A STUDY OF INSTRUCTIONAL DEVELOPMENT KNOWLEDGE AND COMPETENCY AMONG PRIMARY AND ELEMENTARY TEACHERS IN THE ROMAN CATHOLIC SCHOOL BOARD FOR ST. JOHN'S, NEWFOUNDLAND

JEAN MARIE TOBIN, B.A., B.Ed.

A STUDY OF INSTRUCTIONAL DEVELOPMENT KNOWLEDGE AND COMPETENCY AMONG PRIMARY AND ELEMENTARY TEACHERS IN THE ROMAN CATHOLIC SCHOOL BOARD FOR ST. JOHN'S, NEWFOUNDLAND

BY

© JEAN MARIE TOBIN, B.A., B.Ed.

A thesis submitted to the School of Graduate Studies in partial fulfilment of the requirements for the degree of Master of Education

Department of Learning Resources
Memorial University of Newfoundland

September 1989

St. John's Newfoundland

ABSTRACT

The purpose of this study was to discover if primary and elementary teachers possess the instructional development algorithm which underlies all instructional development models. Knowledge of instructional development, whether at the algorithmic or heuristic levels, is deemed necessary to implement the resource-based teaching and learning approach that is being advocated in this province. This was accomplished through a written survey which questioned teachers on thirteen instructional development competency areas summarized from the Task Force Report on Instructional Development Competencies of the Association for Educational Communications and Technology (AECT) published in 1982. One hundred and ninety-five teachers from the primary and elementary levels of the Roman Catholic School Board for St. John's received questionnaires.

The results of the study were analyzed according to the thirteen competency areas summarized from the AECT Task Force Report which are as follows: conduct needs assessment, conduct learner analysis, develop and sequence behavioral objectives, conduct environmental analysis, determine and sequence content, determine and sequence learner activities, determine appropriate

resources, determine appropriate teaching strategies, evaluate and revise instructional units, create instructional units, conduct workshops, communicate effectively, and consult with individuals or groups.

Results of the study revealed that the majority of the teachers who responded do not possess knowledge of the instructional development algorithm. However, due to a low response rate of 54%, the results are not indicative of the total sample, as information regarding the competencies of those teachers who failed to return questionnaires might have affected the results.

ACKNOWLEDGEMENTS

The investigator has been fortunate to have had a number of colleagues and friends who have been instrumental in the completion of this thesis.

My sincere appreciation to my advisor, Dr. Mary Kennedy who provided inspiration and assistance in the writing of this thesis. Without her continued support and encouragement this thesis may not have become a reality. Thanks are also extended to the entire faculty and staff of the Division of Learning Resources who have all provided assistance throughout the course of my graduate program.

The efforts of Ms. Geraldine Roe, associate superintendent of the Roman Catholic School Board for St. John's in assisting with the distribution and collection of questionnaires was greatly appreciated. To all the teachers who took the time from their busy schedules to complete and return questionnaires, a sincere thank-you.

In writing this thesis the writer undertook the task of learning a word processing program which was totally unfamiliar. Although the entire thesis was written, it was only due to the patience and persistence of Tor Fosnaes that all my blunders were corrected.

Special thanks to Genevieve Gallant whose friendship and willingness to listen to my problems throughout the writing of our "fraternal theses" will always be remembered.

Special thanks also to my neighbours and close friends, Ron and Heather Williams, who provided the writer with a quiet room in which to work and the use of a computer throughout the process of writing this thesis.

Finally I would like to express special thanks to my husband, Pierre Tobin, and my two children, Jennifer and Amy, whose patience, love and encouragement endured and sustained me throughout the many months in which this thesis was compiled.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

CHAPTER ONE

NATURE OF THE STUDY

Introduction

Modern society is undergoing profound technological and social changes brought about by what has been called the information explosion. The world facing the students of today has compact laser discs that contain the entire text of all volumes of the Encyclopedia Britannica, and microcomputers in many homes (British Columbia Teacher-Librarians' Association, 1986). The British Columbia Teacher-Librarians' Association (1986), in the document Fuel For Change, points out that "30 billion new documents are produced each year in the U.S. alone; 12 reading years ... would be required to cover but one-tenth of one per-cent of the available information on any given field of science or technology" (p. 1).

The impact of the information explosion and the advances in technology are affecting all institutions but "particularly those such as public schools and libraries that traditionally have borne the major responsibility for providing education" (Liesener, 1985, p. 12). The knowledge and skills required to survive in the technological and stress-oriented society we presently

live in are quite different from those required in less complex times.

Across the country those who believe that we must "equip students to function effectively in a rapidly changing resource rich, technological world" (Fennell, 1983, p. 62), are concerned with what we should be *teaching students* to prepare them for the twenty-first century. Educators everywhere have come to realize that there is a need to modify our "traditional lock-step methods of teaching in small enclosed classrooms using limited instructional resources, mainly textbooks, [in favour of] more innovative approaches based on research related to children, teaching and learning" (Haycock, 1981, p. 4)

Such an approach would permit students to learn how to access the information that is bombarding them, and how to select, evaluate and use that information. Across the country there has been a growing emphasis by curriculum planners on what is known as resource-based teaching and learning. The resource-based approach has been emphasized in documents produced in recent years by four Canadian provinces - British Columbia, Alberta, Saskatchewan and Ontario.

The earliest and perhaps the most influential Canadian document to make use of the term "resource-based learning" was the Ontario Ministry of Education curriculum resource guide entitled Partners In Action: The Library Resource Centre In The School Curriculum produced in 1982. This document has had "far reaching implications on how educators define and perform their role within the educational system" (Sharpe, 1987, p. 1). The Ontario Ministry of Education (1982) stresses that the principal, the classroom teacher, and the teacher-librarian have important and necessary roles to play in the development of resource-based programs, and that ideally teachers and teacher-librarians must work as partners to develop appropriate teaching and learning activities for students.

The concerns and the philosophy expressed by the Ontario Ministry of Education (1982) in the document Partners In Action have permeated other provincial documents produced since 1982. Focus on Learning: An Integrated Program Model for Alberta School Libraries by Alberta Education (1985); Fuel for Change:Cooperative Program Planning and Teaching by the British Columbia Teacher-Librarians' Association (1986); and The 4th R:

Resource Based Learning by the Saskatchewan Teachers' Federation (1986) have all related resource-based teaching to the goals and objectives for education in their respective provinces.

In Newfoundland, the Department of Education has in many ways endorsed a method of instruction that is resource-based, but it has not yet produced a tangible document. Through curriculum guides, course descriptions, authorized texts and teacher guides, the Newfoundland Department of Education has made it clear that "textbook teaching alone is not enough, that teaching today requires more than talk and chalk" (Brown, 1986, p. 12). The department is recommending that the resource-based approach be used from kindergarten through senior high school.

In order to implement this approach, teachers are being asked to formulate objectives based on the approved provincial curriculum and the learning needs and styles of individual students. Textbooks, while still an important resource, are but one of many resources used to provide experiences which will help to achieve the desired objectives.

Resource-based teaching and learning emphasizes the process skills necessary for children to learn how to

learn. Similar skills are found in different subjects, so curriculum guides in Newfoundland, especially primary ones, are recommending that teachers integrate across the curriculum and use themes to organize instructional content. To successfully integrate concepts and skills found in subject areas, and to develop themes which will both see use of a wide variety of resources and instructional strategies and take the individual needs of the learner into consideration, will require teachers who are able to design effective instruction.

This study examined the competencies required in the design of instruction in terms of primary and elementary school teachers. Since teachers are expected to work collaboratively with the teacher-librarian in the design of instructional units and modules in the resource-based approach, it is important to determine the instructional design capabilities of both groups. This study focused on the classroom teacher's knowledge of the instructional development algorithm, using survey methodology to determine competency levels of the instructional development process.

Background To The Problem

The resource-based approach to education which is advocated by curriculum guides and authorized texts, and which is envisioned in documents such as Partners In Action (Ontario Ministry of Education, 1982), requires a shift in emphasis from the present arrangements in our schools, which are based on "the premise that children will get most of their learning from the spoken words of teachers" (Taylor, 1971, p. 234). A resource-based system of teaching and learning requires that children learn from an "active, personal interaction with people and things" (Taylor, 1971, p. 233).

Although it is safer, easier, and less demanding for teachers to rely heavily on a trusted textbook, the current philosophy of resource-based teaching and learning requires teachers to move away from their traditional role of interpreting the textbook to one of a partnership with the school-librarian in the creation of new instructional approaches.

Teachers who have long been accustomed to the presentation or lecture based system of teaching are confronted with a major change in becoming resource-based. The teacher's role as a transmitter of information changes to that of a designer of learning

activities based on each student's abilities, interests and needs.

This new role requires today's teacher to not only be knowledgeable regarding the provincial curriculum and the use of a wide variety of resources, but also requires competencies in the design of effective instruction.

Planning resource-based units cooperatively with the teacher-librarian requires that teachers possess skills in instructional development. According to Brown (1988a):

> To plan such units, teachers will need to be able to establish objectives, analyze their learners, select appropriate instructional strategies, initiate and develop appropriate learning activities, select and effectively use learning resources, [and] develop appropriate evaluation procedures (for both the learner and the instruction). (p. 9)

Writers today are in fact equating the term 'resource-based teaching and learning' with 'instructional development'. Loertscher (1988) writes:

> In the last ten years, a new concept, instructional development or resource-based teaching, has emerged from the fields of educational psychology and instructional technology.... Teachers and library media specialists work together to systematically create sound instructional modules or units for learners using the full resources of the library media centre. (p. 2)

Statement Of The Problem

The purpose of this study was to discover if primary and elementary teachers possess the instructional development algorithm which this researcher deems necessary to implement the resource-based approach which is being advocated in this province. This was investigated by way of a questionnaire regarding the competencies needed to design instruction. No attempt was made to differentiate between the competency level of these two groups as the thrust of the primary and elementary curriculum is quite similar.

Several questions are subsumed within this larger question.

1. Do teachers understand the concept of instructional development?
2. What is the depth of knowledge of instructional development on the part of teachers?
3. If teachers possess instructional development competencies, where did they learn the particular skills - from university courses or on-the-job?

Definition Of Terms

For purposes of this study the following terms and definitions apply.

Audiovisual Devices. Any piece of equipment with associated materials, that controls through mechanical or electronic means, the presentation of visual or auditory communications for instruction (Reiser, 1987, p. 12).

Cooperative Program Planning and Teaching. The process in which the teacher-librarian and teacher work as partners to cooperatively design and teach units of study in which learning strategies and skills are integrated into the instruction.

Educational Technology. A complex integrated process involving people, procedures, ideas, devices and organization for analyzing problems and devising, implementing, evaluating, and managing solutions to those problems involving all aspects of human learning (Reiser, 1987, p. 20).

Elementary School Level. An educational unit comprising teachers from Grade four to six.

Instructional Development. (Used interchangeably with instructional design and instructional technology). A systematic approach to the design, production, evaluation, and utilization of complete systems of

instruction, including all appropriate components and a management pattern for using them (Silber, 1977, p. 172).

Learning Theory. A systematic integrated outlook in regard to the nature of the process whereby people relate to their environments in such a wa · as to enhance their ability to use both themselves and their environments more effectively (Bigge, 1982, p. 3).

Primary School Level. An educational unit comprising teachers from kindergarten to Grade three.

Resource-Based Teaching and Learning. (Used interchangeably with resource-based teaching and resource-based learning). Planned educational programs that actively involve students in the meaningful use of a wide range of appropriate print, non-print, and human resources (Ontario Ministry of Education, 1982, p. 6).

Systems Approach. An operational system which synthesizes and interrelates the components of a process within a conceptual framework, insuring continued, orderly and effective progress toward a stated goal (Heinich, 1970, p. 8).

Teacher. The professional person certified by the provincial Department of Education and hired by the Roman Catholic School Board for St. John's, Newfoundland to teach within schools under their administration.

Teacher-Librarian. (Used interchangeably with librarian, library media specialist, learning resources teacher, and media specialist). The professionally certified teacher who is responsible for the organization, administration, planning, and implementation of the school's library program.

Limitations Of The Study

In carrying out this investigation, the following limitations were recognized.

1. The population of the study was comprised of primary and elementary teachers from the Roman Catholic School Board for St. John's, Newfoundland. Generalizations drawn can only be made within the limits of this particular population and cannot be applied to the Newfoundland situation as a whole.
2. Any type of research which uses questionnaires as a means of data collection does not result in a 100 % return rate. In the case of this particular study information regarding the competencies of those teachers who failed to return questionnaires might have affected the results of the study.

3. The study focused on instructional development competencies as normally delineated in the literature and taught through formal courses. It is recognized that teachers have tacit knowledge, which might not have been measured by the instrument.
4. While pilot testing of an initial instrument was undertaken to identify any technical terminology used in the field of educational technology which might be problematic, and to clarify language for respondents, the researcher felt that teachers, as highly trained professional educators, would be familiar with terminology common to the professional literature of education. Use of such terminology may have impacted upon respondents' ability to answer specific questions.

Summary

This thesis reports on the research findings of a study conducted in the spring of 1989 regarding the instructional development competencies of primary and elementary teachers.

Chapter Two presents a historical overview of the various events and occurrences which have contributed to the emergence of instructional development as a field of study. It also delineates various instructional deve. ment approaches to educational problems, the history of school libraries, and a review of various Canadian documents which endorse a method of instruction which is resource-based. The chapter concludes with a description of the new roles which the teacher and teacher-librarian will play in resource-based teaching and learning. The literature provides evidence that implementation of a resource-based approach requires teachers in the primary and elementary levels to use instructional development competencies.

Chapter Three provides details regarding the methodology of the study. Chapters Four and Five describe the results of the study as well as a summary, conclusion, and recommendations for future study.

CHAPTER TWO

REVIEW OF RELATED LITERATURE

Historical Development of Instructional Development

Introduction

According to Gustafson (1981):

> The term "instructional development", defined as a process for improving instruction, appears to have had its origin in a project conducted at Michigan State University from 1961-1965. Entitled "Instructional Systems Development: A Demonstration and Evaluation Project" (1967), this project directed by Dr. John Barson produced one of the early ID models. (p. 5)

Although Barson had used the term, instructional development as a field did not become an identified profession until 1971. Diamond (1980) relates that "at a national convention of what is now the Association for Educational Communications and Technology ... fewer than 100 members of the Association met to form a new division. After much discussion ... the name Instructional Development was selected" (p. 51).

As a recognized field of endeavour, instructional development is only two decades old, yet it does not represent a totally new or different concept. "Rather, it is an evolutionary step as people seek to improve their educational enterprise by making it more effective, efficient, and humane" (Knirk & Gustafson, 1986, p. 3).

There have been many influences from the past which have merged together in recent years to the extent that instructional development has become recognized as a worthwhile field of endeavour. Lumsdaine (1964) has identified some of the historical roots which have "merged into the tree of instructional systems design" (Bigge, 1982, p. 9).

Saettler (1968) has also written extensively about the people and events he considers to have been the predecessors of modern instructional technology. Saettler traces the roots from the days of the elder Sophists in Athens whose systematic instruction to groups has led writers such as Pratt (1980) to state that "In the Sophists we can see the first sustained effort to discover basic principles of instruction; they might also be termed the first instructional technologists" (p. 18).

According to Saettler (1968), "It would be futile to designate any particular event or date to mark the beginning of a science or technology of instruction" (p. 47), yet as Knirk & Gustafson (1986) point out, "Since the 1950s, three main thought streams have been instrumental in creating the field of instructional technology" (p. 1). These three thought streams are as follows:

1. The concept of designing instruction directly for the student instead of designing audio-visual (A-V) materials for teachers to use in their presentations.

2. Benchmark developments in learning theory as identified by B. F. Skinner ... and others.

3. The influence of World War II and later the rapidly advancing hardware technology, which required developing quick task analysis procedures, effective training, and new communication technologies; often labelled 'the systems approach'. (Knirk & Gustafson, 1986, p. 1)

In examining the historical roots of instructional development, it is therefore important to examine the progress of three concepts which have for the most part developed independently of each other, but yet have jointly helped shape the field of instructional technology. These are (a) learning theory; (b) audiovisual devices; and (c) systems theory.

Learning Theories

Developments in learning theories have been instrumental in the creation of the field of instructional development. Learning theories provide valuable insights into the nature of the learning process, and our present day views of instructional

development have been shaped by, and are rooted in, premises about the nature of humankind.

A learning theory is a "systematic integrated outlook in regard to the nature of the process whereby people relate to their environments in such a way as to enhance their ability to use both themselves and their environments more effectively" (Bigge, 1982, p. 3).

Bigge (1982) states that "At least ten different theories in regard to the basic nature of the learning process are either prevalent in today's schools or advocated by leading contemporary psychologists" (p. 8).

Two families of learning theories which have developed since the beginning of the twentieth century are the behaviorist family of stimulus-response conditioning theories and the Gestalt-field family of cognitive theories. According to Bigge (1982), "both families have been protests against the inadequacies and inconsistencies of earlier psychological systems" (p. 48).

There are three theories in the behaviorist family (a) connectionism; (b) behaviorism; and (c) neobehaviorism. While connectionism and behaviorism "no longer are advocated in their original forms, many contemporary psychologists have orientations sufficiently

similar to theirs to be termed neobehaviorists" (Bigge, 1982, p. 50). It is this group of neobehaviorists which have had the greatest influence on actual instructional strategies.

Neobehaviorism. Some of the leading contemporary neobehaviorists whose ideas have been influential in the emergence of instructional development are B.F.Skinner, Robert Gagné, and Albert Bandura.

B. F. Skinner's operant conditioning theory is one of the most "prominent systematic psychologies of learning that represent the behavioristic family" (Bigge, 1982, p. 13). According to Bigge (1982), operant conditioning is "a learning process whereby a given response is made either more probable or more frequent by the occurrence of a reinforcing stimulus immediately following the response" (p. 119).

"In the early 1950s much interest was being shown in educational applications of the learning theory known as behaviorism" (Kemp, 1985, p. 4). Skinner believed that his operant conditioning theory could be applied to the practical problems of education. It is stated by many writers that this theory "led to the 'programmed instruction' movement in the 1960s which established useful guidelines for organizing individualized,

self-paced instruction in precise ways so that learning would take place successfully" (Kemp, 1985, p. 4).

Thorndike is often cited as having foreseen the development of programmed instructional materials. In 1912 he wrote:

> If by some miracle of modern ingenuity, a book could be so arranged that only to him who had done what was directed on page one would have page two become visible, and so on, much that now requires personal instruction could be managed by print. (Saettler, 1968, p. 52)

But programmed instruction is usually associated with B. F. Skinner, who used it as "a practical implementation of his operant conditioning theory of learning" (Knapper, 1980, p. 18).

The programmed instruction movement is often said to have begun in 1954, with the publication of B. F. Skinner's article 'The Science of Learning and The Art of Teaching'. In this article Skinner stated:

> We are on the threshold of an exciting and revolutionary period, in which the scientific study of man will be put to work in man's best interest. Education must play its part. It must accept the fact that a sweeping revision of educational practices is possible and inevitable. (Cited in Hawkridge, 1978, p. 377)

In this article "Skinner pointed to the deficiencies of traditional instructional techniques and indicated that by using teaching machines many of those problems could be overcome" (Reiser, 1987, p. 30).

Skinner's programmed instruction proposed that "instructional materials should consist of a series of small steps, or 'frames', each of which should require an active response from the learner, who would receive immediate feedback regarding the correctness of his or her response" (Reiser, 1987, p. 30). In proposing that instructional materials consist of a series of small steps Skinner was also stating his belief that learners should be allowed to proceed at their own individual pace.

According to Kemp (1985), "Of all the developments in recent years, the theoretical view of learning proposed by Skinner and its applications through programmed instruction have been most influential for the emergence of the instructional design process" (p. 4).

A neobehaviorist who has developed what Bigge (1982) calls a "behaviorist eclectic approach to the psychology of learning" (p. 139), is Robert Gagné. Gagné's psychology "centres on behaviorism, loosely defined, but contains marginal overtones gained from apperception theory and the cognitive-field family of learning theories" (Bigge, 1982, p. 13).

Gagné's pivotal idea on learning is outlined in his Conditions of Learning. Bigge (1982) describes these conditions as follows:

> Learning of any new capability requires the prior learning of the subordinate capabilities that are involved in the new capability.... Thus, any significant learning that one is to acquire may be analyzed into a progression of subordinate learnings. Gagné calls such a progression of learnings a "learning hierarchy" (p. 143).

Gagné's eight conditions of learning and his ideas of a learning hierarchy have led to the belief that instructional procedures should be systematically designed. His ideas have had tremendous influence on the field of instructional development.

A third neobehaviorist whose ideas have been influential in the area of instructional development is Albert Bandura. Like Gagné, Bandura is an eclectic behaviorist whose social learning theory "blends concepts of purposive cognitive psychology into behaviour-modification theory as developed by behavioristic psychologists" (Bigge, 1982, p. 13).

For Bandura, the "consequences of one's past behavior largely determine one's future behavior; however, this occurs only because of the informative and incentive values of those consequences" (Bigge, 1982, p. 155).

Unlike Skinner who sees people as "mechanical products of environmental forces" (Bigge, 1982, p. 157), Bandura regards them as "information processing and interpreting animals who operate on the basis of insightful expectations.... Thus, human beings are thinking organisms who possess capabilities that provide them with some power of their own self-direction" (Bigge, 1982, p. 157).

Cognitive Field Theory. The second major family of contemporary learning theories which has developed in this century are the Gestalt field family of cognitive theories. The position of Gestalt psychology was formally stated first by the German philosopher-psychologist, Max Wertheimer, in 1912. "The central idea of Wertheimer's point of view is that an organized whole is greater than the sum of its parts" (Bigge, 1982, pp. 57-58). The learner is seen as "a whole organism who responds as a whole to a whole situation" (Tanner & Tanner, 1980, p. 418).

In the early 1920s "Kurt Lewin took the spirit of Gestalt theory, added to it some new concepts, and coined a new terminology. He developed a field psychology" (Bigge, 1982, p. 59). Lewin's basic concept was that of life space, which "includes everything that one needs to

know about a person in order to understand his concrete behavior in a specific psychological situation at a given time" (Bigge, 1982, p. 170). Today's cognitive field theory draws heavily from the pioneer field psychology of Kurt Lewin, however it should not be considered merely a restatement of Lewin's position.

