quality and creativity of past instructional units have been maintained by you during the course. I look forward to seeing the remainder of your work over the next few weeks.

As I have indicated to most of you over the telephone during the last few months, my master's thesis is presently in progress and its topic is the evaluation of this course. Since you are a valuable part the course, I would very much appreciate your opinions and comments on what has just taken place and in what direction you would like to see Education 6521 head.

I have enclosed two short surveys: one on the concrete experiences you have had (Instrument #5) and one on your attitudes toward those experiences (Instrument #6). I would be grateful if you would take a few minutes of your time to fill them out.

Since this is the Christmas season and the mails are rather slow, **I would appreciate having them faxed to me if you can.** If you cannot fax, mail is fine, but remember to mail them quickly. **I do ask that you have these surveys back to me by December 15, 1992.** In order to graduate in May, I must have my data collected and analyzed by the end of December. As you can see that does not give me a lot of time to encourage you to respond.

You need not sign your name if you do not wish to and I would very much like an honest evaluation, both with the good and the bad noted. Add extra sheets if necessary. As indicated on the surveys, my fax number is **737-2345** and my mailing address is **Box 73, G. A. Hickman Building, MUN, St. John's, NF A1B 3X8.** Call me at 737-3413 if you have any questions or concerns.

Thank you, in advance, for your help and keep in touch. Merry Christmas!

Sincerely,

Diane P. Janes
Laboratory Instructor

December 21, 1992

Dear :

Just a note to let you know that some of you will receive incomplete marks on your records released to you after Christmas. Not to worry. This is not a reflection, for the most part, on your performance.

This is mostly due to Dr. Kennedy's receipt of partial packages, ie: an exam is received but no unit of instruction yet, or the exam is not arrived yet but she has the unit of instruction. Continuing Studies is doing what it can to expedite the mails but with 4,000 students studying via distance and Christmas to boot, this attempt can get bogged down.

This bottle-neck will be cleared up by the end of the first week of classes in January, 1993. All marks must be received by the Registrar's Office on or before the end of the week of January 11th and an updated grade will be forwarded to you. In addition, Dr. Kennedy's remarks on your projects will be forwarded to you as soon as they have been received by me.

If you have any questions, please do not hesitate to contact me by calling 737-3413, by fax at 737-2345 or at home at 364-9661. I will be working until Christmas Eve, on the 30th and half-day on the 31st and back to work full-time on the 4th of January. If I am not in my office you can leave a message at the general office by calling 737-3404. I will get back to you promptly.

If you still have not submitted assignments, the final exam or your unit of instruction, contact me immediately. Your timeline for successful completion of the course is dangerously close to an end.

I would also like to remind anyone who has not sent in their evaluation forms (instruments 5, 6 and the post-test) to please do so. This information is valuable to the future of the course as a distance entity and to future students.

Thank you for your patience. It was a pleasure working with you. Have a good new year and drop in to see me in E5011B next time you are at MUN.

Sincerely,

Diane P. Janes
Laboratory Instructor

APPENDIX B

INSTRUMENTS

Concerns and Issues Questionnaire

1. What do you think the distance education course Education 6521 Instructional Development should achieve?

_____

_____

_____

_____

2. Which of the following elements would you judge to be indicators of the success of the course? (please check all that apply)

___ a) well designed instructional materials

___ b) request for additional distance education course offerings

___ c) adequate performance of students in terms of grades

___ d) positive student evaluations

___ e) adequate communication link between students and instructor/institution

___ f) other, please explain:

3. Is there any specific aspect of the course offering that you would like this evaluation to address?

_____

_____

_____

_____

Student Concerns/Issues Questionnaire (Part 1)

Please fill in this survey. This will assist the evaluators and course designers ensure that future offerings of Education 6521 - Instructional Development will take into account any concerns you may have after completing this course.

The scale you are to use is in four parts, very good (VG), good (G), adequate (A) and needs improvement (NI). Circle the letters that best describe how you feel about the statement.

Administrative Issues

1. Receipt of materials	VG	G	A	NI
2. Materials in good working order	VG	G	A	NI
3. Receipt of notifications/messages	VG	G	A	NI
4. Mail turnaround (assignments/feedback)	VG	G	A	NI
5. Teleconference schedule	VG	G	A	NI
6. Telephone consultations	VG	G	A	NI

Comments:

_____

_____

_____

Instructional Materials

1.	Audiotapes				
	Length	VG	G	A	NI
	Technical Quality	VG	G	A	NI
	Content Organization	VG	G	A	NI
	Usefulness	VG	G	A	NI
	Appropriateness of Medium	VG	G	A	NI