Some of the noted psychologists who have made significant contributions to cognitive field theory are Jean Piaget, David Ausubel, and Jerome Bruner.

According to Jean Piaget, the mental development of any child consists of a succession of three stages or periods which are closely linked to age. These are:

1. Sensorimotor (Birth to 18 months or 2 years). At this stage a child lacks any symbolic function, therefore displaying only direct action on reality.

2. Preconcrete-operational (18 months to age 7 or 8). During this period children develop their abilities to represent things with symbols.

3. Concrete-operational (8 to 12 years). "ere children learn to do in their heads what they had previously accomplished only through physical action. (Bigge, 1982, pp. 19-20)

Bigge (1982) goes on to explain that:

> Each stage extends the preceding stage, reconstructs cognition on a new level, and comes to surpass the earlier stage. Then, during preadolescence and adolescence the stage of formal operations emerges .... [At this stage children are] able to think about their thoughts, construct ideals, reason

> realistically about the future, and reason about contrary-to-fact propositions. (pp. 19-20)

Jerome Bruner may be identified as a cognitive learning theorist who is eclectic in his approach. Bruner's research in the late 1950s led him to the assumption that "subjects do not mechanically associate specific responses with specific stimuli but, rather, tend to infer principles or rules underlying the patterns which allow them to transfer their learning to different problems" (Bigge, 1982, pp. 229-230).

Bruner is probably the foremost living proponent of the discovery approach. His approach is characterized by three stages in which he believes the child moves through as he learns. Romiszowski (1981) describes these three stages as follows:

> The first level is the enactive level, where the child manipulates materials directly. He then progresses to the iconic level, where he deals with mental images of objects but does not manipulate them directly. Finally he moves to the symbolic level, where he is strictly manipulating symbols and no longer mental images of objects. (p, 173)

Although "These stages are firmly based on the developmental psychology of Jean Piaget" (Romiszowski, 1981, p. 171), they differ sharply from Piaget's stages of human development in that Bruner emphasizes that "these steps or spurts or whatever you may choose to call

them are not very closely linked to age: some environments can slow the sequence down or bring it to a halt, others move it along faster" (Bigge, 1982, p. 233). The three stages usually appear in the life of a child in order and each depends upon the previous one for its development, yet all three of them extend more or less intact throughout an individual's life.

David Ausubel is another cognitive psychologist who has been a powerful influence on instructional thinking. Ausubel "stands in opposition to the discovery movement .... [and] argues that much instruction ... is successfully performed by the process of exposition leading to meaningful reception learning" (Romiszowski, 1981, p. 173).

Ausubel is a major advocate of the advance organizer and believes that "elementary aged students learn more rapidly when advance organizers are used with instructional design to move them from one level of preoperation to that of concrete operation" (Knirk & Gustafson, 1986, p. 127). He suggests two types of advance organizers: expository and comparative. He recommends using "expository organizers when the material is completely unfamiliar and using comparative organizers when the learning material is familiar or can be related

to previously learned ideas" (Knirk & Gustafson, 1986, p. 93).

Theories of Instruction

Although the learning theories discussed have been influential in the field of instructional design, dissatisfaction with the application of learning theories to instruction was expressed in the mid 1950s and 1960s. The major criticism that "learning theories were descriptive rather than prescriptive - led investigators in the mid 1960s to try and develop theories of instruction" (Hartley, 1978, p. 41).

Theories of instruction are "statements about what instructors should do in order to teach, or more precisely in order to obtain a given educational objective with maximum efficiency" (Hartley, 1978, p. 41).

Two leading theorists who have attempted to develop theories of instruction based on learning theories are Robert Gagné and Jerome Bruner. The ideas expressed by these theorists in their theories of instruction have guided instructional development theory.

Bruner states that a theory of instruction should take into account the nature of the persons, the nature

of knowledge, and the nature of the knowledge getting process. The critical question educators must ask is:

> How do you teach something to a child, arrange a child's environment, if you will, in such a way that he can learn something with some assurance that he will use the material that he has learned appropriately in a variety of situations? (Bigge, 1982, p. 240)

For Bruner, a theory of instruction should specify:

1. The experiences which most effectively implant in the individual a predisposition towards learning.

2. The ways in which a body of knowledge should be structured so that it can most readily be grasped by the learner.

3. The most effective sequences in which to present materials to be learned.

4. The nature and pacing of rewards and punishments in the process of learning and teaching. (Hartley, 1978, p. 41)

Robert Gagné has also developed a theory of instruction which, according to Hartley (1978) "has been the most influential.... because his theory makes a number of broad assumptions about learning and teaching which are testable in practical situations" (p. 42).

Gagné's contribution has been to tie together the following three ideas from his learning theory and apply them to instruction: (i) That subject matter has a hierarchial structure, (ii) That there are different kinds of learning (which are hierarchically arranged)

and, (iii) That there are different kinds of teaching methods which can be linked up appropriately with the different kinds of learning. (Hartley, 1978, p. 42).

The theories of instruction developed by Gagné and Bruner demonstrate their belief that "instructional procedures should be systematically designed according to the basic principles that are established through research" (Bigge, 1982, p. 149).

As can be seen from the preceding discussion:

> Psychology is not a field of study characterized by a body of theory that is internally consistent and accepted by all psychologists. Rather, it is an area of knowledge characterized by the presence of several schools of thought. In some instances these may supplement one another, but at other times they are in open disagreement. (Bigge, 1982, pp. 5-6)

There are no final answers to questions concerning the learning process and no theory which is superior to all others. The various learning theories developed since the seventeenth century have all contributed in some way to the field of instructional development.

Instructional Technology

Although the beginnings of the audiovisual movement can be traced as far back as Comenius in the late 1600s, it was not until the late 1920s and early 1930s when

"technological advances in film and slide quality, radio broadcasting, sound recording, and motion pictures with sound" (Reiser, 1987, p. 14) became widespread that the audiovisual movement came into being. This movement grew in the years that followed but the greatest impetus for audiovisual technology came during the war years. According to Heinich (1970) "The most massive application of audiovisual technology prior to 1950 was undertaken by the armed forces during World War II" (p. 116). At this time there appeared "an unprecedented need to train millions of industrial workers and military personnel as rapidly and effectively as possible" (Saettler, 1968, p. 159).

The development and use of audiovisual devices during the war was generally perceived as being "successful in helping the United States solve a major training problem .... As a result of this apparent success, after the war there was a renewed interest in using audiovisual devices in the schools" (Reiser, 1987, p. 15).

The extensive use of audiovisual devices and materials during the war had occurred "almost exclusively without reference to express inputs from theories of learning as developed by psychologists. Indeed, it could

be argued that most of the development of audio-visual materials was relatively little influenced by any very precise theoretical notions" (Lumsdaine, 1964, p. 377).

After the war, "The work of psychologists was revealing important new information about how human learning takes place" (Kemp, 1985, p. 4). This led to several intensive research studies being conducted to identify how various features of audiovisual materials affected learning. These research programs "were among the first concentrated efforts to identify principles of learning that could be used in the design of audiovisual materials" (Reiser, 1987, p. 15).

Up to the 1960s, the concept of audiovisual instruction continued to be viewed as using devices, such as films, as aids to supplement instruction. The research had not greatly affected educational practices.

By the early 1960s, many leaders in the audiovisual field had come to the conclusion that the field was broader than the term audiovisual instruction implied. The concept of "designing instruction directly for the student instead of designing audio-visual (A-V) materials [as aids] for teachers to use in their presentations" (Knirk & Gustafson, 1986, p. 1), was beginning to take shape in the minds of many leaders.

Robert Kilbourn at Wayne State University was the first to change the name of his audio-visual education department to "instructional technology". According to Knirk & Gustafson (1986), "More than just a name change, it reflected a move away from the 'aids' concept of assisting teachers to teach and toward the concept of at least some materials being directly used by students without teacher intervention" (p. 9). This philosophy of education was also championed by James Finn, who "is usually credited with first defining 'instructional technology.'" (Knirk & Gustafson, 1986, p. 9). In 1961 he established a Committee on Definitions and Terminology whose goal was to define the field and the terms associated with it.

The Committee reported that "The [audiovisual] field should be primarily concerned with the design and use of messages which control the learning process, rather than with the audiovisual devices that traditionally had been the focus of the field" (Reiser, 1987, p. 19). Reiser (1987) goes on to state that this opinion "marked an important step in the shift toward a new view of the field" (p. 19).

Throughout the 1960s leaders in the audiovisual field continued to advocate a new approach to

instruction. They were advocating the idea that instruction could be drastically changed if the old paradigm of "audiovisual materials entering at the classroom implementation level ... when the teacher was casting about for materials that might aid instruction" (Heinich, 1970, p. 116), could be replaced with a new paradigm - one in which audiovisual materials entered at the curriculum planning level. As Heinich (1970) states: "All must be planned much earlier than the present paradigm of teacher discretion permits" (p. 125).

Despite the exhortations of leaders in the field, the use of audiovisual materials continues to be one of aids to instruction in many instances. The ideas of Finn and Heinich, however, did alert people to the possibility of a new approach to designing instruction - the systems approach.

Instructional Development

In order to examine the roots of the systems approach and its role in the instructional development process, it is, according to Reiser (1987), "important to recognize that it is basically an empirical approach to the design and improvement of instruction" (p. 21).

The reliance on empirical evidence can be traced to the work of men like Comenius who "proposed that inductive methods should be used to analyze and improve the instructional process" (Saettler, 1968, p. 68), and Herbart who "proposed that scientific research should be used to guide instructional practice" (Reiser, 1987, p. 21). Others like F. Bobbitt and W. W. Charters were also advocates of the empirical approach. Both were "pioneers in such areas as activity analysis ... and objective specification" (Reiser, 1987, p. 21).

As with the audiovisual movement, interest in the empirical approach waned during the 1930s and the depression, but with "the entry of the United States into World War II ... there was renewed interest in the use of empirical methods to help solve educational problems" (Reiser, 1987, p. 22).

According to Knirk and Gustafson (1986):

> The 'systems approach' as applied to teaching and learning, originated in training programs developed by the military. As weapons systems became more complex and required teams of specialized interacting personnel, the armed services sought new procedures for developing and delivering training. (p. 3)

During World War II, the systems approach to problem-solving was developed and refined as the United States and other countries found it necessary to train

soldiers effectively and efficiently for specific tasks and to solve various problems of war. It was during the war that the systems approach became well known to the public.

In order to increase the effectiveness and efficiency of the learning process in the military those individuals responsible for developing programs "based much of their work upon instructional principles derived from research and theory on instruction, learning and human behaviour" (Reiser, 1987, p. 22). They were able to develop:

> A systems approach to course design based on existing knowledge of how people learn. Such a systems approach attempts to mould the input to a course in such a way as to enable the optimum assimilation of knowledge and skills to take place during the learning process and hence maximize the quality of the output. (Percieval and Ellington, 1984, pp. 15-16)

After World War II, the birth of programmed instruction in the mid 1950s proved to be "the next major factor in the development of the systems approach concept" (Reiser, 1987, p. 22). The process Skinner described for developing programmed instruction exemplified an empirical approach to solving educational problems and as Heinich (1970) states:

> Programmed instruction has been credited by some with introducing the systems approach to education. By analyzing and breaking down content into specific behavioral objectives,

> devising the necessary steps to achieve the objectives, setting up procedures to try out and revise the steps, and by validating the program against attainment of the objectives, programmed instruction succeeded in creating a small but effective self-instructional system - a technology of instruction. (p. 123)

Although the term 'systems approach' became well known to the public during the war, "The term was not used in education until 10 to 20 years later. The '60s saw the emergence of the components that eventually would be combined to become the instructional design systems approach" (Dick, 1987, p. 54).

According to Reiser (1987), "The refinement of task analysis procedures during the 1950's was another major factor in the development of the systems approach concept" (p. 22). Task analysis, according to Pratt (1980), "is the process of listing the component tasks the students would need to be able to perform if the aim itself were to be attained" (p. 166). According to Reiser (1987):

> Early work in this area had been undertaken ... by Bobbitt and Charters [but] it was in the 1950s, however, that the process was refined, primarily through the efforts of Robert B. Miller, who developed a detailed task analysis methodology while working on projects for the military services. (p. 23)

In the 1960s the idea of task analysis was expanded further through the work of Robert Gagné. Gagné believed

that the tasks and sub-tasks identified through task analysis often have a hierarchical relationship to each other, so that "in order to learn successfully the learner must be able to succeed at one level before he can continue to the next" (Hartley, 1978, p. 34). Based on Gagné's beliefs the instructional development approach not only "indicates the skills that should be included in the instruction [but also] the sequence in which they should be presented" (Dick. 1987, p. 54).

> The methodologies associated with task analysis and with the programmed instruction movement both placed an emphasis on the identification and specification of observable behaviors to be performed by the learner. Thus the behavioral objectives movement can in part be attributed to the developments in these areas. (Reiser, 1987, p. 23)

Behavioral objectives refer to "statements of what students will be able to do or how they will be expected to behave after completing a prescribed unit or course of instruction" (Briggs, 1977, p. 55).

"There have been many attempts to develop categories of learning or objectives ... so that the identification of the category of a given objective leads more or less automatically to a specification of the way the instruction ought to be organized" (Romiszowski, 1984, p. 40).

> The idea of behavioral objectives was probably first suggested by the American educational

> psychologist Ralph Tyler in the years following the Second World War. More recently, quite sophisticated systems for defining different types of objectives in ways that lend themselves to evaluation and measurement have been devised by Robert Gagné and Benjamin Bloom. (Knapper, 1980, p. 51)

Benjamin Bloom and his associates have developed taxonomies for the classification of educational objectives for use in the design of instruction. Bloom's taxonomies divide learning into three domains: (a) the cognitive domain; (b) the affective domain; and (c) the psychomotor domain. According to Tanner and Tanner (1980) Bloom's work is "one of the most systematic approaches to the classification of behavioral objectives" (p. 168). The processes in each domain are "classified in a hierarchial order from simple to complex levels" (Tanner and Tanner, 1980, p. 168).

Bloom's Taxonomy of Educational Objectives is well known and has had such a great impact in the area of instructional development that, according to Romiszowski (1984), it has "rendered it difficult for successive generations of educational thinkers to break away from the tripartite division of education into [three domains of learning] " (p. 35).

Gagné and Briggs (1974) have also developed a system for the classification of objectives. They use five

categories of learning outcomes which, according to Romiszowski (1984), "are more directly linked to specific instructional tactics" (p. 40). The work of Bloom and Gagné and Briggs has been "very influential over the past 20 years in shaping the thinking of instructional designers" (Romiszowski, 1984, p. 41). Hawkridge (1978) believes that while neither

> Tyler nor Bloom thinks of himself as an educational technologist, yet the 'organized knowledge' about objectives provided by these two was assimilated into the systematic approach to the design of learning advocated by programmed learning enthusiasts and educational technologists. (p. 378)

In the early 1960s, another key component of the development of the systems approach to the design of instruction was the emergence of criterion-referenced testing. Criterion-referenced tests are "used to ascertain an individual's status with respect to a well defined domain" (Baker and O'Neill, 1987, p. 343). "As early as 1932, Tyler had indicated that tests could be used for such purposes ... but Glaser was the first ... to use the term 'criterion-referenced measures'" (Reiser, 1987, p. 24).

As Glaser and his associates developed objectives for individual instructional packages, they

> became aware of the necessity of including test items that directly measured the behaviors described in the objectives. This process of

> matching test items to objectives became known as criterion-referenced testing and is a key component of the systems approach. (Dick, 1987, p. 54)

The evaluation of instructional products is an important part of the instructional development process. Two types of evaluation are used. Formative evaluation is "a continuing revision process that is employed as curriculum is being developed. This process is used ... to provide information to the developers as to how they can make the instruction more effective" (Dick, 1987, pp. 54-55). Summative evaluation is "used to assess the effectiveness of the final revision of the product" (Reiser, 1987, p. 26).

> In the early 1960s, the concepts that were being developed in such areas as task analysis, objective specification, and criterion -referenced testing were brought together and discussed in articles written by authors such as Gagné, Glaser and Silvern. These individuals were among the first to use the terms such as 'system development,' 'systematic instruction,' and 'instructional system,' to describe systems approach procedures similar to those employed today. At about this time, the terms 'systems approach' and 'systems development' began to be employed to describe the instructional development processes used during some instructional projects. (Reiser, 1987, p. 25)

Into the 1970s and early 1980s the systems movement continued to grow. A number of graduate programs in instructional design were introduced, a number of books on the topic were written and the number of instructional

development models grew so that by 1980 Andrews & Goodson (1980) could report on 40 such models.

Summary

In the 1950s and 1960s educators became aware that a technology of instruction might be possible. At this time

> The work of psychologists was revealing important new information about how human learning takes place including the importance of specifying details of a task to be learned or performed, and the need for active participation by the student or trainee to ensure learning. At the same time, audiovisual specialists were developing ways to utilize the recognized learning principles in designing effective films and other instructional materials. (Kemp, 1985, p. 4)

The history of instructional development evolved in relation to three concepts that have formed the foundation on which the field is based. The field is unique in that it combines the three concepts of audiovisual devices, learning theory, and the systems approach "into a total approach to facilitate learning" (Reiser, 1987, p. 41).

Models of Instructional Development

An instructional development model describes "a systematic procedure for solving instructional problems" (Knirk and Gustafson, 1986, p. 19). The systematic approach employed in instructional development models was developed and refined during World War II when the United States found it necessary to train thousands of soldiers as effectively and efficiently as possible.

> After the war, one of the most influential model builders was L.C. Silvern. His work with the military and aerospace industry resulted in an extremely complex and detailed model which drew heavily on general systems theory for its conceptualization. (Gustafson, 1981, p. 5)

"Other early work by a number of authors also produced ID models, although they did not use the specific term 'instructional development'" (Gustafson, 1981, p. 5). This term had its beginnings in a project conducted at Michigan State University from 1961-65. Entitled '<u>Instructional Systems Development: A Demonstration and Evaluation Project</u>', this project directed by Dr. John Barson, produced one of the early instructional development models.

Since this first instructional development model there has been "a virtual flood of ID models appearing in the literature" (Gustafson, 1981, p. 1). There have been

several major reviews of instructional development models. Stamus (197?) reviewed 23 models; Andrews & Goodson (1980) reviewed 40 models; and Gustafson (1981) looked at 12 models.

According to Gustafson (1981), "while there are literally hundreds of models, there are only a few major distinctions. Many of the models are simply re-statements of earlier models by other authors using somewhat different terminology" (p. 47).

One point to remember, according to Barrows (1984) is that "there is no single, correct way to do it" (p. 40). The key to success for the educator is "to have maybe a half-dozen really different models in his/her tool bag and know how to modify them for each new situation" (Gustafson, 1981, p. 4).

Gustafson (1981) has developed a taxonomy of instructional development models. He states: "creating a taxonomy is an excellent means of reducing an otherwise unwieldy body of ID model literature into a manageable package" (Gustafson, 1981, p. 6). His taxonomy divides instructional development models into four categories: (1) systems development models; (2) organization development models; (3) product development models; and (4) classroom development models.

Systems Development Models

In the systems development models, Gustafson (1981) reviews the Instructional Development Institute (IDI) model and states that this model is "one of the most widely publicized ID models in existence" (p. 29). The IDI model is essentially a linear approach with three stages - define, develop and evaluate. "Created as a tool for public school personnel who desire to tackle large-scale instructional problems, the IDI model is problem oriented, specifies team development, and assumes distribution or dissemination of the results of the effort" (Gustafson, 1981, p. 31).

Organization Development Models

The organization development models of instructional development have as their goal "not only improving instruction, but also modifying or adapting the organization and its personnel to a new environment" (Gustafson, 1981, p. 7). While a lot has been written on organizational development, Gustafson (1981) states that "the activities described often do not indicate systematic analysis, design, development, and evaluation" (p. 39). Gaff (1975) expressed the view that organizational development is a distinctively different

type of activity from instructional development. Other models however such as the Blonden Model and the Blake & Moulton model described by Gustafson (1981) have attempted to integrate the elements of organizational and instructional development into a single system.

Product Development Models

The product focus model differs from other models in that "its goal is production of one or more specific instructional products. It usually assumes that development of the product is a 'given'.... The product is usually expected to produce replicable results with an audience possessing specified characteristics" (Gustafson, 1981, p. 7). Gustafson (1981) reviews two product development models - the Banathy Model and the Baker & Schutz Model.

Classroom Development Models

Gustafson (1981) reviews five classroom development models which are based on the premise that "due to the on-going nature of instruction, often accompanied by a heavy teaching load, there is little time for developing new materials.... Hence there is concern with identifying

existing resources for adaptation rather than original development" (p. 10).

The models he examines are readily understandable by teachers yet he expresses the belief that "even general models of the instructional development process are not widely known to and adopted by teachers" (Gustafson, 1981, p. 10). The models described have many common features and the steps followed are very similar. There are however certain features of the models worthy of mention.

Gerlach & Ely's model is linear in orientation, but several steps are seen as occurring simultaneously. "The entry point of the Gerlach and Ely model calls for identifying content and specifying objectives as simultaneous, interactive activities" (Gustafson, 1981, p. 11). Their model is "one of only a few which recognize this content orientation of teachers to instruction" (Gustafson, 1981, p. 11).

Jerrold Kemp's model is similar in that it states the same essential elements, but this model suggests that instructional development "is a continuous cycle with revision as an on-going activity associated with all eight steps" (Gustafson, 1981, p. 13).

While hundreds of models exist in which the steps to be followed may vary, "the underlying principles remain the same: gather data, define the problem, develop solutions, and evaluate and modify them as needed" (Knirk and Gustafson, 1987, pp. 19-20). When systematically applied, these principles allow a learner efficient access to more relevant information than was ever before possible.

Instructional Development: Two Archetypes

Ivor K. Davies (1978) describes two archetypes which encompass the activity known as instructional development: the engineering archetype and the problem-solving archetype.

The engineering archetype "came into being with the advent of programmed learning, and the application of behaviouristic technology to both teaching and learning as a result of the influence of Professor B. F. Skinner in the early 1960s" (Davies, 1978, p. 22), and is reflected in the numerous instructional development models in use today. This archetype takes the form of "a series of boxes and arrows, usually with a feedback loop, indicating a step-by-step approach to development work.

Almost always there is a clear beginning (definition of objectives), and almost always a terminal step (evaluation)" (Davies, 1978, p. 22). It is this type of instructional development, taught in most introductory or basic university courses, which Romiszowski (1981) refers to as algorithmic and which Brown and Kennedy (1988) call functional instructional development. "Students emerge from such courses able to follow, in generally linear fashion, the process indicated by the boxes and arrows, in order to design something" (Brown and Kennedy, 1988, p. 1).

The problem-solving archetype "began to be adopted around 1973 to 1974, and, although still not characteristic of the everyday activities of the majority of [instructional developers] it is fast becoming an alternative way of seeing" (Davies, 1978, p. 22), but is still the dream of the future according to Beckwith (1988).

Davies (1978) describes the problem-solving archetype in terms of a chess game.

> Players engage in an intellectual activity for which there is no one set of appropriate moves. Intense concentration, ability to foresee future consequences of current actions, flexibility, and the skills of observation, analysis, synthesis, and evaluation are prerequisites to success. (p. 22)

In this approach "there is no one best means, and neither is there necessarily one best solution. Rather, everything is dependent on the situation, and the skills and expertise available" (Brown and Kennedy, 1988, p. 1). Romiszowski (1988) refers to this as heuristic. Brown and Kennedy (1988) call this conceptual instructional development.

According to Kennedy and Brown (1987):

> Differentiating between the functional and conceptual levels of instructional development is not easy. Rather than discrete levels, they seem to lie along a continuum. It is not the size or scope of the instructional development activity that provides the key differentiating variable, but the role which the instructional developer plays. (pp. 16-17)

Many of the same tasks may be undertaken in both approaches; analyzing problems, developing objectives, designing learning activities, and so forth. However in functional instructional development the focus is fully on what the instructional developer does -- the algorithm as described by Romiszowski (1981). At the conceptual level the focus becomes the how-and-why -- the theories of learning and instruction and their application in the designing of solutions to instructional problems. The instructional developer, functioning at this level, is making use of a heuristic, as opposed to an algorithm.

Romiszowski (1981) notes that many problems can be solved using either approach.

> The motor mechanic may be taught a step-by-step procedure for fault-finding. The logical procedure guarantees that he locates a fault in a reasonable time, as compared to random checks. But as his experience grows, he develops a heuristic approach. He forms conceptual models of certain types of cars, made up of sets of principles such as 'in this car this type of symptom generally means this fault'. (p. 23)

Too often in education however, instructional development is done on a piece meal basis. It is considered to be an activity with a beginning and an end - each set of activities or unit is viewed as a discrete entity. What educators should keep in mind has been stated well by Romiszowski (1981), "Although step-by-step functional procedures are easier to learn and apply initially, heuristic conceptual procedures are more efficient in the long-run" (p. 23).

Historical Development of School Librarianship

Early Beginnings

The school library, considered by many today to be the heart of the instructional process, has undergone considerable change since its inception in 1578. In that year Lord Ashton issued an ordinance for setting up

Shrewsbury School in which he specified that the building contain "a library and a gallery for the said school, furnished with all manner of books, mappes, spheres, instruments of astronomy and all things apperteyning to learning" (Cited in Beswick, 1977, p. 62).

In North America, the concept of a library housed within a school can be found in the academies established in 1751 by Benjamin Franklin.

Although the idea was present as far back as 1578, the 'modern age' of school librarianship really began in 1835 when states such as New York and Massachusetts passed laws referred to as 'enabling legislation' which authorized school districts to purchase books and bookshelves.

In 1890 New York state began establishing high school libraries as a policy and "by December 1895, Katherine L. Sharpe could note in Library Journal that twenty-two states of the Union had legislation for the establishing, state supervision and financing of school libraries" (Beswick, 1970, p. 164).

The last two decades of the 19th century saw much experimentation in school library provision, "a typical feature of which was the establishment by public

libraries of what was in effect a branch children's library in the school" (Beswick, 1970, p. 164).

Other national developments which showed the interest of education in school libraries during this time were the formation of a School Library Division by New York State in 1892 and the creation of a Library section within the National Education Association in 1896.

Such events were landmarks, yet the reality was that as the 19th century came to a close the library scene was described by Beswick (1970) as "poorly supplied, poorly arranged and mismanaged" (p. 164), and as Gates (1948) states: "The school libraries ... were used little and their contribution to the teaching-learning process was minimal" (p. 220). Curriculum leaders at the time reinforced the notion that "the instrument of the educational process was the textbook" (Tanner and Tanner, 1980, p. 244), making it difficult to rise above the importance of the content of that one book and initiate use of other resources.

The early 20th century saw the rise of "an important new movement in American education ... the visual education movement" (Saettler, 1968, p. 119), and leading educators predicted changes in the educational system.

The belief that children should be exposed to many sources of information rather than just one textbook was advanced by those involved in setting up new curriculum structures.

The logical source for all these other informational materials was the school library. The argument against the school library being restricted to merely a collection of books was put forward. Melville Dewey, founder of the American Library Association, wrote:

> The name 'library' has lost its etymologic meaning and means not a collection of books, but the central agency for disseminating information, innocent recreation, or, best of all, inspiration among people. Whenever this can be done better, more quickly, or cheaply by a picture than a book, the picture is entitled to a place on the shelves and in the catalog. (Cited in Beswick, 1977, p. 3).

In 1915, Mary T. Hall described what the modern high school library should be:

> It is a carefully selected collection of books, periodicals, clippings, pamphlets and illustrative material, chosen to meet the needs of the average high school student, organized according to modern library methods by a trained librarian. (Cited in Beswick, 1970, p. 168)

The actual condition of school libraries in 1915 was not quite as Melville Dewey and Mary Hall had so enthusiastically described it. Concerned with the situation, the National Council of Teachers of English

recommended a thorough investigation of school libraries and in 1915 the National Education Association appointed a committee for this purpose. Its chairman was Carl Casper Certain.

School Library Standards

In 1918, the Certain Standards, as they have since been known, were adopted as official standards for high school library development by both the National Education Association and the American Library Association. The Certain Standards were:

> the first attempts at codification of acceptable high school library practice to be ratified by three major American associations. They were recommendations only, lacking teeth, but it is a sign of their timeliness and quality that they remained the basis of state and regional standards and accreditation minima for more than twenty years. They may very justifiably be called a landmark in the history of school librarianship. (Beswick, 1970, p. 163)

School library standards, "attempt to suggest an ideal picture as a goal for further development" (Brown, 1985, p. 28). Of the Certain Standards, Mr. Certain stated that they "represented actually a consensus of what, in the minds of high school principals and librarians, the library should mean to the school" (cited in Beswick, 1970, p. 173).

Seven years later, C.C. Certain was chairman of the Report of the Committee on Elementary School Library Standards. Brown (1985) states that:

> Together these two reports lay the foundation for the modern resource centre. They emphasized that the collection would be a multi-media one, that the school library would be an integral part of the school and that the school librarian would be qualified both as a librarian and a teacher. (pp. 30-31)

As stated earlier, The Certain Standards, with modifications, formed the basis of all school library standards for the next two decades. During this time the visual education movement showed continued growth and "technological advances in film and slide quality, radio broadcasting, sound recording, and motion pictures with sound helped foster this growth and served to expand the focus of the movement from visual instruction to audiovisual instruction" (Reiser, 1987, p. 14).

The use of audiovisual materials in many high school programs to support the instructional program placed increasing demands on the high school library to play a more active role than in the past. The literature of the 1930s and 1940s stressed that "school librarians work with teachers and students in selecting and using all types of materials which would contribute to the instructional program. Cooperation between teacher and

librarian in planning and using the learning resources of library and community was the message" (Grazier, 1979, p. 263). American Library Association standards for school libraries began to specify more clearly the role of the school library and the school librarian in this instructional capacity. The post-war period was one of accelerating change and, in the 30 year period from 1945 to 1975, five sets of standards appeared in the United States, each adding to the definition of the role of the school library and school librarian within the school.

In 1945, The Certain Standards were finally replaced by the publication of the American Library Associations new standards entitled School Libraries for Today and Tomorrow. These standards attempted to define the educational purposes of the library by stating: "The school library is an essential element in the school program; the basic purpose of the school library is identical with the basic purpose of the school itself" (p. 9).

The 1945 standards were of immense importance due to the emphasis placed on the cooperative relationship between classroom teacher and the teacher-librarian. "Unless they plan together the use of materials already available and the selection of materials to be added, the

library cannot function effectively in the educational program" (American Library Association, 1945, p. 11). The document also recognized the importance of the inclusion of audiovisual materials in the school and stated that in order "to serve as an instructional agency ... the library must have a wealth of materials of all kinds -- books, pamphlets, recordings, prints and other audio-visual aids -- organized with the educational needs of the particular school in mind" (American Library Association, 1945, p. 11).

The post-war period saw educators views of audiovisual materials changing and an increase in the audiovisual services offered by school libraries. As Beswick (1971) states "Educators ... had been greatly impressed with wartime experience of the use of audio-visual materials in intensive 'crash' courses, and more and more schools were now adopting the audio-visual approach" (p. 130).

With the introduction of audiovisual materials and the gradual move away from the notion of the school library as a study hall, "the road was being paved for the concept of the school library as an instructional media centre and for a changing instructional role for the school librarian" (Craver 1986, p. 185).

Throughout the post-war period, the literature shows that many leaders in the field were recommending a more active instructional role for the school librarian. "Davis envisioned a librarian who provided course integrated instruction for students in the use of materials centres.... Alhers advocated that principals, teachers, and librarians coordinate their efforts and incorporate library instruction skills into every subject area" (Craver, 1986, p. 184).

In 1956, the American Association of School Librarians (AASL) acknowledged this new concept by publishing an official statement which defined the function of the school library and school librarian as follows:

> The function of an instructional materials centre is to locate, gather, provide and coordinate a school's materials for learning and the equipment required for use of these materials.... trained school librarians must be ready to cooperate with others and themselves serve as coordinators, consultants, and supervisors of instructional materials service. (Cited in Gates, 1968, p. 235)

This statement also defined the role of the school library as a centre for print and non-print instructional materials. It stated:

> The American Association of School Librarians believes that the school library, in addition to doing its vital work of individual reading guidance and development of the school curriculum, should serve the school as a centre

> for instructional materials. Instructional materials include books ... other printed materials, films, recordings, and newer media developed to aid learning. (Cited in Gates, 1968, p. 235)

According to Craver (1986) the official statement of the American Association of School Librarians "invested the changes that were slowly taking place in the literature and in libraries with a degree of certainty. They endowed the literature and even future research studies with a framework of acknowledged reality" (p. 185).

It was however the launching of Sputnik one year later that served as "the catalyst that halted America's complacency and expedited the educational process" (Craver, 1986, p. 183). As Pratt (1980) states:

> The public composure of education was shattered on October 4, 1957, when the Soviet Union successfully launched Sputnik, the world's first artificial satellite. For the first time, the American people could not escape the conclusion that another country - and not just any country, but the USSR - had achieved at least a temporary advantage in one area of technology. (p. 35)

Realizing that their knowledge was in some way deficient, America began to demand excellence in all aspects of the educational endeavour. Federal funding was made available through the National Defense Act of 1958 for the purchase of instructional materials which helped

contribute to the concept of the school library as a resource centre and not just a depository of books.

At the close of the decade, "schools began to focus on learning rather than teaching, and on curriculum methods that permitted a broader instructional role for the school librarian" (Craver, 1986, p. 183).

The 1960s began with the publication by the American Library Association of Standards for School Library Programs which Davies (1979) viewed as "The single most important document in the history of school library development" (p. 38). Beswick (1971) described these standards as "the fullest statement of aims, methods and necessary accommodation, staff and contents that the school library profession ... had till then produced" (p. 132).

The 1960 standards emphasized the necessity of having a school library at all grade levels and state it quite forcefully as follows:

> Whatever form the soul-searching regarding the education of youth may take, sooner or later it has to reckon with the adequacy of the library resources in the schools. Any of the recommendations for the improvement of schools, currently receiving so much stress and attention, can be fully achieved only when the school has the full complement of library resources, personnel and services. (American Association of School Librarians, 1960, p. 3)

With the publication of the 1960 standards "American school libraries really came into their own as multi-media centres" (Beswick, 1977, p. 64). More than merely quantitative, the 1960 standards developed and expressed a total rationale for the new type of service the school library was to support.

> Services, not words, portray the image of the school library. The school library is a materials centre, an instructional materials centre, an instructional resource centre ... In like manner the school librarian is a materials specialist or an instructional resources consultant.... For the school library, through books, films, recordings, and other materials, goes beyond the requirements of the instructional program, and unfolds for the many private quests of children and young people the imagination of mankind. (American Association of School Librarians, 1960, p. 13)

The role of personnel at the state, board, and school building level were defined as well. The notion of the school librarian working cooperatively with the classroom teacher was stressed.

> Successful school library programs represent co-operative enterprises involving the efforts of many people.... The development and growth of a dynamic library program is possible only when teachers and librarians work together in formulating library policies, in selecting library material, ... and in enriching classroom instruction through the effective use of library resources. (American Association of School Librarians, 1960, pp. 29 & 65)

In general the 1960 standards recommended an overall plan of instruction in which the use of materials is

fully integrated with classroom work. This could only be accomplished if indeed there was cooperation between the school librarian and the classroom teacher.

Throughout the 1960s support for the concept of the school library as an instructional materials centre essential to the education of all children continued to grow. It was the decade of the Knapp Libraries project where funds were poured into several demonstration schools in order to demonstrate "The educational value of school library programs, services, and resources which fully meet the national standards for school libraries" (Sullivan, 1968, p. 6). The decade also saw the Elementary and Secondary Education Act of 1965 being passed which provided federal grants for the development of school libraries. "Bomar (1966) saw this act as an historic event, reflecting a belief by the President of the United States and the Congress that every child should have access to a good school library" (Cited in Brown, 1985, p. 40).

The changes occurring in education as a result of the curriculum projects funded by the National Defense Act of 1958, the increased availability of funds for the purchase of materials other than texts, and the fact that more children were attending school for longer periods of

time had a definite impact on the instructional role of the school librarian. According to Craver (1986):

> The school's new emphasis on "diversified learning materials - both printed and nonprinted - for all subjects and levels of ability" finally brought to school-librarians the opportunity for the greater instructional role that had been described by Berger, Davies, Hunt, Henne and Maher in the 1950s. (p. 185)

A review of the literature published in the early 1960s shows that the instructional role of the school librarian was changing from passive to active. Grazier (1960) saw the librarians' role in library instruction as being solidly based upon course integrated instruction; Ellsworth and Wagener (1963) recommended that librarians serve as members of teams and meet with teachers to evaluate instructional programs.

The change from passive to active was most strikingly portrayed in a position paper prepared for the Division of Audio-Visual Instruction (DAVI) of the National Education Association (NEA) in the United States.

> The role of the media professional in education is changing from that of a keeper and dispenser of teaching aids to that of an analyst and designer of instructional systems who must be centrally involved in the planning of learning environments and in providing for related support functions and evaluative procedures. (Norberg, Meierhenry, Ely, Kemp, & Hyer, 1967, p. 1027)

The DAVI had described the role of the media professional in education in such new terms that "its descriptive standard continued to be employed in the seventies and eighties" (Craver, 1986, p. 186).

The decade ended with Standards for School Media Programs, published jointly by the American Association of School Librarians and the Division of Audio-Visual Instruction in 1969. Beswick (1977) described these standards as "embodying what was undoubtedly the most advanced and breathtaking model of the role of the school library media centre that had ever received official imprimatur" (p. 64).

The 1969 standards were noteworthy not only as a cooperative venture, but also "for their urging of a unified library/audiovisual effort, newly labelled the 'media program'" (Grazier, 1979, p. 264).

The 1969 standards recognized the "new emphasis on individualization, inquiry and independent learning, and described the media centre and its staff as supporting, complementing, and expanding the work of the classroom" (Grazier, 1979, p. 264). It saw the library or media-centre as a "fundamental part of [the] ... educational process" (Brown, 1985, p. 44), serving as a resource for learning and a resource for teaching. As

such there must be an ongoing partnership existing between teachers and media specialists.

While similar in many ways to the 1960 standards, the 1969 standards expanded the instructional role of the media specialist. As Grazier (1979) states "Specific responsibilities of the media specialist working with teachers matched those of the 1960 standards, with the addition of designing learning activities and instructional materials" (p. 264). Such changes, according to Grazier (1979) "reflected DAVI's growing concern with instructional development" (p. 264).

According to Craver (1986) "The instructional changes mirrored in the 1969 standards and in literature of the sixties were unfortunately not reflected in the actual practice of school librarianship. But change did appear to occur more rapidly ... than during the 1950s" (p. 187).

The period following the publication of the 1969 standards saw the librarian's role in relation to instructional development become the main focus of research studies and the professional literature. "The first nationwide study, conducted by Lacock, found that both teachers and librarians agreed that the media specialist's role should include involvement in

instructional design, development, and consultation" (Craver, 1986, p. 188). While studies such as this showed that teachers and the teacher-librarians believed in such a role for the media specialist, the majority of studies conducted showed that a disparity existed between the perceived instructional role of the teacher-librarian and the actual role. Almost all the research studies and literature published, however, indicated "an almost obsessive concern by school librarians to prove their instructional worth as teachers" (Baker, 1979, p. 456).

As a result of such research studies and other reports and recommendations published in the early 1970s concerning the instructional role of the school library, it became apparent that the 1969 standards had not discussed the issue sufficiently.

In 1975 the American Association of School Librarians and the Association for Educational Communications and Technology (formerly the DAVI) published a joint set of standards entitled Media Programs: District and School in response to the problem. These standards were basically a revision of the 1969 ones, but "served to elevate the instructional role of the media specialist, and it delineated the requirements for that role" (Craver, 1986, p. 189).

> The activities of the media program were grouped into four categories - design, consultation, information, and administration.... These activities appeared in no special order and repeated many listed in the 1960 and 1969 standards but added was the responsibility of the media specialist to initiate instructional design and development. (Grazier, 1979, p. 265)

As a result of these standards, media specialists "were provided with an official interpretation of the instructional role they were to play within the educational framework of the school" (Craver, 1986, p. 189).

> These standards reflected the influence of a systems approach to media services ... and advocated the importance of the planning process to determine the needs of individual media programs.... Media Programs stressed the library media specialist's involvement with classroom teachers in the instructional design process. Through these standards, the role of the media program changed from a support service to an integral part of the total instructional program of the school. (American Association of School Librarians & Association for Educational Communications and Technology, 1988, p. vii)

Craver (1986) states: "By the end of the seventies, the school media specialist's instructional role had evolved in the literature as one of prominence" (p. 189), yet in reality libraries were still trying to come to grips with the issue of structuring in an educational setting that had not changed greatly over the previous decades.

Throughout the 1980s the instructional design role of the school library media specialist has continued to pervade the literature. In 1982 the Wilson Library Bulletin devoted an entire issue to examining the school library media centre's past and future. Although the terms and process were not new to the 1980s, "This article advanced instructional development by producing a well formulated taxonomy" (Craver, 1986, p. 189).

While introduced as an officially sanctioned activity by the 1975 standards, instructional development is still far from a practiced reality today.

In light of the significant changes that have occurred in education during this decade and the effect of the information explosion, as well as technological advances such as the computer, the American Association of School Librarians, in conjunction with the Association for Educational Communications and Technology published Information Power: Guidelines for School Library Media Programs in 1988. This document offers "guidelines for developing the school library media programs needed to prepare students for personal success in the next century" (American Association of School Librarians & Association for Educational Communications and Technology, 1988, p. ix).

The primary focus of these guidelines is the school-level library-media specialist, for each school has its own unique needs depending upon the curriculum offered. Information Power is based on the premise that "teachers, principals, and library media specialists must form a partnership and plan together to design and implement the program that best matches the instructional needs of the school" (American Association of School Librarians & Association for Educational Communications and Technology, 1988, p. x).

This document provides numerous quantitative recommendations for school library media programs, however, "Promoting effective physical access to information resources and intellectual access to the content is the central unifying concept of these guidelines" (American Association of School Librarians & Association for Educational Communications and Technology, 1988, p. x).

Information Power "provides the vision and guidance necessary for the school library media program to significantly expand the access to and use of information and ideas by students, teachers, and parents" (American Association of School Librarians & Association for Educational Communications and Technology, 1988, p. vii).

The Development of School Libraries in Canada

Early Beginnings

Although it was not until the 1960s that the need for distinctively Canadian standards was recognized in Canada, the school library in Canada was not conceived in the 1960s. As Scott (1972) states: "In 1939 every school in Vancouver had a library, a teacher-librarian and central ordering and processing services provided by the public library. Most secondary schools were improving their libraries in the 1950s" (p. 118).

Scott (1972) further states, however, that until the 1960s the "vast majority of our elementary schools did not have libraries - only some books in each classroom - and most secondary school libraries had inadequate collections and lacked qualified staff" (p. 118).

Until the 1960s, "the criteria used in Canadian schools regarding the provision of learning materials were imported, typically, from the United States" (Branscombe, 1986, p. 19). Such standards as the 1945 School Libraries for Today and Tomorrow and the 1960s Standards for School Library Programs were used as the basis for Canadian library programs.

By the early 1960s, "Not only for reasons of national pride but also because of significant differences between educational goals and practices in Canada and the United States, there was a need for distinctively Canadian standards" (Branscombe, 1986, p. 19).

School Library Standards

The need for distinctive Canadian standards was recognized by the newly formed Canadian School Library Association at its first annual meeting held in Ottawa in 1962. A standards committee was appointed and in 1967 Standards of Library Service for Canadian Schools was published. According to Branscombe (1986):

> The publication of the C.S.L.A. Standards was a notable achievement. It was the first Canadian standards for the provision of learning materials in schools. It was a pioneer, too, in recognizing that books were not the only materials that should be available to teachers and learners. (p. 19)

While the 1967 standards reflected the trends of the school library movement in the United States, the Association "endeavoured to present an outlook for the purpose and organization of school libraries from a Canadian perspective" (Sharpe, 1987, p. 28).