2.	Videotapes				
	Length	VG	G	A	NI
	Technical Quality	VG	G	A	NI
	Content Organization	VG	G	A	NI
	Usefulness	VG	G	A	NI
	Appropriateness of Medium	VG	G	A	NI
3.	Programmed Instruction Text				
	Length of sections	VG	G	A	NI
	Technical Quality	VG	G	A	NI
	Content Organization	VG	G	A	NI
	Usefulness	VG	G	A	NI
	Appropriateness of Medium	VG	G	A	NI
4.	Book of Readings				
	Length of articles	VG	G	A	NI
	Technical Quality	VG	G	A	NI
	Content Organization	VG	G	A	NI
	Usefulness	VG	G	A	NI
	Appropriateness of Medium	VG	G	A	NI
5.	Text				
	Length of articles	VG	G	A	NI
	Technical Quality	VG	G	A	NI
	Content Organization	VG	G	A	NI
	Usefulness	VG	G	A	NI
	Appropriateness of Medium	VG	G	A	NI

Comments:

_____

_____

Evaluation Procedures used in the course

1.	Effectiveness of short assignments	VG	G	A	NI
2.	Effectiveness of major assignment	VG	G	A	NI
3.	Effectiveness of final examination	VG	G	A	NI

Comments:_____

_____

Student Concerns/Issues Questionnaire (Part 2)

Below are statements with a four point scale on the right. Please circle for each item the letters that best describe your opinion of the statement.

Scale:

SA	Strongly agree
A	Agree
D	Disagree
SD	Strongly disagree

1.	I feel that doing this course by distance education was just as beneficial as if I had done it on campus as a regular course.	SA	A	D	SD
2.	I liked the ability to pace myself through the course.	SA	A	D	SD
3.	I liked the self-directed nature of the course.	SA	A	D	SD
4.	Doing the course on my own made it difficult to keep pace with the suggested weekly activities.	SA	A	D	SD
5.	I think there should be more opportunities to do graduate courses this way.	SA	A	D	SD
6.	I would have preferred that this distance education course used different media ie. teleconference, computers.	SA	A	D	SD
7.	I feel I would not want to do course using this delivery format.	SA	A	D	SD
8.	I feel that I learned alot about Instructional Development	SA	A	D	SD
9.	My knowledge of ID is now such that I can use the approach in my work.	SA	A	D	SD
10.	Much of what I learned about ID is superfluous.	SA	A	D	SD
11.	The course had too much theory.	SA	A	D	SD

12.	Readings in the course were very valuable to my understanding of the subject matter.	SA	A	D	SD
13.	The use of a variety of media and materials made the course interesting for me.	SA	A	D	SD
14.	I would like to do more programmed instruction work in courses.	SA	A	D	SD
15.	This was my first experience using Programmed Instruction and I did not like it very much.	SA	A	D	SD
16.	As an adult learner, I appreciated the freedom to do a course on my own time.	SA	A	D	SD
17.	Being able to get access to a graduate distance education course at home made me feel more positive about my graduate program.	SA	A	D	SD
18.	A self-instructional course was a new and positive experience for me.	SA	A	D	SD
19.	I would have preferred more interaction with the course instructor.	SA	A	D	SD
20.	Interaction with the Laboratory Instructor was beneficial to me.	SA	A	D	SD

Memorial University of Newfoundland
Division of Continuing Studies
Rm. E-2000, G.A. Hickman Building
St. John's, NF.

Course: _____

Semester: _____

STUDENT FEEDBACK FORM

This form is intended to provide Continuing Studies and the course instructor with your reactions to the course you are completing. The Division of Continuing Studies is concerned with how distance education courses can be improved. **Your feedback is necessary if that goal is to be attained.**

As soon as the course is finished and/or your final examination is written, please complete the form. Using the postage paid label enclosed, return it to the Division of Continuing Studies. The form is anonymous, so feel free to be completely forthright in your replies. It will not be seen by your instructor until final marks have been submitted to the Registrar's Office. Where insufficient space is provided, please use the back of the sheets

Thank you for taking the time to complete and return this form.

SECTION 1

Please respond to the statements below on a scale from 1 to 5 where 1 indicates you Strongly Disagree (SD) and 5 indicates you Strongly Agree (SA). Respond only to questions that are applicable to the course you have taken.

In answering these questions we recognize that a definite "agree" or "disagree" doesn't always tell the whole story. If you wish to comment on or qualify your response, please use the space beneath each statement or on the back of this sheet.