The 1967 standards saw the school library as a vital part of the school's educational program. The library was described as a "Coordination of informational and enrichment services for a specific community (i.e. staff and students) utilizing organized material in all forms through the direction and guidance of professionally trained personnel" (Canadian School Library Association, 1967, p. 1). It further states that "the unique role of the school library is to serve the instructional needs of a limited clientele - students and teachers" (Canadian School Library Association, 1967, p. 5).

As with the American standards, the notion of cooperation on the part of all those involved was stressed. "The librarian, as an instructional materials resource person, works with students, instructional staff, administration, parents, and community agencies to produce a library programme" (Canadian School Library Association, 1967, p. 3). The teacher "cooperates with the librarian in planning for use of library resources in the instructional programme" (Canadian School Library Association, 1967, p. 49).

The Canadian School Library Association standards were welcomed by the Canadian Audio-Visual Association who "applauded the recognition of the universality of

needed materials, without distinction as to format or medium" (Branscombe, 1986, p. 19), but they were disappointed over the "inadequate recognition of the need for local production of non-print materials" (Branscombe, 1986, p. 19).

In 1969 a second set of standards entitled Media Canada: Guidelines for Educators was published by the Educational Media Association of Canada. In its preface it is stated that:

> This work represents a first attempt to set down national guidelines and specifications for Canada in the very complex field of instructional media.... These guidelines are designed to assist teachers, principals, administrators, and trustees in setting goals for the implementation of an educational media programme. (Educational Media Association of Canada, 1969, unpaged)

By the close of the decade Canada had two sets of standards to guide the use of resources in the instructional process. Of the two, Branscombe (1986) states that:

> Together, the C.S.L.A. Standards and E.M.A.C.'s Media Canada provided much more reliable guidance than either volume did on its own. Both books had areas of outstanding value, resulting from the particular professional competencies of those who produced them. Unfortunately, each book had blind spots reflecting the specific training, experience and interest of its authors. (p. 20)

In comparing the two Branscombe (1986) sees the following differences:

1. The C.S.L.A. Standards was progressive in its advocacy of the unification of print and non-print collections and programs, whereas Media Canada appeared to champion the already outmoded concept of complete separation.

2. The C.S.L.A. Standards gave little or no leadership relative to materials production, whereas Media Canada provided recommendations covering every conceivable eventuality.

3. Media Canada was mute concerning how to classify, catalogue, and arrange non-print materials so as to facilitate their effective use, whereas these were areas of particular strength in the C.S.L.A. Standards. (p. 20)

Even though Canada now had both quantitative and qualitative standards to guide them in the provision of school library services, not all schools in Canada measured up to these standards. Scott (1972) describes the actual situation at the beginning of the 1970s.

> Few school libraries in Canada - not more than five per cent - meet CSLA standards for the personnel, materials, and facilities necessary to develop good, not superior, services. Many came close to reaching minimum standards for collection, but not for facilities or personnel. (p. 125)

Regarding the school librarian's role at the beginning of the 1970s, Haycock (1972) wrote:

> School librarians are gradually shedding the image of book custodian (or worse) and beginnirg to take a positive role in the

> professional development of school curricula. It is now accepted as good educational practice to have school libraries. But for some reason, the need for school librarians ... has not been justified beyond the 'progressive extra' stage. (p. 36)

The 1967 standards had stressed the notion of cooperation between all those involved in the teaching-learning process, and although it was a rarity at the beginning of the 1970s that school librarians selected content or defined goals cooperatively with teachers, Haycock (1972) foresaw a new role for the teacher-librarian in this regard. He states that:

> Resources Teachers are (or should be) advancing from only promoting the use of materials to cooperative planning of teaching units and actual curriculum development.... This particular role of the teacher-librarian should be emphasized and demonstrated more than it is today. (p. 36)

In 1977, Canada followed the example of the United States and published a joint set of standards replacing those previously published by the Educational Media Association of Canada and the Canadian School Library Association. The standards entitled Resource Services for Canadian Schools combined the best elements of these previous publications.

The 1977 standards stated that "it is no longer possible for the self-contained classroom to provide adequate learning experiences geared to individual

students' needs" (Branscombe and Newson, 1977, p. 3). It recognized that "schools which emphasize the development of increasingly independent students through resource-based learning and various modes of inquiry" (Haycock, 1982b, p. 244) will require "students and teachers to have access to a large volume of resources of many kinds" (Branscombe and Newson 1977, p. 3).

The 1977 standards reaffirmed the belief that in order to provide quality programs which are resource-based, it is imperative that classroom teachers and learning resource teachers cooperate in the planning and implementation of learning experiences for students. Branscombe and Newson (1977) state:

> Directing learning experiences which actively involve students is a much more complex and demanding method of teaching than that which existed when teachers had only to impart knowledge which students passively learned. The job of teaching today is necessarily a co-operative one. Classroom teachers and learning resource teachers work together planning and directing activities which involve students in the use, or production, of a wide range of resources. (p. 33)

Resource-Based Teaching And Learning

Introduction

Throughout the development of school libraries there has been a sense of continuity. Beswick (1977) notes:

> There have been, and are, scholar-librarians of the old school, webbed to the codex format and to classical culture, but for most librarians their profession is a management exercise and a service among people: on the one hand, the wealth of recorded information and its producers (authors, editors, directors, photographers, researchers) and on the other hand, the readership and audience, the people needing access not only to the items stored but to their subject contents. The task is to devise an organization that gives the greatest and most flexible access to the items and their contents, in a manner that takes note of the needs and the habits of the clientele.... There is a sense in which this task has remained the same since libraries began. (pp. 61-62)

Since the Certain Report of 1918, all standards published in both the United States and Canada have focused on the way to perform this task. They have all expressed the idea that the school library must be an integral part of the instructional program of the school. Loertscher (1982) states that:

> The idea of a school library as a repository for books serving as a supplement to children's education was challenged in the years that followed the Second World War. This challenge came from some great revolutionaries in the library and audiovisual fields who had a vision of what audiovisual materials, equipment and printed media could do for American education. They saw that all these media could have centre

> stage in the educational process rather than a supplementary role, and they agreed that the child would be richer educationally for this new experience. (p. 415)

Over the years, "The concept of the school library has expanded to cope with the increasing number of formats used to record information and to meet the requirements of the curriculum" (Brown, 1985, p. 51). The standards have reflected this change by their inclusion of media in all forms as part of the school library collection. The move from reliance on a single text and a chalk board to a much more complex concept whereby knowledge is sought in many forms has made this change imperative.

The approach to teaching and learning which the standards have been advocating is known today as resource-based teaching and learning. The term 'resource-based' is commonly applied to teaching and learning today, but as Brown (1988a) states: "Although used by many it is understood by few" (p. 1).

To trace the origin of the term 'resource-based', it is necessary to examine the work of two British educators, L.C.Taylor and Norman Beswick.

In 1971, L.C. Taylor wrote Resources for Learning in which he introduced the term "resource-based learning". Taylor created two main categories of learning:

teaching-based and resource-based. In both categories "the teacher is essential. What distinguishes one system from the other is where the burden of instruction should rest, and the relationship which should exist between the learner and the learning environment" (Brown, 1988a, p. 1)

Taylor sets these two categories up as extremes and he suggests that we think of them as along a continuum. At one end there is the teaching-based system "in which everything is arranged to permit children to catch the perishable words that fall from a teacher's lips--books and other materials having an intermittent, ancillary role" (Taylor, 1971, p. 173). It is this system of 'being told' which has been emphasized in the past and which has led to the system of schooling we find extensively in use today.

At the other end of the continuum we have the resource-based system "in which children learn chiefly from materials, or from one another, directly or independently -- the interpretation of the teacher having an intermittent if vital role" (Taylor, 1971, p. 174). There is an "active, personal interaction with people and things" (Taylor, 1971, p. 233) on the part of the learner rather than simply being told.

Norman Beswick (1977) also discusses the meaning of resource-based learning. In the preface of his book Resource-Based Learning he states:

> 'Resource-based learning' is a term with a variety of meanings.... Some people use the term to mean learning that is closely sequenced, teacher-directed and programmed; others use it for very open-ended work based on enquiry and discovery techniques, with a considerable element of student choice. As a blanket term, 'resource-based learning' thus covers a wide spectrum of possibilities and modes, according to the temperament and professional decision of the teacher and the circumstances of the subject matter, class and school. (p. ix)

Resource-based learning is not "a substitute for all that has been traditionally offered. The teacher is not replaced, but given a further strategy to employ" (Beswick, 1977, p. ix), so that they can provide a variety of learning experiences that appeal to different learning styles. It attempts to individualize instruction as much as possible.

The textbook and the teaching-based expository lesson will still exist, but in addition resource-based learning will provide:

> sessions when the student is placed in direct confrontation with a variety of information sources, print form, audio-visual and three-dimensional, in small groups or on his own, in a situation which requires his active involvement and which can to a greater or lesser extent be tailored to meet his individual needs. (Beswick, 1977, p. 46)

While the term "resource-based" covers a wide range of possibilities for the teacher, Beswick (1977) points out that there are certain assumptions about resource-based learning that are essential to all variants:

> The assumption that the student will learn from his own direct confrontation, individually or in a group, with a learning resource or a set of resources, and activities connected with them, rather than from conventional exposition by the teacher. He may work in a classroom, in a laboratory, in a library, in a separate 'resource area', or outside the school altogether, exploring the environment with some particular task or problem in mind. In all cases he will be active, whether proceeding through a series of planned steps or making his own decisions in a problem-solving predicament. (p. ix)

Canada

In Canada, curriculum developers and all those who believe that we must "equip students to function effectively in a rapidly changing resource rich, technological world" (Fennell, 1983, p. 62), are concerned with what we should be teaching students to prepare them for the twenty first century.

Educators have come to the realization that the textbook is no longer enough. Students need to learn how to access information and learn how to select, evaluate, and use that information. As a result, curriculum

developers are emphasizing a variety of approaches, all of which are variations of the approach known as resource-based teaching and learning.

The Ontario Ministry of Education was the first Canadian province to make use of the term 'resource-based learning'. In a curriculum guideline entitled Partners in Action: The Library Resource Centre in the School Curriculum (1982), they provide what has become a widely accepted definition of this approach:

> Resource-based learning refers to planned educational programs that actively involve students in the meaningful use of a wide range of appropriate print, non-print, and human resources. Such programs are designed to provide students with alternative learning activities; the selection of activities and learning resources, the location of the activities, and the expectations for a particular student depend on the objectives established for that student. (p. 6)

Henri (1987) argues that "The resource-based approach to teaching and learning is ideal because it provides the players in the education game with a wide range of choices" (p. 10). According to Partners in Action (1982), educational programs which involve the use of a wide variety of resources to satisfy curriculum objectives can:

1. provide for individual differences in rate and style of learning;
2. maximize opportunities for exceptional students;

3. provide opportunities for creativity;

4. communicate factual content and enhance the learning of facts and concepts through oral, pictorial, and written clues;

5. motivate students to acquire the skills required for independent and life-long learning;

6. familiarize students with the use of modern technology as a learning tool;

7. provide a link between the classroom and the outside world;

8. develop the learner's self-confidence, independence, and feelings of self-worth;

9. help students appreciate and enjoy various forms of artistic expression such as music, literature and film. (Ontario Ministry of Education, 1982, p. 8)

Another Canadian document, which shares the belief that resource-based teaching and learning is crucial to the achievement of the goals of public education has been produced by Saskatchewan in 1986 entitled The 4th R: Resource Based Learning. This document states:

> The Goals of Education affirm Saskatchewan's commitment to meeting the needs of the individual learner.... Resource-based learning is an important means by which these individual needs can be met. Resource-based learning encourages students to be active learners and to become involved with a wide variety of learning materials. (Saskatchewan Teachers' Federation, 1986, p. 3)

The concerns and philosophy expressed by the Ontario Ministry of Education (1982) in the document Partners in Action and by the Saskatchewan Teachers' Federation (1986) in the document The 4th R: Resource Based Learning have been echoed in other provincial documents. Focus On Learning: An Integrated Program Model for Alberta School Libraries by Alberta Education (1985) and Fuel For Change: Cooperative Program Planning and Teaching by the British Columbia Teacher-Librarians' Association (1986) have both related the concept of resource-based teaching and learning to the goals and objectives for education in their respective provinces. Manitoba is presently in the process of developing guidelines for school libraries and the committee in charge of developing these guidelines is, as Traill (1986) states, "mindful of the work of those who have preceded. Other provincial documents, Partners in Action (Ontario) and Focus on Learning (Alberta) have both helped to set the stage for Manitoba and have provided discussion papers for the development of policy appropriate to Manitoba's situation" (p. 5).

Newfoundland

The Newfoundland Department of Education does not have a document which outlines the province's philosophy regarding resource-based teaching and learning, but during the past year a committee has been working toward the development of a provincial policy on resource-based learning and school libraries.

The Educational Media Council in Newfoundland has written a document entitled Learning to Learn: Standards for Library Resource Centres in Newfoundland and Labrador (1987) which provides guidelines and recommendations for library resource centre programs. As with other Canadian provinces, they recommend a resource-based approach.

> Today's students are products of an ever changing, highly technological society. Education, as an instrument of that society must provide students with the capabilities to become active, thinking, contributing citizens. It is no longer sufficient to acquire a body of knowledge and expect it to fulfil the future's needs. In an era of 'knowledge explosion' students must 'learn how to learn'. It is only through planned learning experiences using a wide variety of resources that students can develop the necessary skills to retrieve the information they will need. (p. 3)

The provincial Department of Education has, in the absence of a written policy statement, "endorsed a method of instruction that is resource-based, and requires the presence of a multiplicity of resources if instructional

goals are to be met" (Educational Media Leadership Group, 1986, p. 3). Through curriculum guides, course descriptions, authorized texts and teachers guides the Department of Education has made it clear that it supports, and in fact advocates, a resource-based approach.

The Newfoundland Department of Education's Program of Studies (1988-1989) outlines the courses to be taught at each grade level and the texts to be used. In the introductory pages it states:

> While the course text is the principal resource in the educational process, there is a need for additional resources; to enrich learning experiences, to accommodate various learning styles, and to encourage a variety of instructional approaches. These additional resources can best be provided by a properly functioning school library. (p. ix)

Teachers are expected to use the text but it is recognized as only one of many resources available to them.

The use of an integrated thematic approach which will allow for individual differences is widely recommended in provincial curriculum guides and authorized texts. The draft Primary Curriculum Guide (1988) indicates that individual differences require different approaches and techniques. It states:

> The individual differences of children must be accepted by the primary teacher. To expect

> children to be the same or to make equal progress is unreasonable. Progress should be viewed in individual gains over time.... The individual differences of children will be taken into account by the use of different instructional techniques and strategies to accomplish the aims, and by recognizing and accepting that children will achieve the aims to differing degrees. (Newfoundland Department of Education, 1988, pp. 6-8)

The social studies program emphasizes the need for resources at all levels. The Teachers Resource Book for Social Studies K-II (1982) explains that:

> Teachers, principals and program coordinators should discuss the resource list supplied for each grade. These resources include materials for the classroom library; .... audio-visual materials; pictures and study prints; kits; puzzles; games and other manipulative aids. Theme teaching is resource-based teaching. It opens the way, through the use of many resources, to an interdisciplinary approach to instruction. (Newfoundland Department of Education, 1982, p. ii)

The Language Arts program, Networks, used in Grades 4, 5, and 6 also recognizes the need for an integrated thematic approach in which a rich collection of resources is necessary. It states that the material is organized "within a thematic framework that allows children to bring much of their real world knowledge to reading and writing, and to extend themselves through a rich variety of integrated experiences" (McInnes, 1985, p. 12). Within this program themes are used as a "means to stimulate interest, motivate students, and through the use of many

resources, create a 'supportive language environment'" (Brown, 1986, p. 10).

Resource-based teaching and learning is also recommended in the junior and senior high school program. Specific courses (as well as provincial guides) are stressing the use of resources in an attempt to "break down the structure imposed by the teaching-based system" (Brown, 1988a, p. 7).

The Cultural Heritage 1200 text and guide entitled Our Newfoundland and Labrador Cultural Heritage by Keith Matthews et al, outlines the following emphasis:

> We have thus assumed that this text will be used as a guide and a source book, and that the student and teacher will go beyond the textual material, and try to involve the learner in experiencing some of the many rich and varied aspects of culture that is with us no matter where we live in Newfoundland and Labrador.... this course taught simply as an historical overview of Newfoundland and Labrador will fail. (p. vi)

The primary program, the elementary language arts program and courses such as Newfoundland Culture at the high school level,

> are but specific examples of a resource-based approach to learning that has been proposed by various curriculum committees and adopted and articulated by the Department of Education in its course outlines, in-service and expectations for student evaluation. (Educational Media Leadership Group, 1986, pp. 8-9)

At all levels and in all areas the resource-based approach has been endorsed. It is the direction in which the Department of Education wishes teachers to move.

Summary

The move towards resource-based teaching and learning is taking place all across the country. Four provinces, British Columbia, Alberta, Saskatchewan, and Ontario have all produced provincial documents that relate resource-based teaching and learning to the goals and objectives for education in their provinces. Newfoundland's curriculum guides and authorized texts reflect this belief also and "encourage teachers to use a large quantity of carefully selected educational resources" (Brown, 1987, p. 2).

All four of the provincial documents see "an increased role for the school library resource centre as the most efficient way to implement the current curriculum and support resource-based teaching methods in the classroom" (Brown, 1987, p. 4).

It is true that to effectively implement resource-based programs requires "access to a wide variety of print and non-print learning resources that have been carefully selected with the educational needs

of the school program in mind" (Ontario Ministry of Education, 1982, p. 9), yet the use of learning resources may or may not indicate resource-based learning.

Resource-based teaching and learning attempts "to bring to our pupils and students a range of learning experiences that will genuinely match their personal needs as well as match the pressures that bear in on us from outside" (Beswick, 1977, p. 4). The availability of resources is not enough to successfully implement such a resource-based program. It is essential that all those involved in the educational process cooperate with one another in the provision of instruction. As Beswick (1977) points out, "Resource-based learning implies the interaction of co-operating people" (p. 242). It is especially important that the learning resource teacher and the classroom teacher forge a partnership, for as Beswick (1977) states:

> Because of the interlocking contributions of different people with different skills, it is impossible any longer to separate off and say 'This is only your concern and this is only mine.' A teacher cannot plan for resource-based work without an understanding of his colleagues acting in the media production and media library modes; equally, neither of them can proceed meaningfully without an understanding of the teacher's purposes and practices and those of each other. (p. 242)

Cooperative Program Planning and Teaching

In Canada, those struggling to implement resource-based teaching and learning refer to cooperation and partnership between the teacher-librarian and the teacher as cooperative program planning and teaching.

The term 'cooperative program planning and teaching' was first coined by Ken Haycock in 1978 based on several years of research and professional experience in teacher librarianship. According to K. Haycock (1988) cooperative program planning and teaching refers to:

> The essential role of the teacher-librarian in planning units of study with classroom teachers to integrate those skills and processes necessary to develop students committed to informed decision making, cultural and literary appreciation and lifelong learning. (p. 34)

Cooperative program planning and teaching is "a concept ... a strategy or approach to teaching and learning. The term does not constitute a 'set' program of instruction" (C. A. Haycock, 1988, p. 29).

For the teacher-librarian cooperative program planning and teaching provides "a philosophical framework for the development and implementation of resource-based programs which reflect what we know about how students learn" (C. A. Haycock, 1988, p. 29). For the teacher it

is "one more strategy or approach to be added to their teaching repertoire" (C. A. Haycock, 1988, p. 29).

The purpose of cooperative program planning and teaching is "to develop learning experiences or units of study that effectively integrate the students resource centre activities (whether literature or research-based) with other learning experiences" (C. A. Haycock, 1988, p. 29).

Partners in Action states that the purpose of cooperative program planning and teaching is to ensure that:

1. the teacher-librarian knows the purpose and objectives of student assignments in order to be able to assist students and to interpret student questions and requests;

2. the learning skills that students are likely to need are identified so that new skills can be taught and other skills reinforced;

3. the classroom teacher's subject expertise and knowledge about the students are combined with the teacher-librarian's specialized knowledge of the availability and use of learning materials;

4. evaluation techniques are developed that examine not only the learning outcomes but also the effectiveness of the process;

5. the teacher-librarian is part of the instructional team. (Ontario Ministry of Education, 1982, p. 25)

Traditionally, the teacher-librarian has not been closely linked with the classroom. Involvement came only when the teacher needed information and resources for an assignment already given. Cooperative program planning and teaching "moves the involvement of the teacher-librarian back to the objectives stage, where the focus is on what students are to learn" (C. A. Haycock, 1988, p. 30).

Based on involvement at the objectives stage, Haycock (1981) summarizes the process involved in cooperative program planning and teaching as follows:

> the teacher-librarian joins with the classroom teacher to form a horizontal team of two equals working toward established objectives. This dyad cooperatively plans what is to be done and the most effective way to accomplish the task. The classroom teacher and the teacher-librarian each bring different backgrounds and strengths in teaching, but they do understand the potential of various approaches to learning and recognize common goals. (p. 5)

By moving involvement back to planning with the teacher at the objective stage, cooperative program planning and teaching permits teacher-librarians to assist teachers in the accomplishment of their objectives, because not only does the teacher-librarian know what the objectives are, he/she has had a role in helping establish them.

What each partner brings to the cooperative planning process is described in Partners in Action.

> Teachers bring to the school partnership special knowledge of the abilities, learning styles, and educational needs of individual students; subject expertise; and knowledge of curriculum goals and objectives.... Teachers can expect the teacher-librarian to bring to the partnership knowledge and experience as a classroom teacher and specialized training in the identification, selection, and use of a wide range of learning resources. (Ontario Ministry of Education, 1982, p. 23)

The concept of cooperative program planning and teaching just outlined has as its main focus, the cooperative partnership of all those involved in the educational enterprise. All four of the documents produced in Canada in recent years have emphasized the necessity of such an approach. Partners in Action (Ontario Ministry of Education, 1982) was the earliest and its philosophy has greatly influenced all those succeeding it.

Partners in Action emphasizes that in order to create a resource based program in a school, the cooperation of all participants in the educational setting is required, for the principal, the teacher, and the teacher-librarian all "share a common bond in that they are all teachers who have a commitment to provide

successful learning experiences for students" (Ontario Ministry of Education, 1982, p. 9).

If indeed, these people are to forge a partnership and effectively implement resource-based learning using a cooperative program planning and teaching approach, each will have to be aware of and committed to the new roles that such a partnership will entail.

The following sections serve to delineate the new roles that will be required of educators. In so doing it will become apparent that what is required of each in the cooperative program planning process is indeed related to instructional development.

Role of the Teacher-Librarian

The implementation of cooperative program planning and teaching requires a commitment to changing the role of the teacher-librarian from that traditionally espoused.

The traditional role of the teacher-librarian has not been closely linked with classroom instruction and involvement with teachers has been limited. In the traditional role:

> The teacher-librarian helped to provide the classroom teachers with materials that helped facilitate instruction.... The teaching of

> 'library skills' was the domain of the teacher-librarian, and was to be taught in isolated lessons to classes when they were sent down to the library so that the classroom teacher could have a spare period. (Soon, 1985, pp. 157-158)

While this traditional role of the teacher-librarian is still prevalent in most schools, the past decade has seen a call for a change in this role in light of the growing awareness by many in the field that such a role is no longer sufficient due to today's 'knowledge explosion' and 'technological advances'. As a result today we find that uncertainty as to the role of the teacher-librarian does seem to pervade the profession (Turner, 1985; Craver, 1986; and Gallant, 1989). Teacher-librarians are confused and unsure about what they should actually be doing, so they cling to past practices.

Possibly one explanation for such confusion as to purpose can be found in the development of standards which were established to provide guidance in the formulation of resource centre programs. "As each new standard was formulated, the role of the teacher-librarian, and later the library/media specialist, was expanded. As each new area was added, however, there was no corresponding deletion of areas" (Turner, 1985, p. 4).

Conflicting role expectations have caused uncertainty and thus in many cases, teacher-librarians are probably not as effective as they could be in our educational system. Hambleton (1979) confirms this when she states, "When differing perceptions of a role are present, the person performing that role is placed in a conflict position, resulting in a loss of effectiveness, both for the individual and for the organization" (p. 5). Therefore for teacher-librarians to be effective in their work, there is an urgency to clarify the role of the teacher-librarian. While uncertainty still exists, and will no doubt continue to exist for some time, there have been attempts to define the role of the teacher-librarian in the past decade.

"The Canadian School Library Association (CSLA) has provided strong leadership in clarifying the role of the school-librarian" (Haycock, 1982b, p. 242). Recognizing the need to develop individuals who are "prepared to think rationally and logically for themselves and to assume responsibility" (Canadian School Library Association Report, 1980, p. 3), the Canadian School Library Association has seen the need for schools to move away from the traditional teacher-oriented methods and assume a more cooperative approach to teaching and

learning. In the association's Qualifications for School Librarians (1980) policy statement, it is stated that:

> The need today is for the learning resource teacher to be a highly skilled teacher, able to function on the school team as a professional with competencies from teacher education and classroom experience as well as competencies from school librarianship and media services. (Canadian School Library Association Report, 1980, p. 3)

The Canadian School Library Association Report Qualifications for School Librarians defines the role of the teacher-librarian by detailing nine areas of teacher-librarian competency. Competencies 8 and 9 are reproduced below for as Fuel for Change states, "While expertise in all nine areas is necessary to succeed as a teacher-librarian, competencies eight and nine are particularly relevant to the development of a library resource centre program based on cooperative program planning and teaching" (British Columbia Teacher-Librarians' Association, 1986, p. 24).

> Competency 8: Cooperative Program Planning and Teaching
>
> Cooperative program planning and teaching include the ability to participate as a teaching partner in the accomplishment of identified learning objectives through a knowledge of recommended resources and appropriate teaching/learning strategies.
>
> Competency 9: Professionalism and Leadership
>
> Professionalism and leadership include the ability to develop and promote the use of human

> and material resources of the school resource centre and its facilities through cooperative professional activities. (Canadian School Library Association Report, 1980, p. 6)

According to Haycock (1982a) the area of competency most important is that of cooperative program planning and teaching. He states:

> The single most important role of the teacher-librarian is cooperative program planning and teaching with classroom teachers. This major shift for the teacher-librarian from determining what the student is to do, to cooperatively determining what the student is to learn, has resulted in the teacher becoming the primary focus. Cooperative planning and team teaching not only provide better opportunities for purposeful use of the library resources and the integration of media research and study skills with classroom instruction, but also provide better opportunities for classroom teachers and administrators to learn first hand the role of the teacher-librarian as a teaching partner, something quite different from a teaching adjunct. (p. 5)

All four provincial documents produced in Canada have also defined the role of the teacher-librarian in terms of cooperative program planning and teaching.

Thus while the traditional tasks of cataloguing, classification, storytelling, and selection have a place among the responsibilities of the teacher-librarian, it is a much smaller place because cooperative program planning and teaching is now the most important service offered by the resource centre. In fact, as Haycock (1982b) suggests "other services such as story-telling

and reading aloud may have to be shifted to classroom teachers following workshops and in-service programs to assist them to undertake these areas" (p. 243). Managerial tasks such as shelving, repairing, etc. can be taken over by parent volunteers. Thus the teacher-librarian is freed from the housekeeping chores that take so much time, to work with teachers in developing strong instructional programs.

The continuous expansion of the role of the teacher-librarian to include more tasks, while deleting none, which has occurred during the development of the standards over the past decades cannot continue. If teacher-librarians are to fulfil their primary role effectively, that is cooperative program planning and teaching, then there is a need for a refinement of priorities. The 1980 Canadian School Library Association Report Qualifications for School Librarians and the four provincial documents have attempted to do this.

An important component of the teacher-librarian's role in cooperative program planning and teaching will be to provide assistance to teachers in designing resource-based units. It would be unreasonable to expect classroom teachers alone to implement the types of resource-based programs set forth in curriculum guides.

They must have a strong support system. Branscombe and Newson (1977) expressed this idea quite clearly:

> To expect a classroom teacher to implement an individualized curriculum on his own is to expect the impossible. Every teacher requires the help of a teaching associate, namely a learning resource teacher. The latter, an experienced and creative teacher with specialized knowledge of materials and expertise in their use, collaborates with the classroom teacher in the planning and implementation of learning experiences for students. (p. 11)

In order to fulfil their role in the cooperative program planning and teaching process and provide the support so needed by classroom teachers in developing resource-based units, "Qualified learning resources teachers will have advanced training in instructional development, as well as being experienced teachers" (Brown, 1988a, p. 11).

The need for teacher-librarians to have instructional development competencies has been emphasized not only by American standards but by recent Canadian models and standards as well. Fuel for Change uses a quote from Lucy Ainsley which states:

> School library media specialists are first and foremost educators. We choose a specialized field within education and are teachers.... Thus we must know a good deal about learning styles, instructional design, and sound teaching strategies as well as management of people and resources. (British Columbia Teacher-librarians' Association, 1986, p. 4)

It was not until the early part of this decade that reference was made to the role of the teacher-librarian in terms of instructional development. Although the term instructional development and the process involved were nearly 20 years old by the early 1980s, it was David Loertscher's article in the 1982 issue of Wilson Library Bulletin which did much to advance the notion of the instructional development function in the role of the teacher-librarian.

Loertscher (1982) defined instructional development as "a systematic process of creating sound instructional modules or units for learners by a team of professionals that includes a teacher and a person knowledgeable in educational technology" (p. 417).

Loertscher developed a taxonomy of school librarianship which offers eleven successive levels of involvement by the teacher-librarian. Levels nine to eleven of the taxonomy go beyond the traditional role of the teacher-librarian to what becomes a cooperative partnership.

> Formal planning for the unit begins far in advance and will require a number of preparatory planning sessions .... The teachers view the library media specialist ... as an equal partner - a partner with specialized types of skills to contribute to the unit. The library media specialist works with teachers to create the objectives of the unit, assembles materials, understands unit content, and

> participates in the instructional process. (Loertscher, 1982, p. 420)

From this description of levels nine and eleven - the instructional design levels - one can see immediately that Loertscher is describing the same approach that Ken Haycock refers to as cooperative program planning and teaching. The objective is the same - to cooperatively plan, develop, and evaluate instructional units which take into account the individual needs of students. In attempting to fulfil this role, the teacher-librarian needs to use a realistic approach. Instructional development has been recognized for two decades as the real world application of theories of learning and instruction to curriculum implementation at the district, school, and classroom levels, therefore teacher-librarians implementing a cooperative planning and teaching approach need to be conversant with the knowledge and skills of instructional development.

Role of the Teacher

> Good teaching is recognized as the successful matching of individual learners of varied abilities with experiences most likely to effect in them desired changes in thinking and behaviour. Learning has replaced teaching as the centre of instructional planning. Planning and directing learning experiences are now

> central to the teaching role. (Branscombe and Newson, 1977, p. 1)

This philosophy of teaching places greater demands on today's classroom teachers than were placed on teachers a number of years ago. "With less emphasis on a single text and more emphasis on an individualized approach, classroom teachers are expected to develop learning experiences based on each student's abilities, interests, and needs" (Kennedy and Brown, 1987, p. 6). Teachers are being encouraged to select from a wide variety of resources and to work closely with the learning resource teacher to develop instructional units. Resource-based teaching and learning has been hailed as the means by which educators can meet the needs of today's students and it is being recommended in curriculum guides from Kindergarten to senior high.

If teachers are to implement a resource-based approach and discard the traditional teaching-based system, they will be confronted by major changes in how they perceive their role in the classroom.

Romiszowski (1984) describes the traditional role of the classroom teacher as follows:

> The teacher in the 'traditional' teaching situation (whatever that is) supplements his presentation with visual aids, refers the learners to textbooks and sets reading assignments, etc. However, he remains the principal medium of instruction and the

> principal learning resource at the learners' disposal. (p. 13)

Studies conducted by Jackson (1968), Lortie (1975) and Goodlad (1984) show that the situation in the majority of classrooms is similar to Romiszowski's description. Teachers usually lecture to an entire class using a prescribed text, distribute similar worksheets for all students to complete or ask questions which require memorized recall answers. Despite the called for changes in curriculum guides there is little evidence that classroom teaching practices are changing. Yet if resource-based curricula are to be successfully implemented there has to be a change in these practices. Teacher-librarians can provide the widest variety of resources possible, but without the involvement and support of classroom teachers, resource-based teaching and learning will not become a reality.

Just what are the current teaching practices and beliefs of teachers? There have been several studies conducted over the years which have provided glimpses into classroom teaching practices. Brown (1988b) has summarized the findings of these studies and has categorized teaching practices and beliefs into the following generalizations:

1. teaching is an isolated activity;

2. teachers perceive themselves to be autonomous in their classrooms;

3. teachers prefer to teach in self-contained classrooms;

4. teachers work with groups, not with individuals;

5. teachers rely on textbooks and are concerned with the coverage of all the content in them;

6. teachers have to control the class in order to teach;

7. teachers see themselves as the essential catalysts in the learning process;

8. teaching goals are vague rather than specific. (pp. 10-11)

If teachers are to become resource-based and work cooperatively with teacher-librarians to develop and implement units of instruction they will have to make major changes in their present teaching practices and beliefs. Major differences exist between what classroom teachers are actually doing and what they are expected to be doing if they are to implement present curriculum guidelines and become resource based.

According to Kerr (1977) "teachers think of themselves as both autonomous and 'omnicompetent' in the areas of evaluating students, selecting appropriate instructional approaches, carrying out instruction, and evaluating the learning which results" (p. 245). They

guard the autonomy of their classroom and feel threatened if their superiors or peers make demands that reach within the confines of it. Lortie (1975) states it well:

> Teachers attach great meaning to the boundaries which separate their classrooms from the rest of the school .... Teachers deprecate transactions which cut across those boundaries. Walls are perceived as beneficial; they protect and enhance the course of instruction. All but teacher and students are outsiders. That definition conveys an implicit belief that, on site, other adults have potential for hindrance but not for help. (p. 169)

Cooperative program planning and teaching means that teaching will no longer be an isolated activity. "If the classroom teacher is to participate as a partner with the teacher-librarian, then the whole notion of a self-contained classroom in which the teacher has full autonomy is challenged" (Brown, 1988b, p. 12). For many teachers accepting another teacher as an equal partner in the instructional process will be a major change.

Teachers have long been accustomed to sole reliance on a textbook and coverage of all the content within its covers. The textbook "provides security for both teacher and student, for it outlines the course, suggests activities, provides practice exercises and discussion questions, and even helps in the evaluation process" (Brown, 1988b, p. 11). The cooperative program planning and teaching approach eliminates this dependence on a

text and encourages teachers to select from a wide range of learning resources. Teachers will need to be aware of the availability of resources in a variety of formats and know when and how to use them effectively in their teaching.

The belief of most teachers that they must teach the entire group rather than adopt teaching strategies such as small groups or discovery learning has been caused by a) the necessity to maintain control and discipline of a large group of children, b) the physical limitations of the classroom, and c) the idea that students must be subjected to direct instruction in order to learn (Brown, 1988b). Cooperative program planning and teaching not only asks teachers to change the materials they use, it also asks them to adopt different teaching strategies. In so doing, teachers are being asked to change their basic beliefs about how students learn. "Teachers who believe that students must receive direct instruction in order to learn will find it very difficult to give students the freedom to learn independently" (Brown, 1988b, p. 13).

Cooperative program planning and teaching also eliminates the physical restrictions of the classroom and reduces the teacher's concern with classroom control. In this approach "instead of having one teacher and thirty

youngsters, we now have two teachers, the classroom teacher and the teacher-librarian, a range of carefully selected materials, and the same thirty youngsters" (Haycock, 1984, p. 105). Activities can be held in the classroom or in the library.

Teachers goals are often vague with regard to exactly what they want students to learn. Rarely do teachers ask "What am I trying to accomplish?" According to Kerr (1981), "Teachers consider first the content, then the kind of learning situation most likely to interest and involve the pupils, and only after this the purposes which their teaching is to serve" (p. 366). In cooperative program planning and teaching, learning experiences are carefully planned by the teacher and teacher-librarian beginning with precisely stated objectives formulated to meet the learning styles of individual students. For many teachers this constitutes a major change.

The major difference between actual teaching practices and what teachers are expected to do in their teaching can be summarized as shown in Figure 1 (Brown, 1988b). In cooperative program planning and teaching, teachers do more than deliver instruction, they also design effective instruction.

NATURE OF TEACHING	EXPECTATIONS FOR TEACHING
Isolated activity	Cooperative planning
Teaching autonomy	Team teaching
Vague goals	Precisely defined goals and objectives
Group instruction	Individualized instruction
Reliance on textbook	Variety of resources, different formats
Teacher control	Maximum freedom for the learner
Teacher as essential in the learning process	Teacher as creator of learning experiences leading to students becoming independent learners
Self contained classrooms	Different locations

Figure 1. The Nature of Teaching and Expectations for Teaching as Exemplified in School Library Media Programs.

Note. From "Changing Teaching Practices to Meet Current Expectations" by J. Brown, 1988b, Emergency Librarian, 16, p. 12. Copyright 1988 by the Emergency Librarian. Reprinted by permission.

Dick and Carey (1978) state "The primary role of the teacher is that of designer of instruction, with accompanying roles of implementor and evaluator of instruction" (p. 4). If education is to meet the needs of individual students there must be an increased dependence upon well-designed, effective instruction. While some

teachers have been doing this intuitively for years, Dick and Carey (1978) state:

> It will become more important for teachers to hav technical skills that will enable them to de. n and implement instruction in the cla..room.... Knowledge of instructional design techniques will greatly enhance each teacher's ability [to do this]. (p. 4)

Smith (1979) has proposed that there are six domains of knowledge and skills essential to the teacher. One of these knowledge areas is instructional development. Gorman (1978) also included instructional development as one of the major tasks of the teacher. These authors recognize instructional development as a critical competence requisite for the teacher and believe it essential for teachers to have instructional design skills.

If teachers need instructional development skills in order to design effective instruction, what level of expertise is required? Snelbecker (1987) states that:

> The classroom teacher need not have the high level of expertise we might expect from full-time professional instructional developers but teachers do need at least fundamental instructional design strategies to plan, evaluate, and modify instruction as a regular and continuing part of their classroom work. (p. 35)

In order for teacher-librarians and teachers to cooperatively plan resource based units, both of these

people will need to possess instructional development competencies.

The instructional development process is, according to Turner (1985):

> The single most powerful tool for improving the quality of education today. Instruction which has been systematically designed and implemented will be more effective than accidental or coercive instruction. Instructional design provides for each learner to be accounted for in terms of the best learning environment and achievement. Rather than taking the caring out of instruction, this process provides caring teachers with powerful tools. A systematically designed lesson should not deny the 'teachable moment'. Instructional design provides for effective instruction between those unplanned experiences. It can accommodate an intermission when the robin arrives. (p. 12)

Despite the seemingly endless proliferation of instructional development models, a degree of commonality exists between them. If we compare the steps in the instructional development process to the role of the teacher and teacher-librarian described in Partners in Action (Ontario Ministry of Education, 1982) as cooperative program planning and teaching we see that the terms used may differ, but the skills are the same. They are both describing a utilitarian and systematic approach to the design of instruction. Successful and good teachers have been doing many of these things for years before the term instructional development came into

being. "Even 'good' teachers, however, can do these things better and many teachers would benefit from [the] substantial intervention and assistance [that instructional development can provide] " (Turner, 1985, p. 12).

The instructional development approach is "based on what teachers do intuitively but provides them with a map which allows them to increase the probability that the most effective procedures will be followed" (Turner, 1985, p. 15).

As teacher-librarians and teachers work as partners using an instructional development approach, the potential power for educating students who are prepared to think rationally and logically for themselves, for providing them with the ability to 'learn how to learn', is greatly increased.

This study was designed to discover if, in fact, the teachers in our primary and elementary schools have the instructional development competencies which this researcher deems are necessary to participate as partners in cooperative program planning and teaching.

CHAPTER THREE

METHODOLOGY

Introduction

In order to determine whether teachers at the primary and elementary levels possess instructional development competencies, a field study of teachers within the Roman Catholic School Board for St. John's was carried out. This field study used a written survey instrument which questioned teachers on thirteen instructional development competency areas summarized from the Task Force Report on Instructional Development Competencies of the Association for Educational Communication and Technology (AECT) published in 1982.

Sample Population

Selection of respondents was based on the criteria that all respondents must be employed as a primary or elementary school teacher in the Roman Catholic School Board for St. John's. A total of 195 teachers were randomly selected from 31 schools by choosing every second name from alphabetized school lists. Questionnaires were distributed to the various schools through the internal mailing system of the school board.

One hundred six or fifty-four percent of the questionnaires were returned.

Development of the Instrument

Using the Task Force Report on Instructional Development Competencies of the Association for Educational Communications and Technology (AECT) published in 1982, a list of core instructional development competencies was compiled. The Task Force Report contains a total of sixteen core competencies, but for the purpose of this study it was felt that some of these competencies such as promoting the diffusion and adoption of the instructional development process were not applicable to the classroom teacher. The result was a list of thirteen competencies which were used in this study.

In order to compare the instructional development competencies set forth by the AECT report with those competencies determined to be necessary to implement cooperative program planning and teaching, according to the various Canadian documents, a content analysis of the following Canadian documents was performed:

1. Ontario Ministry of Education, Partners in Action (1982)

2. Canadian School Library Association Report, Qualifications for School Librarians (1980)

3. Saskatchewan Teachers' Federation, The 4th R: Resource Based Learning (1986)

Content analysis, according to Krippendorff (1980) is "a research technique for making replicable and valid inferences from data to their context" (p. 21). Several writers have identified and classified types and applications of content analysis. Janis (1965) has offered the following classification:

1. Pragmatical Content Analysis - procedures which classify signs according to their probable causes or effects.

2. Semantical Content Analysis - procedures which classify signs according to their meanings.

3. Sign-Vehicle Analysis - procedures which classify content according to the psychophysical properties of the signs. (cited in Krippendorff, 1980, p. 33)

The type of content analysis performed on the Canadian documents mentioned above was semantical content analysis. For each core competency listed by the AECT report, the documents were analyzed to see if that competency was referred to, irrespective of the particular words that were used to make the inference. The terms used to describe the competency may be different but the skills being described remain the same.

Applying guidelines for doing content analysis set down by Krippendorff, the following similarities were discovered. Although this particular study concentrated on the teacher, the quotes given refer to both the teacher and teacher-librarian since the premise has been made that these two partners require instructional development skills in order to work together in designing instructional units of study.