		SA				SD
1.	The instructor made it clear what was expected of me at the beginning of the course.	5	4	3	2	1
2.	The instructor gave helpful comments on papers/exams	5	4	3	2	1
3.	The instructor was easy to contact when necessary	5	4	3	2	1
4.	The instructor seemed to know the subject	5	4	3	2	1
5.	The instructor was fair in marking assignments/exams	5	4	3	2	1
6.	The instructor gave results promptly	5	4	3	2	1
7.	The course was well organized	5	4	3	2	1
8.	Access to outside resources (e.g., library) was necessary to complete the course to my satisfaction	5	4	3	2	1
9.	The assignments were difficult	5	4	3	2	1
10.	There were too many assignments	5	4	3	2	1
11.	In terms of understanding the course material, the assignments were valuable	5	4	3	2	1
12.	The final exam was long	5	4	3	2	1
13.	The course has increased by self-confidence	5	4	3	2	1
14.	The course provided me with information I can use right away	5	4	3	2	1

15.	Compared to other courses this was one of the best	5	4	3	2	1
16.	Compared to other instructors s/he was one of the best	5	4	3	2	1

SECTION 2

Please circle the best response:

		Excell.	Good	Satis.	Poor	NA
1.	I would rate the textbook	5	4	3	2	1
2.	I would rate the course manual	5	4	3	2	1
3.	I would rate the videotapes	5	4	3	2	1
4.	I would rate the audiotapes					
5.	I would rate the teleconference method of instruction	5	4	3	2	1
6.	I would rate correspondence as a method of instruction	5	4	3	2	1

SECTION 3

1. The workload for this course was

   very heavy heavy about right light

2. For me, the pase at which the material was covered was

   very fast fast about right slow

3. The teleconference time allocated for this course was

   just right too little too much unnecessary

4. Why did you choose this course?

   improve job potential for personal growth

   subject was of interest required course

   other _____

5. How did you learn about the course?

   radio newspaper (which one?) _____

   brochure in mail from a friend

   other _____

SECTION 4

1. Are there any aspects of the course that you especially liked?

2. Are there any aspects of the course that you especially disliked?

3. Do you have any suggestions as to how the course could be improved?

4. What kind of service did you receive from the staff of Continuing Studies?

5. Additional comments:

Student Profile Sheet

1. Course Name and Number: Education 6521 - Instructional Development

2. Name: _____ ___

3. Age: ___ under 25 ___ 25-30 ___ 31-40
___ 41-50 ___ over 50

4. Check degrees held:

____ B.A. ____ B.Sc. ____ B.Ed. ____ B.A.(Ed.)

_____ (other, write in)

5. Check current graduate program:

____ Teaching ____ Curriculum

____ Ed. Technology ____ School Library

_____ (other, write in)

6. Check number of courses completed on graduate program:

____ Less than 3 ____ 3-5 ____ 6-8 ____ more than 8

7. If teaching in the school system, check level you teach:

____ primary ____ elementary

____ jr. high ____ sr. high

_____ (other, write in)

8. If working in the school system (as other than a teacher) indicate occupation/title:

_____

9. If working outside the school system, indicate institution/place of business and type of position:

_____

10. If you hold a provincial teaching certificate, indicate level:

_____ IV _____ V _____ VI _____ VII

11. What is the main reason that you are taking this course?

_____ to complete degree requirement

_____ as elective on degree program

_____ personal enrichment

_____ career advancement

_____ (other write in)

12. Indicate total number of years experience as an educator in any setting:

_____ 1-5

_____ 6-10

_____ 11-15

_____ 16-20

_____ over 20

Pre- and Post-test

Student # _____

1. In your own words define instructional development.

_____

_____

_____

2. List the main components of instructional development models.

_____

_____

_____

3. List the main theory bases to instructional development.

_____

_____

_____

4. What do the following terms have to do with instructional development?

Systematic and systemic

_____

_____

_____

Algorithms and heuristics

Cognitive Science

5. What is the difference between instructional development and curriculum development?

APPENDIX C

MAP OF COMMUNITIES INVOLVED IN DISTANCE COURSE


Sheshatsheits
Wabush
Sandy Cove
St. Anthony
Port-aux-Choix
Fogo (2)
Grand Falls - Windsor
South River
Winterton
St. John's
Grand Bay East
Creston South
0
100
200
300
km

APPENDIX D

COURSE OUTLINE

Course Description

Education 6521 Instructional Development is a study of the development for all settings - the formal school system; the post-secondary system including community colleges, the university, and nursing schools; the military; and business and industry training. Students are introduced to the basic principles of instructional development from an historical and theoretical perspective. They apply knowledge in the development of an instructional module.

Topics covered in the course include a brief history of educational technology and instructional development, functional and theoretical approaches to instructional development, instructional development models, influences of behavioral and cognitive learning theories on instructional design, instructional delivery systems, and the instructional development process.

Course content is both theoretical and practical. Student evaluation reflects the dual thrust of the course. The final examination is based on the readings in the required textbook and the book of selected readings. The short assignments contribute to the main assignment, which is based on the application of the theory to the development of an instructional module.

Course Objectives

It is anticipated that the students in Education 6521 will attain the following objectives:

1. Develop understanding of the historical framework of educational technology and instructional development.

2. Develop understanding of the underlying theoretical frameworks of systems theory, communication theory, behavioral and cognitive learning theories.

3. Distinguish between systematic and systemic instructional development and understand their historical roots.

4. Become conversant with terminology and principles of instructional development.

5. Become conversant with instructional development models.

6. Apply principles of instructional development in the design and production of an instructional module.