AECT COMPETENCIES	CANADIAN DOCUMENTS
1. Conduct Needs Assessment	The integration of the library resource centre with resource-based programs begins with the assessment of needs and the setting of priorities. (Ontario Ministry of Education, Partners in Action, 1982, p. 37) The classroom teacher adapts the content and goals of curriculum documents to meet the needs of students and the goals of the school. (Ontario Ministry of Education, Partners in Action, 1982, p. 23)
2. Conduct Learner Analysis	The classroom teacher determines the needs and learning styles of students in a particular classroom situation. He/she has specific knowledge of the abilities, learning styles, and ... needs of individual students. (Ontario Ministry of Education, Partners in Action, 1982, p. 23)

		The classroom teacher identifies for the teacher-librarian any ... children ... who will have special needs and may require remedial resources or advanced materials. (Saskatchewan Teachers' Federation, The 4th R: Resource-Based Learning, 1986, p. 6)
3.	Develop and Sequence Behavioral Objectives	Together, the classroom teacher and the teacher-librarian set learning objectives for a unit. (Saskatchewan Teachers' Federation, The 4th R: Resource-Based Learning, 1986, p. 7) The classroom teacher and teacher-librarian develop a skills continuum for student achievement of information skills. This will be used in the determination of objectives. (Ontario Ministry of Education, Partners in Action, 1982, p. 23)
4.	Conduct Environmental Analysis	Arrange facilities and equipment to accommodate student needs. (Ontario Ministry of Education, Partners in Action, 1982, p. 36) The classroom teacher establishes an environment in the classroom that is conducive to the use of a variety of resource materials. (Ontario Ministry of Education, Partners in Action, 1982, p. 24)
5.	Determine and Sequence Content	Interpreting the school's learning skills program from a cross-grade and cross-subject point of view. (Ontario Ministry of Education, Partners in Action, 1982, p. 36)

		Teacher-librarian and teacher pre-plan and teach skills integrated with classroom instruction to large and small groups and individuals. (Canadian School Library Association Report, Qualifications for School Librarians, 1980, p. 6)
6.	Determine and Sequence Learner Activities	Design learning experiences for students that ensure integration of resource materials. (Ontario Ministry of Education, Partners in Action, 1982, p. 23)
		Makes provision for appropriate activities for exceptional students including resource-based enrichment and remediation programs. (Ontario Ministry of Education, Partners in Action, 1982, p. 23)
7.	Determine Appropriate Resources	The teacher examines, previews and selects appropriate resources to meet the needs and learning styles of students and the goals of the curriculum. (Ontario Ministry of Education, Partners in Action, 1982, p. 24)
		The teacher-librarian is able to recommend to teachers learning resources in various formats which may assist in the accomplishment of specific learning objectives. (Canadian School Library Association Report, Qualifications for School Librarians, 1980, p. 5).
8.	Determine Appropriate Teaching Strategies	The teacher-librarian is able to share techniques and strategies for using learning resources. (Canadian School Library Association Report, Qualifications for School Librarians, 1980, p. 6)

		The classroom teacher uses a variety of teaching strategies and approaches so that resource materials can be used effectively to meet different student needs and learning styles. (Ontario Ministry of Education, Partners in Action, 1982, p. 23)
9.	Evaluate and Revise Instructional Content	Develops activities and strategies for evaluating both student achievement and the appropriateness of the resource material being used. (Ontario Ministry of Education, Partners in Action, 1982, p. 24)
		[The classroom teacher will] evaluate with the teacher-librarian any library oriented assignments or cooperative study units with regard to materials utilized, learning outcomes and the effectiveness of the process. (Saskatchewan Teachers' Federation, The 4th R: Resource-Based Learning, 1986, p. 7)
10.	Create Instructional Packages/Units	Designs resource-based programs for students. (Ontario Ministry of Education, Partners in Action, 1982, p. 23)
		Plan and develop units of work with teachers from the setting of objectives to evaluation. (Canadian School Library Association Report, Qualifications for School Librarians, 1980, p. 6)

11.	Conduct Workshops	The teacher should participate in and help with the planning of in-service workshops on the effective use of resources. (Saskatchewan Teachers' Federation, The 4th R: Resource Based Learning, 1986, p. 7)
12.	Communicate Effectively	In order to develop a working partnership, each participant needs a willingness to communicate openly and effectively. (Ontario Ministry of Education, Partners in Action, 1982, p. 10) Participate in cooperative and coordinated projects within the district which involve the sharing of ideas, experiences and learning resources. (Canadian School Library Association Report, Qualifications for School Librarians, 1980, p. 6)
13.	Consult With Individuals and Groups	Make use of the teacher-librarian's skills as a teacher who can share in the planning and evaluation of learning programs. (Ontario Ministry of Education, Partners in Action, 1982, p. 22)

Data Gathering Instrument

The content analysis resulted in the development of a survey questionnaire consisting of 45 questions. Of this number 39 were multiple choice type questions, and six were questions requiring a short written response. Demographic information was also gathered to give some

indication as to the education and experience of the teachers surveyed (See Appendix B).

Methodology

Respondents were randomly selected from the primary (n=113) and elementary (n=82) teaching levels of the Roman Catholic School Board for St. John's. An alphabetical list of all Kindergarten to Grade 6 teachers in each school within the district was compiled and then all teachers were grouped by grade. Every second name was then selected resulting in 113 primary and 82 elementary teachers being sent questionnaires.

The Roman Catholic School Board for St. John's was selected since it has a large teacher population, and all schools are served by a teacher-librarian either on a part-time or full-time basis. This school board has also made great efforts to implement cooperative program planning and teaching and sees competency in instructional development as a necessity if cooperative program planning and teaching is to work.

The assistant superintendent for the board provided a letter which was sent to all school principals requesting their cooperation in distributing and

returning the questionnaires and stating the importance of the study to the school board (See Appendix A).

Each questionnaire was accompanied by a covering letter explaining the purpose of the study (See Appendix A). All questionnaires were returned to the investigator via the board's internal mailing system.

Four weeks after the questionnaires were distributed the investigator contacted the principal of each school by telephone to ensure that the teachers were reminded to return the questionnaires. A follow-up letter was also sent to each school thanking those who had already returned their questionnaires and requesting others to do so as soon as possible (See Appendix A). After a six week period, all data were processed.

CHAPTER FOUR

PRESENTATION OF THE FINDINGS

Organization of the Findings

The objective of the study was to discover if primary and elementary teachers possess the instructional development competencies which underlie the implementation of the resource-based approach currently advocated in Newfoundland schools. The purpose was to determine the depth of knowledge they possess concerning instructional development as it is delineated in the literature.

The results of the survey were analyzed according to the thirteen instructional development competencies summarized from the AECT Task Force Report (1982) which are as follows: conduct needs assessment, conduct learner analysis, develop and sequence behavioral objectives, conduct environmental analysis, determine and sequence content, determine and sequence learner activities, determine appropriate resources, determine appropriate teaching strategies, evaluate and revise instructional units, create instructional units, conduct workshops, communicate effectively, and consult with individuals or groups.

The findings are organized into four sections. Part 1 presents the results of demographic data which was gathered to gain some idea of the sample population's teaching experience and educational background. Part 2 describes the results of participants' attitudes toward various statements reflecting either a conceptual or functional view of instructional development. Part 3 shows the source of respondents' knowledge concerning instructional development.

Part 4 describes the results of questions asked regarding the thirteen competency areas mentioned above. In most areas the first question in a sequence requested a definition of the term, and subsequent questions were designed to explore respondents' indepth knowledge of the term. This approach was used because it is easy for respondents, in self-reporting questionnaires, to report positively without fully understanding the term.

Results are reported in table form, in terms of frequencies and percentages, for each competency area. In instances where the numbers and percentages do not total 100% of the sample population, the cause is either (a) failure on the part of the respondent to reply to a specific question, or (b) respondents choosing more than

the required number of answers called for. These responses were excluded from the total results.

Research Findings

Demographic data collected at the end of the questionnaire shows that the majority of teachers have considerable preparatory training. Table 1 shows the specific degrees held by the respondents. Specific programs which would indicate some exposure to instructional development content include the Master of Education in Learning Resources, completed by only one person, and the undergraduate Learning Resources Diploma, completed by only seven people in the sample.

Table 1

Respondent Preparatory Training Programs

Degree	Number	Percentage
Master of Education	7	7%
Master of Education (Learning Resources)	1	1%
Master of Arts	3	3%
Learning Resources Diploma	7	7%
Bachelor of Arts	58	55%
Bachelor of Education	34	32%
Bachelor of Arts in Education	66	62%

Respondents were asked to indicate whether they had taken the one instructional development course available at Memorial University. Only 11% of respondents had completed the course, which is a practicum, designed to provide thorough functional level experience in instructional development.

Respondents were also asked to indicate years of teaching experience. They are a very experienced group with 86% having at least ten years experience and 45% having twenty years or more (See Table 2).

Table 2

Respondents' Years of Teaching Experience

Years	Number	Percentage
0 - 4	2	2%
5 - 9	11	10%
10 - 14	21	20%
15 - 19	22	21%
20 - 24	38	36%
25+	10	9%
Total	104	98%

Part 2 (Questions 1 and 2) of the questionnaire consisted of a series of six statements reflecting either a functional or a conceptual view of instructional development. Participants were required to respond to each statement on a four point Likert scale ranging from strongly agree to strongly disagree. They were also required to indicate the statement most preferred and the statement least preferred. Three statements, A,C,D, describe functional instructional development (See Figure 2).

A - ID is a series of boxes and arrows with a feedback loop indicating a logical step-by-step approach to the development of instruction.

C - ID is a common sense planning device using a cooperative effort to identify and define learning problems and develop a plan of action.

D - ID is a process for systematically designing, developing, implementing, and evaluating instruction.

Figure 2. Statements Reflecting Functional Instructional Development

Three statements, B, E, F, describe conceptual instructional development (See Figure 3).

B - ID is a process in which there is no one set of appropriate moves nor one best solution.

E - ID is a heuristic approach to the development of instruction.

F - ID is the development of instruction from the total systems perspective rather than from the discrete components of that system.

Figure 3. Statements Reflecting Conceptual Instructional Development

While Chapter Two discusses these two levels of instructional development in detail, it is worthwhile to briefly review each here.

Instructional development at the functional level is according to Davies (1978), "reflected in the many instructional development models, exemplified by boxes and arrows with feedback loops, indicating a step-by-step approach to instructional development activity" (p. 22). At this level teachers are able to follow, in linear fashion, the process indicated by the boxes and arrows, in order to design some type of instruction.

Instructional development at the conceptual level is not a linear, step-by-step approach. There is no one best means to proceed and neither is there necessarily one best solution. Everything is dependent on the situation and the skills and expertise available.

Table 3 provides participant responses to those statements reflecting functional instructional development. The responses indicate a high percentage of agreement with most statements. The noted exception here is statement A which describes a strictly algorithmic approach to instructional development. One-half of those who responded disagreed with this statement. It is apparent from Table 3 that a large percentage of

respondents view instructional development as functional in nature.

Table 3

Respondents' Attitudes Toward Statements Reflecting Functional Instructional Development

Statement	SA	A	D	SD
A	4%	42%	23%	27%
C	24%	62%	11%	--
D	42%	50%	6%	--

Table 4 describes participant responses to those statements reflecting conceptual instructional development. The responses here indicate majority agreement with all statements.

Table 4

Respondents' Attitudes Toward Statements Reflecting Conceptual Instructional Development

Statement	SA	A	D	SD
B	28%	45%	21%	3%
E	13%	47%	15%	5%
F	16%	54%	18%	3%

In selecting most preferred statements, those describing the functional view appealed to 52% of respondents, while those statements describing the conceptual view were preferred by only a total of 10% of respondents (See Tables 5 and 6).

Table 5

Respondents' Preferring Functional Practical Definitions

Statement	Number	Percentage
A	1	--
C	18	17%
D	37	35%

Table 6

Respondents' Preferring Conceptual Problem-Solving Definitions

Statement	Number	Percentage
B	6	6%
E	3	3%
F	1	--

In summary, it would seem that teachers recognized both levels of instructional development and agreed that instructional development can be practiced at different levels or using a variety of approaches, but their preference, given their roles, is for the functional approach.

Part 3 (Questions 3 and 4) of the questionnaire asked teachers to answer two general questions. The first asked all respondents to state the source of their knowledge concerning instructional development. From Table 7 it is apparent that while a large percentage of primary and elementary teachers have completed formal university courses and read professional literature on the subject, two-thirds of those teachers surveyed have learned about instructional development on the job.

Table 7

Source of Respondents' Knowledge Concerning Instructional Development

Source	Number	Percentage
School board in-service	56	53%
Conferences	33	31%
Formal university courses	44	42%
Professional literature	49	46%
On the job	70	66%

The second question asked respondents to think of the curriculum as progressing through three stages; curriculum determination, curriculum development, and curriculum implementation. They were then asked to decide where they felt instructional development should take place. In light of the fact that classroom teachers have very little input into decisions concerning the curriculum in our schools it is not surprising that over one-half of the respondents felt instructional development should take place at the classroom instructional level when all else has been decided (See Table 8). Although not shown in the table there were

three respondents who felt that instructional development should be part of all three stages.

Table 8

Respondents' Beliefs As To Where Instructional Development Should Take Place

Stages	Number	Percentage
Curriculum determination	5	4%
Curriculum development	32	30%
Curriculum implementation	59	56%

Part 4 (Questions 5 to 15) of the questionnaire presented each of the thirteen competency areas and explored the level of knowledge teachers have about each competency area.

Needs Assessment. Teacher's understanding of the term needs assessment was gained by asking two quite similar questions. The first presented respondents with three statements and they were asked to select the one which best described their idea as to the meaning of the term.

Table 9 shows that 81% of respondents held a similar view and saw needs assessment as a way to identify instructional problems.

Table 9

Respondents' Views As To The Meaning of Needs Assessment

Meanings	Number	Percentage
Discrepancy analysis	13	12%
Way to identify instructional problems	86	81%
Method of determining costs vs. benefits of program	7	6%

Table 10 presents the results of a similar question in which teachers were asked to decide if needs assessment was problem-oriented or solution-oriented. In keeping with responses to the previous question, it would appear logical that most teachers would select problem-oriented, however such was not the case. Only 43% considered needs assessment problem-oriented, a figure which does not coincide with the results shown in Table 9. The implication is that teachers would tend to identify a problem and immediately at the needs assessment stage, come up with a solution, whereas the

instructional development process calls for comprehensive analysis of learners, content, and learning environment before a solution is decided upon.

Table 10

Respondents' Views As to the Orientation of Needs Assessment

Orientation	Number	Percentage
Problem-oriented	46	43%
Solution-oriented	58	55%

From these percentages one can conclude that many of the teachers who responded to this study are inconsistent in their understanding of the purpose of needs assessment.

Learner Analysis. Not all students learn in the same manner or at the same rate. Teachers need to analyze the students in their classes to determine the content, activities, and strategies that might be appropriate to each student. In order to do this teachers need to be familiar with learning theories which provide insight into how students learn.

When asked if they were familiar with various learning theories, approximately three-quarters replied that they were. Those who responded positively were then given a list of five familiar learning theories and asked to choose the theory or theories they would apply in carrying out a learner analysis. Only one-quarter could correctly identify Piaget's developmental theory as that which should be used. This number represents only 18% of the total respondents to the questionnaire.

Respondents were then presented with a list of fifteen learner characteristics and asked to indicate those which they would consider important for doing a learner analysis. In order to analyze teacher response to this question the characteristics given were divided into three groups as shown in Figure 4.

Data was compiled on the basis that correct responses include at least all seven of the essential characteristics or these seven plus one or more from the other groups. It was felt that in order to adequately carry out a learner analysis all seven characteristics in the essential group should be included.

The data compiled resulted in 51% of the respondents being included in the correct response category. It is therefore concluded that approximately one-half of the

teachers who responded can adequately carry out a learner analysis.

Essential	Important	Less Important
Reading ability	Emotional maturity	Religion
Pre-requisite knowledge	Socio-economic status	Parent employment
Pre-requisite skills	Age	Sex
Special aptitudes	Physical impairments	
General ability level	General attitude	
Attention span		
Writing ability		

Figure 4. Learner Characteristic Groupings

Behavioral Objectives. Behavioral objectives form the foundation of the instructional development process, so it would seem that knowledge in this instructional development competency area is essential for all those who wish to develop instructional units or programs.

The behavioral objectives section consisted of five questions designed to discover the level of knowledge teachers have in this area. The first question simply

asked respondents to indicate with a yes or no response if they felt they were able to develop behavioral objectives. Respondents were almost equally divided with 45% responding positively and 48% responding negatively. Those who gave a positive response were then asked if they could list the three main parts of a behavioral objective. While 45% felt capable of developing objectives, only 27% of this number could correctly list the three main parts as (i) the conditions, (ii) the verb, and (iii) the standard or measure. This represents only 12% of the total respondents. It appears that only a very small number of the teachers who responded to this survey are familiar enough with the concept of behavioral objectives to recall the discrete components.

Besides being capable of developing objectives teachers should also be aware that objectives fit into different domains of learning and focus on various levels of learning. When asked if they were familiar with objective hierarchies such as those developed by Benjamin Bloom and Robert Gagné, 43% replied that they were. Those who responded positively were then given an open question in which they were asked to list the three domains of learning objectives as described by Bloom. Forty-two percent listed the domains of cognitive, affective and

psychomotor. This represents only 17% of the total who responded to the survey.

Table 11 demonstrates that two-thirds of teachers surveyed stated that the greatest concern with the behavioral objectives movement is that objectives are too difficult to write. The literature states that the greatest concern is that objectives focus on low level learning and therefore only 26% were correct in their response to this item.

Table 11

Respondents' Knowledge of Concern With Behavioral Objectives Movement as Stated in Literature

Concerns	Number	Percentage
Objectives are very difficult to write	70	66%
Objectives focus only on low level learning	28	26%
Objectives do not serve any purpose	5	5%

From the results it can be concluded that, at least for the sample surveyed, knowledge regarding behavioral objectives is minimal.

Environmental Analysis. In order to discover teachers' knowledge of this competency area respondents were presented with a list of twelve elements of the instructional environment and asked to indicate which ones they considered important to include in doing an environmental analysis. In order to analyze teacher response to this question the elements given were divided into two groups as shown in Figure 5.

Essential	Important
Human resources	Size and location of space
Non-human resources	Electrical outlets
Expertise	Furniture
Materials	Noise level
	Time
	Cost
	Lighting
	Equipment

Figure 5. Elements of the Instructional Environment to be Considered in Conducting Environmental Analysis

Data was compiled on the basis that correct responses include at least all four of the essential group or these four plus one or more from the other

group. The data gathered resulted in 37% of the respondents being included in the correct response category. The results show that only a little over one-third of teachers who responded would know what to include in an environmental analysis.

Determine and Sequence Content. If teachers are to determine and sequence the content of an instructional unit or program for a group of students, it is essential that they be able to do a task and concept analysis.

Teachers' understanding of task and concept analysis was gained by asking respondents to choose the phrase which best described the terms. Table 12 presents the three possible answers, and demonstrates that a little more than one-half of teachers surveyed are aware that task and concept analysis is a map of the essential knowledge and skills needed by students.

Table 12

Respondents' Views as to the Meaning of Task and Concept Analysis

Meanings	Number	Percentage
Map of essential knowledge and skills needed by students	56	53%
Format for ensuring that real problems are identified	31	29%
Procedure for the selection of resources	7	6%

Teachers were also asked why the entry level behaviour of students, as determined by a task and concept analysis, is important in sequencing content. Table 13 reveals that two-thirds of teachers believe entry level behaviour is important because it establishes the beginning steps in the instructional sequence. This high rate of correct responses, when compared to only 17% who chose the second option, indicates that the majority of teachers in our primary and elementary schools see the necessity of looking at the individual student and gearing instruction to meet the needs of the individual rather than the entire class.

Table 13

Respondents' Views as to the Importance of Entry Level Behaviour in Sequencing Content

Views	Number	Percentage
It establishes the beginning steps in the instructional sequence	70	66%
It ensures instruction is geared to the same level of skills and knowledge for all	19	17%
It determines the adequacy of existing materials	3	3%

According to C. A. Haycock (1988) one of the cornerstones of effective cooperative program planning and teaching is a school based information skills continuum, which lists the skills students should be taught at each grade level. Using an open question, teachers were asked to state the benefits of using the information skills continuum in doing a task and concept analysis. Only 57% of respondents provided a response to this question; this may be attributed to the fact that not all teachers surveyed are familiar with the terminology used. It might conceivably be possible that teachers have a tacit understanding of these competencies. Using semantical content analysis the

answers were grouped into six categories as shown in Table 14. The answers provided certainly identify the many benefits of using such a continuum.

Table 14

Respondents' Views as to the Benefits of Using an Information Skills Continuum

Benefits	Number	Percentage
Identifies skills children need at each grade level	23	38%
It shows where children are in terms of skills acquired in the past	17	28%
It ensures skills will not be overlooked and that all children receive practice with them	7	12%
It establishes a logical hierarchy for the teacher in presenting information	4	7%
It permits teachers to choose the content and activities which fit the ability level of the children	2	3%
It allows you to introduce skills in progressive steps	7	12%

Determine and Sequence Learning Activities. Teachers' knowledge of this competency area was gleaned from five questions concerning how activities should be selected and sequenced. Table 15 reveals that in selecting activities 89% used the objectives of the unit either by themselves or in conjunction with one or all of the other three. This is interesting in light of the fact that only 45% of respondents felt they were capable of developing their own objectives and only 11% could list the three main parts of an objective. It might therefore be assumed that many teachers use the objectives stated in their manuals and teacher's guides as a basis for the selection of activities.

Table 15

Respondents' Choices as to What Should be Used as a Basis For Selecting Learning Activities

Choices	Number	Percentage
Textbook	24	23%
Learner's past experience	46	43%
Objectives	94	89%
What is available	25	24%

Respondents on this section were also asked to decide what the one most logical outcome would be if the learning activities for the unit were integrated with the information skills continuum. Of the three choices presented, 58% were correct in their choice of integration across the curriculum (See Table 16).

Table 16

Respondents' Views as to the One Most Logical Outcome of Integrating Learning Activities With the Skills Continuum

Outcomes	Number	Percentage
Reinforcement of skills	17	16%
Integration across the curriculum	62	58%
Integration of various types of resources	14	13%

Table 17 shows a comparison of teachers' familiarity with, and use of various patterns for sequencing activities. The data demonstrate that, as the percentage of teachers familiar with the different patterns decreases, so also does the frequency of use.

Table 17

A Comparison of Teachers' Familiarity With and Frequency of Use of Various Patterns for Sequencing Learning Activities

Patterns	Familiar	Frequency
Easy to difficult	85%	42%
Familiar to unfamiliar	63%	25%
Pre-requisite knowledge and skills	47%	21%
Temporal order	39%	18%
Frequency of use	23%	5%

The final question in this section asked respondents to list any tools which were available to them in sequencing their learner activities. Table 18 presents a list of the selection tools teachers state are available to them.

Table 18

Respondents' Knowledge of the Tools Available to Help Teachers Sequence Learner Activities

Tools	Number	Percentage
Teachers' manuals	53	50%
Textbook	23	22%
Audiovisual aids	20	19%
Information skills continuum	18	17%
Resource personnel	18	17%
Curriculum guides	8	8%
Computers	4	4%
Learning theories	3	3%

Selecting Appropriate Resources. Given four choices - content, learner's past experiences, teacher preference, and objectives - respondents were asked to check which should be used as the basis for the selection of instructional resources. While objectives are the most important, consideration of all four could be beneficial to the task. Therefore in calculating results those who included objectives either alone or in conjunction with any of the others were included. The results indicate

that 83% of respondents are aware of what to use when selecting resources.

Once resources are selected their appropriateness to the unit should be considered. In determining their appropriateness, two-thirds of the respondents considered objectives and previewing of resources as essential to the task.

In previewing resources there are various attributes of instructional media that should be considered. These are pacing, colour, sensory mode, motion and random access. In order to determine if respondents knew what to look for while previewing resources all five attributes were presented and respondents were asked to decide which they would use. Only 16% of the teachers comprising this study checked all five attributes.

The results presented indicate that while two-thirds believe previewing resources is important in determining their appropriateness to the unit, only a small number of teachers know which attributes of instructional media are important to consider in their selection.

Determine Appropriate Teaching Strategies.

Respondents were again given four choices - teacher preference, objectives, learner analysis, and content -

and asked to decide which they would consider in selecting and determining teaching strategies. In calculating the results those who included objectives alone or in conjunction with any of the others were considered to be correct answers. The majority of teachers, or 80%, were aware of what should be used in selecting and determining teaching strategies.

Because of the numerous teaching strategies which can be used, teachers were asked to list five possible teaching strategies they could employ in their teaching. Approximately twenty different answers were given, some of which did not constitute strategies but overall teaching approaches such as resource-based teaching. Table 19 presents the five strategies mentioned most frequently by respondents. When asked if they would consider any one teaching strategy superior to all others, over three-quarters said they would not.

Table 19

Teaching Strategies Mentioned Most Frequently By Teachers

Strategies	Number	Percentage
In-class grouping	42	40%
Lecture	34	33%
Discussion	23	22%
Use of manipulatives	20	19%
Demonstration	10	10%

Evaluate and Revise. In order to ascertain teachers' knowledge of evaluation, a series of seven questions were asked of respondents. The first asked teachers to choose the phrase which best described their understanding of the term evaluation (See Table 20). It is worthy to note that only 7% of the teachers comprising the sample equate evaluation with testing the subject matter.

Table 26

Respondents' Choice of Meaning For the Term Evaluation

Meanings	Number	Percentage
The giving of tests based on content to determine how learners perform	7	7%
The collection and use of information to make decisions about instructional programs	44	42%
A measure of instructional outcomes	33	31%
A measure of instructional value and worth	18	17%

As with other competency areas, respondents were asked to state what they would use as the basis for evaluation of an instructional unit or program. This time two choices - objectives and content - were given. A little over 60% of the sample chose objectives compared to 32%, who chose content.

When objectives rather than content are used as a basis for evaluation the best time to develop tests is before instruction begins. When given three choices as to when to develop tests, over one-half of respondents agreed that the best time was before instruction begins (See Table 21).

Table 21

Respondents' Beliefs as to When Instructional Tests Should be Developed

When	Number	Percentage
Before instruction begins	60	57%
During instruction	6	6%
After instruction is complete	34	32%

To determine whether teachers in the sample were aware of the purpose of criterion-referenced tests in conducting an evaluation, two definitions were given and respondents were asked to check the one which best described their understanding of the term. Seventy-one percent of respondents chose the correct definition, which stated that it is a means of determining how well the learner has achieved in relation to specific objectives. Twenty-six percent felt it would serve as a means of comparing an individual's performance with other members of the group.

Further questioning as to how teachers would make use of the feedback they receive from evaluation revealed once again that teachers are aware of the value of evaluation as a means of making decisions about and

revising the program. A little more than three-quarters of the respondents believe feedback is useful for revising the entire program, developing new tests, or organizing the content differently. Only 11% stated that they would use feedback to compare the performance of learners.

It would appear that the teachers who responded to this survey are more concerned with evaluation as a means by which instruction can be improved rather than a means to compare an individual's performance or determine how well students perform on tests.

When doing an evaluation of an entire instructional program or unit it is important that various components should be examined. Respondents were given six components - objectives, content, resources, strategies, activities, and outcomes - and asked to decide which should be considered. It was felt that while examination of all six components is required to fully evaluate a program, those who chose at least four, one of which was objectives, would be doing a fairly adequate job of evaluation. Using this as a basis for interpreting the results, the percentage choosing four or more components are shown in Table 22.

Table 22

Respondents' Knowledge of Components to Include in Evaluation of Instructional Programs

Number of Components	Number	Percentage
6	67	63%
5	2	2%
4	7	7%

Overall it appears that the majority of teachers who responded to this survey have a fairly adequate knowledge of evaluation, in terms of its function in the instructional development process and in terms of how it should be carried out.

Create Instructional Units. In planning instructional units some form of "planning model or checklist greatly facilitates the efficiency and effectiveness of the planning process" (C. A. Haycock, 1988, p. 29). Planning guides help teachers focus on the major decisions that need to be made when developing instructional units or programs and ensure that nothing is overlooked.

Approximately one-half of those who responded to the survey were aware of some type of planning guide which

they could use when developing instructional units or programs. Perhaps the low percentage can be attributed to the fact that many teachers are not as yet involved in resource-based teaching or cooperative program planning and therefore have not been exposed to such planning guides.

When creating instructional units teachers should use the objectives of the units as their foundation, while other facets such as content, activities, strategies, formative evaluation, learner analysis, and resources could also be considered. Given these seven components teachers were asked to check what they would use as the basis for creating instructional units. All those who considered objectives either by itself or in conjunction with one or more of the others were deemed correct responses. The results indicate that 90% of respondents would include objectives and that over one-half believe in using all seven components.

A final question in this area asked teachers if they felt that the developing of instructional units and the doing of instructional development were synonymous. Forty-eight percent replied positively to this question which indicates that this number of respondents are

operating at the functional level of instructional development.

Conduct Workshops. According to The 4th R: Resource-Based Learning (1986) teachers "should participate in and help with the planning of in-service workshops" (Saskatchewan Teachers' Federation, 1986, p. 7). To determine teachers' competency in this area two questions were asked. The first asked teachers to decide what the single most important consideration should be in the designing and conducting of in-service education versus classroom instruction. Table 23 shows the four choices given and teacher response rates. Only 28% were correct in their choice of the adult learner.

Table 23

Respondents' Choice of What Should be the Single Most Important Consideration in Designing In-Service

Considerations	Number	Percentage
Adult learner	30	28%
Content	29	27%
Length of workshop	4	4%
Resources	34	32%

From an instructional development perspective, there are three essential components which should be included in in-service workshops. These are demonstration, practice, and time to view and interact. Given these three plus two other non-essential components to choose from, only 16% of all respondents could correctly identify all three components.

From these responses it is apparent that teachers who responded to the survey are not knowledgeable in this competency area, which is not surprising when one considers the fact that teachers are very rarely required to perform this task.

Communicate Effectively. If teachers are to cooperatively plan instructional units and programs they need to be able to communicate openly and effectively with the teacher-librarian and to be able to share their ideas with others in the school.

Teachers were asked to indicate what they consider to be important communication principles in establishing a good working relationship with the teacher-librarian. Table 24 presents the number of teachers who replied positively to each of the five communication principles given and indicates the importance placed on each. In

order to establish a good relationship each teacher should have checked at least three of these principles. When analyzed in this way the researcher found that 22% had checked all five, 8% had checked four, and 25% had checked three for a total of 55%.

Table 24

Respondents' Views as to the Importance of Communication Principles in Establishing a Good Relationship With the Teacher-Librarian

Principles	Number	Percentage
Flexibility	87	82%
Good organizational skills	85	80%
Good listening skills	52	49%
Acceptance	50	47%
Empathy	36	34%

The relationship between instructional development and effective communication can best be described as one of consultancy. When asked to describe their understanding of this relationship almost three-quarters of respondents correctly described it as one of consultancy.

Consult With Individuals/Groups. If teachers are to consult with individuals such as the teacher-librarian regarding the development of instructional units they should be aware of what to look for in a consultant. In this survey teachers were asked to name three general principles of consultancy from a list of five. Forty-three percent of respondents were able to correctly identify the three principles as a) expertise in a given field, b) problem-solving and creative expertise, and c) interpersonal communication expertise. The final question asked teachers to describe their understanding of the relationship between instructional development and consultancy. Table 25 shows that over three-quarters of teachers were correct in their reply.

Table 25

Respondents' Perception of the Relationship Between Instructional Development and Consultancy

Relationship	Number	Percentage
An attempt to plan together effective instruction for designated learners	83	78%
Consulting with an expert who will assist you in determining what has to be done	19	18%

Summary

The results given indicate that the majority of teachers who responded to this study do not possess an understanding of the instructional development algorithm which formed the basis of the research instrument. Teachers may indeed have tacit knowledge of instructional development which might permit them to design effective instruction; such knowledge was not measured by the survey instrument. Explicit knowledge which the researcher deems necessary to work in partnership with the teacher-librarian in implementing a resource-based approach to teaching and learning was lacking. The results are not indicative of the total sample due to the low response rate of 54%, and information regarding the competencies of those teachers who failed to return questionnaires might have affected the results. Therefore all results must be judged in relation to that fact.

In certain areas where similar questions resulted in quite different responses one can only conclude that teachers are inconsistent in their understanding of these areas. There were a few competency areas, such as evaluation, where knowledge was substantially higher, but, in general, the percentage of correct responses to specific questions concerning each competency area was quite low.

CHAPTER FIVE

CONCLUSIONS AND RECOMMENDATIONS

Summary

Resource-based teaching and learning has been hailed as the means by which educators can most effectively equip today's students with the capabilities to become active, thinking, and contributing citizens. In this era of knowledge explosion it is seen as the approach which will permit students to "learn how to learn" - how to access the information that is bombarding them and how to select, evaluate and use that information.

The resource-based approach to teaching and learning is in a sense what the standards have been advocating since the Certain Report of 1918. They have all expressed the belief that the school library should be an integral part of the instructional program of the school.

Planning educational programs that actively involve students in the meaningful use of a wide variety of resources requires that all those involved in the education of our youth, especially the teacher and teacher-librarian, cooperate to provide such experiences. In Canada those struggling to implement resource-based teaching and learning refer to such cooperation and

partnership between the teacher and teacher-librarian as cooperative program planning and teaching.

Cooperative program planning and teaching is a strategy or approach to resource-based teaching and learning which requires teachers and teacher-librarians to work together as partners in designing units that will integrate the teaching of learning strategies and skills into the instruction. It is not a substitute for all that has gone before - the textbook will still exist - but it will be only one of many resources available.

If indeed the teacher and teacher-librarian are to forge such a partnership and effectively implement resource-based teaching and learning using a cooperative planning approach each of these people will have to be aware of and committed to the change in their role that such a partnership will entail.

To implement resource-based teaching and learning classroom teachers will do more than deliver instruction; they will also be designers of instruction. As Dick and Carey (1978) state: "[It will] become more important for teachers to have technical skills that will enable them to design and implement instruction in the classroom ...

knowledge of instructional development techniques will greatly enhance each teacher's ability [to do this]" (p. 4).

This study was designed to discover if, in fact, teachers in our primary and elementary schools have the instructional development competencies, based on the underlying algorithm of instructional development, which this researcher deems necessary to participate as partners in cooperative program planning and teaching. In order to discover the level of instructional development knowledge teachers possess, a field study of primary and elementary teachers within the Roman Catholic School Board for St. John's was carried out. This field study used a written survey instrument which questioned teachers on their knowledge of the instructional development algorithm as delineated by the thirteen instructional development competency areas summarized from the 1982 AECT Task Force Report on Instructional Development Competencies.

Results of the study were analyzed by taking each of the thirteen competency areas and tabulating the responses given to questions in each area. The major findings of this study on the instructional development knowledge and competency among primary and elementary

teachers in the Roman Catholic School Board for St. John's may be summarized as follows.

Demographic data compiled shows that while all teachers have considerable preparatory training it is of a general nature consisting of undergraduate degrees which include no requirements for course work in the area of school library service or instructional development. Of all respondents, only 11% have completed the graduate instructional development course which exposes students, in some depth, to the instructional development process.

The demographic data also shows that the majority of teachers have considerable experience - 86% having in excess of ten years classroom teaching. As only 18% have completed a Masters degree it may be concluded that the vast majority of those teachers surveyed have not been exposed to university courses in the last ten years - the period in which resource-based teaching and learning and cooperative program planning and teaching have been at the forefront of new ideas. In fact when asked to state the source of their knowledge concerning instructional development, over two-thirds stated that it came from their experience in the classroom rather than university courses.

Results of responses to a series of statements reflecting either a functional or conceptual view of instructional development show that while teachers recognized both levels of instructional development and agreed that it can be practiced at both levels, given their roles as classroom teachers, they prefer a functional, step-by-step, systematic approach to instructional development.

Two similar questions regarding needs assessment yielded quite different responses. Over 80% correctly defined needs assessment as a way to identify instructional problems, but when asked if it were problem-oriented or solution-oriented only 43% said problem-oriented. This inconsistency leads the investigator to conclude that teachers are really uncertain as to what needs assessment is all about.

Approximately one-half of those who responded can adequately carry out a learner analysis of their students, and only one-third can adequately do an environmental analysis.

Knowledge regarding the development of behavioral objectives was found to be minimal among those who responded. Only 12% could give the three main parts of an objective and only 17% could list the three domains of

learning objectives as given in Bloom's Taxonomy of Educational Objectives. As the writing of behavioral objectives is considered by many to be the foundation of the instructional development process, it is concluded that the foundation is very weak among those surveyed.

While knowledge regarding the actual development of their own behavioral objectives is minimal, the majority of those surveyed recognized the importance of objectives in the various competency areas of determining activities, determining teaching strategies, determining resources, evaluation and designing instructional units. It can probably be inferred that their reference to objectives in these areas would probably be to those stated in teacher resource books for the various subject areas. However if they see objectives as important in these areas these teachers may, with the proper in-service in the writing of behavioral objective, very conceivably start to develop their own.

Results of questions in the areas of determining and sequencing content revealed that over one-half of teachers surveyed are aware of the necessity of carrying out a task and concept analysis to determine the knowledge and skills needed by students. As over two-thirds believed the entry level behaviour of students

gives them the starting point from which to design instruction, it can be concluded that these teachers see the need for focusing instruction to the needs of the individual rather than the entire class.

One question in this competency area asked respondents to state the value of the information skills continuum in doing a concept and task analysis. Only 57% responded to this question which leads one to believe that many of the primary and elementary teachers in this board are unaware of such a continuum. Of those who did reply all gave favourable answers.

In determining the appropriateness of resources two-thirds felt that in addition to objectives it would be valuable to preview the resources before their use. Further questioning asked respondents to check the attributes of instructional media which should be considered in such previews. While two-thirds see previewing as important, only 16% knew which attributes to consider in such previews.

In the area of evaluation it seems teachers have a fairly adequate knowledge. It is interesting that only 7% of all respondents equated evaluation with testing of content to determine how learners perform, and only 11% said they would use the feedback they receive from

evaluation to compare the performance of learners. In all questions given in this competency area, the majority felt evaluation should be used as a means to improve the overall instruction.

Although it is stated that teachers should participate in the giving of in-service workshops, teacher response in this competency area was not favourable. Only 28% felt the most important consideration in designing in-service was the adult learner compared to an equal number who saw content and resources as equally important. Only 16% could give the three essential components of in-service. These results are not surprising when one considers that teachers are rarely required to perform this task.

In the creation of instructional units, teachers were split on their knowledge of planning guides to assist them in the development of such units. As with the information skills continuum, many teachers who are not yet involved in cooperative program planning and teaching at the school level would not be familiar with these.

Conclusions

The results of the present study indicate that a discrepancy exists between the contemporary philosophies expounded in the literature and the reality of the situation as it exists locally. While the results are not indicative of the total sample due to the low response rate, they do demonstrate that the majority of those who did reply lack knowledge of the instructional development algorithm which this researcher believes to be necessary in order to implement the resource-based approach.

The efforts of the St. John's Roman Catholic School Board personnel in their attempts to implement cooperative program planning and teaching are exemplary. They now have full time teacher-librarians in approximately 90% of the schools within the district, and they place great emphasis on the instructional role of these specialists. Due to the size of this board they have decided to introduce cooperative program planning and teaching over the long term in a step-by-step fashion, and at present approximately one-half of all schools are involved. As schools are introduced to this approach, each school forms a committee consisting of the teacher-librarian, one of the administrative team, and representatives from each of the grade levels. This

committee is given extensive in-service in the cooperative program planning and teaching approach in the form of a three day in-service with an expert consultant, and follow-up workshops by the library consultant at the board office. While such efforts have certainly contributed to the degree of explicit knowledge of instructional development exhibited by some of the teachers who responded to this study, there is still a need for more in-depth in-service with teachers in such areas as instructional development.

It was encouraging to discover that the majority of teachers realized the importance of using objectives in the various competency areas of determining activities, determining resources, determining teaching strategies and in evaluation, although it is likely that they would use objectives as stated in teacher guides, since few teachers feel they can develop their own, and only 11% could list the three main parts of an objective.

The responses given in the competency area of evaluation are indeed encouraging and indicate that teachers have a fairly adequate knowledge in this area. The responses show a concern with evaluation as a means by which instruction can be improved rather than as a means to compare individual performance or determine how

well students perform on tests. The results in this area may be due in part to the trend in primary and elementary schools to move away from formal evaluation, using written tests to determine attainment of content, to a more continuous form of evaluation for each individual student based on observations.

The fact that only one-half of respondents replied to questions concerning the use of the information skills continuum and the value of a planning guide in developing instructional units may be attributed to unfamiliarity with these items, if the respondents are in schools within the district where cooperative program planning and teaching has not yet been implemented. Of those who did reply to these questions both were seen as being beneficial.

Since teachers at the local level appear generally to be lacking in their knowledge of the various instructional development competency areas it is crucial that teachers be educated regarding the potential of the instructional development process in designing more effective instruction.

In asking teachers to work as partners with the teacher-librarian and use the instructional development process to design effective instruction for students

which will assist them in learning how to learn, we are asking them to change from secure old habits and try something new. This indeed strikes terror in the minds of many who have seen new ideas come and go over the years. As Brown (1985) suggests:

> To change basic beliefs is difficult. Individuals who are being asked to change must be given time to integrate new ideas and given personal support as they change old attitudes .... Those introducing such change should provide empirical evidence whenever possible to provide evidence to teachers that change will improve their teaching. (p. 211)

According to Sharpe (1987), "communication is perhaps the main combatant against those who are slow to accept change" (p. 104) and thus it is up to teacher-librarians, administrations, board personnel and teachers involved in library committees to educate fellow teachers with regard to their role in the cooperative program planning and teaching approach, to provide training in the instructional development process, and to prove that this new approach can and will work.

The provincial Department of Education also has a role to play in the change process. Although many progressive steps have been made in endorsing this approach through curriculum guides and textbooks, this province does not yet have a policy statement which would

provide guidance and stress the importance of the teacher's role in the cooperative program planning and teaching process.

The Roman Catholic School Board for St. John's is doing its part in the provision of teacher-librarians in all schools and providing in-service to those who are part of library committees, however all teachers need in-service in not only the value of the approach but in the actual process of designing instructional units using the instructional development process.

In attempting to fulfil the new role which will be required of teachers in implementing a cooperative program planning and teaching approach it is imperative that they be conversant with the knowledge and skills encompassed in instructional development. The importance of having such skills in order to be able to teach students how to deal with today's world and be prepared for the future is noted by Howson (1970):

> Although the future is inscrutable, no one any longer expects it to be like the present - still less like the past. The importance of imparting factual knowledge about 'what is' therefore tends to diminish with a growing belief in the impermanence of the present. 'Knowing' is less important than being equipped to 'find out for oneself'. (Cited in Beswick, 1977, p. 8)

Using the instructional development process in the design of effective instruction can assist each student to 'find out for oneself'.

Recommendations

Based on this study the investigator recommends the following:

1. Further studies on what teachers are actually doing in the school, rather than knowledge of instructional development as delineated in the literature, may clarify tacit knowledge teachers have regarding instructional development.
2. Studies which employ qualitative research methodologies, such as participant observation and document analysis, be implemented to determine if classroom teachers use a heuristic for instructional development in the design of resource-based teaching units.
3. Since the sample population of teachers were drawn from an urban school district generalizations drawn can only be applied within the limits of this particular study. Therefore further studies from a larger population are required.

4. In-service by school boards or teacher-librarians in the actual instructional development process should be given to classroom teachers.
5. A similar study carried out with secondary school teachers might be useful for comparison purposes.
6. All students in teacher education programs should be required to complete a course in instructional development.

REFERENCES

Alberta Education. (1985). Focus on learning: An integrated program model for Alberta school libraries. Alberta: Alberta Education.

American Association of School Librarians. (1960). Standards for school library programs. Chicago: American Library Association.

American Association of School Librarians & Association for Educational Communications and Technology. (1975). Media programs: District and school. Chicago: American Library Association.

American Association of School Librarians (AASL) & Association for Educational Communications and Technology (AECT). (1988). Information power: Guidelines for school library media programs. Washington, DC: AASL and AECT.

American Association of School Librarians & Division of Audiovisual Instruction. (1969). Standards for school media programs. Chicago: American Library Association.

American Library Association. (1945). School libraries for today and tomorrow. Chicago: American Library Association.

Andrews, D. H., & Goodson, L. A. (1980). A comparative analysis of models of instructional design. Journal of Instructional Development, 3, 2-16.

Association for Educational Communication and Technology. (1982). Competencies for the instructional/training developing professional. DID Newsletter, 13, 3-4.

Baker, D. P. (1979). The media centre: A review article. Library Quarterly, 49, 453-458.

Baker, E. J., & O'Neil, H. F. (1987). Assessing instructional outcomes. In R. L. Gagné (Ed.), Instructional technology: Foundations (pp. 343-377). New Jersey: Lawrence Erlbaum Associates, Inc.

Barrows, R. (1984). Giving teaching back to teachers. New Jersey: Barnes and Noble Books.

Beckwith, D. (1988). The future of educational technology Canadian Journal of Educational Communications, 17, 3-18.

Beswick, N. (1970). The Certain standards in context: A study of the American school library materials centre concept. Journal of Librarianship, 2, 160-174.

Beswick, N. (1971). Certain and after: from school library to media centre. Journal of Librarianship, 3, 120-135.

Beswick, N. (1977). Resource-based learning. London: Heinemann Educational Books.

Biggs, M. L. (1982). Learning theories for teachers (4th ed.). New York: Harper & Row, Publishers.

Branscombe, F. (1986). The standards revisited. School Libraries in Canada, 6, 19-21.

Branscombe, F., & Newson, H. (Eds.). (1977). Resource services for Canadian schools. Toronto: McGraw-Hill.

Briggs, L. J. (Ed.). (1977). Instructional design: Principles and applications. New Jersey: Educational Technology Publications.

British Columbia Teacher-Librarians' Association. (1986). Fuel for change: Cooperative program planning and teaching. Vancouver: British Columbia Teachers Federation.

Brown, J. (1985). A study of the evolution of school library media programs and the process of educational change with implications for program implementation. Unpublished master's thesis, Memorial University of Newfoundland, St. John's. Newfoundland.

Brown, J. (1986). Teaching and resources: More than talk and chalk - Part 1: expectations. The Morning Watch, 14, 7-14.

Brown, J. (1987). Teaching and resources: More than talk and chalk - Part 11: Reality and conclusions. The Morning Watch, 14, 2-13.

Brown, J. (1988a). Resource-based learning. Paper presented at 2nd annual short course for administrators. Littledale, Nfld.: February 22-23.

Brown, J. (1988b). Changing teaching practice to meet current expectations: implications for teacher-librarians. Emergency Librarian, 16, 9-14.

Brown, J., & Kennedy, M. (1988). Instructional development: A conceptual approach. Paper presented at the 18th National Conference on Instructional Technology. Halifax, Nova Scotia: June 20, 1988.

Canadian School Library Association. (1967). Standards of library service for Canadian schools. Toronto: McGraw-Hill.

Canadian School Library Association Report. (1980). The qualifications for school librarians. Alberta Learning Resource Journal, 3, 3-7.

Certain, C. C. (1918). Standard library organization and equipment for secondary schools of different sizes; Report of the Committee on Library Organization and Equipment. National Education Association.

Craver, K. W. (1986). The changing instructional role of the high school library media specialist: 1950-84. School Library Media Quarterly, 14, 183-191.

Davies, I. K. (1978). Prologue: Educational technology: Archetypes, paradigms and models. In J. Hartley & I. K. Davies (Eds.), Contributions to an educational technology: Vol. 2. (pp. 9-24). New York: Nichols Publishing Company.

Davies. R. A. (1979). The school library media program: Instructional force for excellence (3rd ed.). New York: Bowker.

Diamond, R. M. (1980). Instructional development: One biased view (problems, issues, and the future). Educational Technology, 20, 51-54.

Dick, W. (1987). Instructional design and the curriculum development process. Educational Leadership, 44, 54-56.

Dick, W., & Carey, L. (1978). The systematic design of instruction. Glenview, Illinois: Scott Foresman.

Educational Media Association of Canada. (1969). Media Canada: Guidelines for educators. Toronto: Pergamon.

Educational Media Council. (1987). Learning to learn: Standards for library resource centres in Newfoundland and Labrador. Newfoundland: Educational Media Council.

Educational Media Leadership Group. (1986). A statement of concern. Newfoundland: Educational Media Leadership Group.

Ellsworth, R. E., & Wagener, H. D. (1963). The school library facilities for independent study in the secondary school. New York: Educational Facilities Laboratory.

Fennell, P. (1983). Putting partners in action into action. Reviewing Librarian, 8, 62-64.

Gaff, J. G. (1975). Toward faculty renewal. San Francisco: Jossey-Bass Publishers..

Gagné, R. M., & Briggs, L. J. (1974). Principles of instructional design. New York: Holt, Rinehart and Winston, Inc.

Gallant, G. (1989). A study of instructional development knowledge and competency among teacher-librarians in Newfoundland. Unpublished master's thesis, Memorial University of Newfoundland, St. John's, Newfoundland.

Gates, J. K. (1968). Introduction to librarianship. New York: McGraw-Hill.

Goodlad, J. (1984). A place called school. New York: McGraw-Hill Book Co.

Gorman, C. J. (1978). Teachers as instructors, social technologists and citizens: A conceptualization to guide the development of both instructional and noninstructional competencies. Paper presented at Confederation of Pennsylvania Associations for Teacher Education Conference, April 21-22.

Grazier, M. H. (1960). Implications of the new educational goals for school libraries on the secondary level. Library Quarterly, 30, 37-45.

Grazier, M. H. (1979). The curriculum consultant role of the school library media specialist. Library Trends, 28, 163-279.

Gustafson, K. L. (1981). Survey of instructional development models. New York: ERIC Clearinghouse on Information Resources.

Hambleton, A. (1979). Static in the educational intercom: Conflict and the school librarian. Emergency Librarian, 6, 5-7.

Hartley, J. (1978). Learning theory in practice. In J. Hartley & I. K. Davies, (Eds.), Contributions to an educational technology: Vol. 2. (pp. 30-45). New York: Nichols Publishing Company.

Hawkridge, D. (1978). Epilogue: Next year, Jerusalem! The rise of educational technology. In J. Hartley & I. K. Davies (Eds.), Contributions to an educational technology: Vol. 2. (pp. 370-391). New York: Nichols Publishing Company.

Haycock, C. A. (1988). Cocperative program planning: A model that works. Emergency Librarian, 16, 29-32.

Haycock, K. (1972). Are you wasting your library resources teachers? School Progress, 41, 36-38.

Haycock, K. (1981). The role of the school librarian as a professional teacher: A position paper. Emergency Librarian, 8, 4-11.

Haycock, K. (1982a). Editorial: Hard times .... hard choices. Emergency Librarian, 9, 5.

Haycock, K. (1982b). An introduction to school librarianship in Canada. Canadian Library Journal, 39, 241-246.

Haycock, K. (1984). Strengthening the foundations for teacher librarianship. School Library Media Quarterly, 13, 102-109.

Haycock, K. (1988). Cooperative program planning and teaching the terminology. Emergency Librarian, 16, 34.

Heinich, R. (1970). Technology and the management of instruction. Washington, DC: Association for Educational communications and Technology.

Henri, J. (1987). The integrated approach to school library programming. Emergency Librarian, 14, 9-14.

Jackson, P. W. (1968). Life in classrooms. New York: Holt, Rinehart and Winston, Inc.

Kemp, J. (1985). The instructional design process. New York: Harper and Row, Publishers.

Kennedy, M., & Brown, J. (1987). The teacher-librarian as instructional developer. Paper presented at Association for Media and Technology in Education in Canada (AMTEC). Saskatoon: June, 1987.

Kerr, S. T. (1977). Are there instructional developers in the schools? AV Communication Review, 25, 243-267.

Kerr, S. T. (1981). How teachers design their materials: Implications for instructional design. Instructional Science. 10, 363-378.

Knapper, C. K. (1980). Evaluating instructional technology. New York: John Wiley & Sons.

Knirk, F. G., & Gustafson, K. L. (1986). Instructional technology. New York: Holt, Rinehart, Winston.

Krippendorff, K. (1980). Content analysis: An introduction to its methodology. Beverley Hills: Sage Publications, Inc.

Liesener, J. W. (1985). Learning at risk: School library media programs in an information world. School Library Media Quarterly, 14, 11-20.

Loertscher, D. (1982). School library media centres: The revolutionary past. Wilson Library Bulletin, 56, 415-416.

Loertscher, D. (1982). The second revolution: A taxonomy for the 1980s. Wilson Library Bulletin, 56, 417-421.

Loertscher, D. (1988). Taxonomies of the school library media program. Colorado: Libraries Unlimited.

Lortie, D. (1975). Schoolteacher: A sociological study. Chicago: University of Chicago Press.

Lumsdaine, A. A. (1964). Educational technology, programmed learning, and instructional science. In E. R. Hilgard (Ed.), Theories of learning and instruction: The sixty-third yearbook of the National Society for the Study of Education. (pp. 371-401). Chicago: University of Chicago Press.

Matthews, K., Kearley, E. R., & Dwyer, P. (1984). Our Newfoundland and Labrador Cultural Heritage. Scarborough: Prentice-Hall Canada.

McInnes, J. (Ed.). (1985). LDR Networks: Teachers' resource book A to accompany flip flops and zoom shots. Toronto: Nelson Canada.

Newfoundland Department of Education. (1988). Primary curriculum guide. St. John's: Department of Education.

Newfoundland Department of Education. (1982). Teacher's resource book for Social Studies K-II in Newfoundland and Labrador. St. John's: Department of Education.

Newfoundland Department of Education. (1988). Program of studies. Newfoundland: Department of Education.

Norberg, K., Meierhenry, W. C., Ely, D. P., Kemp, J., & Hyer, A. L. (1967). The role of the media professional in education. Audiovisual Instruction, 12, 1026-1029.

Ontario Ministry of Education. (1982). Partners in action: The library resource centre in the school curriculum. Toronto: Ministry of Education.

Percieval, F., & Ellington, H. (1984). A handbook of educational technology. London: Kogan Page Ltd.

Pratt, D. (1980). Curriculum design and development. New York: Harcourt Brace Jovanovich, Inc.

Reiser, R. A. (1987). Instructional technology: A history. In R. M. Gagné (Ed.). Instructional technology: Foundations (pp. 11-41). New Jersey: Lawrence Erlbaum Associates Publishers.

Romiszowski, A. J. (1981). Designing instructional systems. New York: Nichols Publishing.

Romiszowski, A. J. (1984). Producing instructional systems. New York: Nichols Publishing.

Saettler, P. (1968). A history of instructional technology. New York: McGraw-Hill Book Company.

Saskatchewan Teachers' Federation. (1987). The 4th R: Resource based learning. Saskatoon: Saskatchewan Teachers' Federation.

Scott, M. (1972). School libraries in Canada, 1971. Canadian Library Journal, 29, 118-138.

Sharpe, J. (1987). Teachers' perceptions of the role and function of the teacher-librarian in the Roman Catholic School Board for St. John's, Newfoundland. Unpublished master's thesis, Memorial University of Newfoundland, St. John's, Newfoundland.

Silber, K. (Ed.). (1977). Educational technology definition and glossary of terms. Washington, DC. Association for Educational Communications and Technology.

Smith, B. O. (1979). Pedagogical education: How about reform? Kappan, 62, 93-96.

Snelbecker, G. E. (1987). Instructional design skills for classroom teachers. Journal of Instructional Development, 10, 33- 40.

Soon, G. (1985). Cooperative program planning and teaching: The implementation of a program for effective instruction. Bookmark, 26, 153- 175.

Stamus, S. (1973). A descriptive study of a synthesized model, reporting its effectiveness, efficiency, and cognitive and affective influence of the development process on a client. Dissertation Abstracts International, 34.

Sullivan, P. (Ed.). (1968). Realization: The final report of the Knapp school libraries project. Chicago: American Library Association.

Tanner, D., & Tanner, L. N. (1980). Curriculum development: Theory into practice (2nd ed.). New York: Macmillan Publishing Co., Inc.

Taylor, L. C. (1971). Resources for learning (2nd ed.). Harmondsworth: Penguin Books.

Traill, S. (1986). Provincial standards for school libraries. School Libraries in Canada, 6, 33-35.

Turner, P. M. (1985). Helping teachers teach. Colorado: Libraries Unlimited.

APPENDIX A - LETTERS

TELEPHONE 753-8530

Roman Catholic School Board for St. John's

BELVEDERE
BONAVENTURE AVENUE
ST. JOHN'S, NEWFOUNDLAND
A1C 3Z4

April 5, 1989

Ms. Jean Tobin
St. Kevin's Elementary
Goulds

Dear Ms. Tobin,

Permission is granted to administer a questionnaire to teachers in elementary schools (K - 6). You may contact the principals and distribute copies of the questionnaire.

I understand that this research is being conducted for the purpose of your Masters' thesis. It is an area of great interest to me and the staff at Central Office because we have been making efforts to put more focus on instructional development in our inservice programs.

As promised, the staff at my office will assist you in the mailing and collection of the questionnaires.

Best wishes for success in your work.

Yours truly,

Geraldine Roe
Associate Superintendent
Curriculum/Instruction

GR/jp

c.c. Principals (K - 6)

Dear Teacher:

I am a graduate student in Learning Resources at Memorial University and am undertaking a study of instructional development knowledge and competency among primary and elementary teachers in the Roman Catholic School Board for St. John's.

It would be greatly appreciated if you could take about fifteen minutes sometime during the next week, relax with a cup of coffee, and complete the enclosed questionnaire. Having a high return rate is very important to my study, and will give a greater insight into the situation as it exists locally.

When completing the questionnaire please try to fill out all items so that the maximum amount of information may be obtained. All information will be kept in the strictest confidence. When completed please return your questionnaire to the school principal.

I would like to express my sincere appreciation for your anticipated cooperation in my study.

Yours sincerely,

Jean Tobin
Graduate Student

PLEASE POST

June 1, 1989

Dear Principal:

I would like to extend my appreciation for the cooperation recently displayed by the teachers who completed questionnaires regarding the instructional development knowledge and competencies of primary and elementary school teachers. I realize that the questionnaire was difficult to complete, yet a high rate of return is immensely important to my study. It will provide information for both the university and the school board as to the necessity for in-service in the area of instructional development as it has been proven that some knowledge of this process is necessary to successfully carry out cooperative program planning and teaching.

Unfortunately, to date, only 25 % of the questionnaires have been returned. I would like to respectfully request that the teachers who have not done so please take some time to complete and return the questionnaires to me through the school board mail. Your response will ensure that a reliable measurement of the situation as it exists locally will be obtained.

Again, please accept my warm appreciation for your cooperation.

Yours sincerely.

Jean Tobin
Graduate Student
Dept. of Learning Resources
Memorial University of Nfld.

APPENDIX B - RESEARCH INSTRUMENT

1. Indicate your opinions of instructional development (ID) by circling the appropriate scale item in the columns on the right.

Scale: SA Strongly Agree D Disagree
A Agree SD Strongly Disagree

A.	ID is a series of boxes and arrows with a feedback loop indicating a logical step-by-step approach to the development of instruction.	SA	A	D	SD
B.	ID is a process in which there is no one set of appropriate moves nor one best solution.	SA	A	D	SD
C.	ID is a common sense planning device using a cooperative effort to identify and define learning problems and develop a plan of action.	SA	A	D	SD
D.	ID is a process for systematically designing, developing, implementing, and evaluating instruction.	SA	A	D	SD
E.	ID is a heuristic approach to the development of instruction.	SA	A	D	SD
F.	ID is the development of instruction from the total systems perspective rather than from the discrete components of that system.	SA	A	D	SD

2. (a) Indicate the # of the definition you most preferred _____.

(b) Indicate the # of the definition you least preferred _____.

ANSWER THE FOLLOWING QUESTIONS BY PLACING A CHECK MARK IN FRONT OF THE APPROPRIATE ANSWER(S).
QUESTIONS 11, 13, 18, 22, 23, AND 28 REQUIRE YOU TO GIVE A SHORT WRITTEN RESPONSE.

3. My knowledge of instructional development came from the following sources: (You may check more than one)

_____ school board in-services
_____ conferences
_____ formal courses at Memorial University
_____ professional literature
_____ on the job
_____ other (Please specify) _____

4. If we think of the curriculum as going through three different stages which are

_____ 1. Curriculum Determination - (Deciding what subject matter to include in the provincial curriculum)
_____ 2. Curriculum Development - (Selecting and developing the specific subject matter areas)
_____ 3. Curriculum Implementation - (The school interpreting the curriculum by developing classroom instruction)

Of these three check where you think instructional development should go on.

5. Needs assessment is best described as:

_____ discrepancy analysis
_____ a way to identify instructional problems
_____ a method for determining the costs versus the benefits of instructional programs.

6. Do you consider needs assessment to be either

_____ problem oriented (focus on identifying an instructional problem)
_____ solution oriented (focus on choosing a solution to a problem)

7. Are you familiar with learning theories which provide insight into how children learn?

_____ Yes _____ No (If No, go to number 9)

8. Which learning theories would you apply in doing a learner analysis?

_____ Piaget's developmental theory
_____ Skinner's theory of reinforcement
_____ Ausubel's advance organizers
_____ Bloom's mastery learning theory
_____ Bruner's discovery learning

9. Below are a number of learner characteristics.
Place an X before those which you consider important for learner analysis.

_____ reading ability
_____ religion
_____ pre-requisite knowledge
_____ pre-requisite skills
_____ socio-economic status
_____ writing ability
_____ emotional maturity
_____ physical impairments
_____ attention span
_____ age
_____ sex
_____ general ability level
_____ special aptitudes
_____ general attitude
_____ parent's employment

10. If someone asked you to develop behavioural objectives, would you be able to do so?

_____ Yes _____ No (If No, go to number 12)

11. Can you list the three main parts of a behavioural objective?

1. _____
2. _____
3. _____

12. Are you familiar with objective hierarchies such as those of Bloom and Gagne?

_____ Yes _____ No (If No, go to number 14)

13. Could you list the three domains of learning objectives as given by Benjamin Bloom?

1. _____
2. _____
3. _____

14. There are various opinions about the use of behavioural objectives. Some are very positive, while others are very negative.
Which of the following is the greatest concern with the whole behavioural objectives movement?

_____ objectives are very difficult to write, so most people don't do them
_____ objectives focus only on low level learning
_____ objectives don't serve any purpose

15. Which elements of the instructional environment (setting) would be important to include in doing an environmental analysis?

_____ human resources
_____ time
_____ noise level
_____ expertise
_____ furniture
_____ equipment
_____ materials
_____ cost
_____ non-human resources
_____ electrical outlets
_____ lighting
_____ size & location of space

16. Which of the following phrases best describes task and concept analysis?

_____ map of essential knowledge and skills needed by students
_____ format for ensuring that real problems are identified
_____ procedure for the selection of resources

17. Why is entry level behaviour important in sequencing content?

_____ it establishes the beginning steps in the instructional sequence
_____ it ensures that instruction is geared to the same level of skills and knowledge for all the students
_____ it determines the adequacy of existing materials

18. What is the benefit of a learning skills continuum in doing a concept and task analysis?

_____
_____
_____

19. When selecting learning activities, which of the following should you use as a basis for selection?

_____ textbook
_____ learner's past experiences
_____ objectives
_____ what is available

20. If you integrate your learning activities and the learning skills continuum of the school, what is the one most logical outcome?

_____ reinforcement of skills
_____ integration across the curriculum
_____ integration of various types of resources

21. Check the patterns you are familiar with for sequencing content.

_____ easy to difficult
_____ frequency of use
_____ familiar to unfamiliar
_____ temporal order (The order in which the events occur in the instruction that precedes the activities)
_____ prerequisite knowledge and skills

22. Which one(s) of the above patterns do you use the most?

_____
_____

23. Which tools are available to you to help in sequencing your learner activities?

_____
_____
_____

24. What should you use as the basis for the selection of instructional resources?

_____ content
_____ learner's past experiences
_____ teacher preference
_____ objectives

25. How do you determine the appropriateness of resources?

_____ fit with the objectives
_____ easy to use
_____ preview resource
_____ student preference

26. Which attributes of the various media should be considered in the selection of instructional resources?

_____ motion
_____ colour
_____ pacing
_____ sensory mode
_____ random access

27. What things do you consider when selecting or determining teaching strategies?

_____ teacher preference
_____ objectives
_____ learner analysis
_____ content

28. Can you list 5 possible teaching strategies you could employ in your instruction?

1. _____
2. _____
3. _____
4. _____
5. _____

29. Do you consider any one teaching strategy to be superior to others?

_____ Yes
_____ No

If Yes, please specify _____

30. Which of the following best describes your understanding of the term evaluation?

_____ the giving of tests based on content to determine how learners perform
_____ the collection and use of information to make decisions about an instructional program
_____ a measure of instructional outcomes
_____ a measure of instructional value and worth

31. What is usually used as the basis for the evaluation of an instructional program?

_____ objectives _____ content

32. If there are no written objectives, could instructional programs or units be evaluated?

_____ Yes _____ No

33. Which of the following definitions best describes your understanding of the term criterion referenced testing?

_____ a means by which a group's or an individual's performance can be compared with a previously tested group or other members of the present group
_____ a means of determining how well the learner has achieved in relation to specific objectives

34. In evaluating an instructional program or unit which components should be examined?

_____ the objectives _____ the learning activities
_____ the resources used _____ the teaching strategies
_____ content _____ what the students have learned

35. In designing instructional units when is the best time to develop the instructional tests?

_____ before instruction begins
_____ during instruction
_____ after the instruction is complete

36. How would you make use of the feedback you receive from evaluating your instructional program?

_____ to revise the instructional program
_____ to compare the performance of the learners
_____ to develop new tests
_____ to organize the content differently

37. Do you know of any " planning guides " which could be used when developing instructional units?

_____ Yes _____ No

38. What do you use as a basis for the creation of an instructional unit?

_____ objectives
_____ content
_____ activities
_____ formative evaluation
_____ learner analysis
_____ strategies
_____ resources

39. Are the development of instructional units and the doing of instructional development synonymous?

_____ Yes _____ No

40. In designing and conducting in-service education versus classroom instruction, what should be your single most important consideration?

_____ the adult learner
_____ the content
_____ the length of the workshop
_____ the resources

41. From an instructional design perspective could you check the 3 essential components of in-service workshops?

_____ demonstration
_____ discussion
_____ lecturing
_____ practice
_____ view and interact with material

42. What would you consider to be important communication principles in establishing a good working relationship with the teacher-librarian?

_____ empathy
_____ flexibility
_____ acceptance
_____ good listening skills
_____ good organizational ideas

43. Which of the following best describes your understanding of the relationship between instructional development and effective communication?

_____ lesson planning _____ consultancy

44. Could you name three general principles of consultancy?

_____ expertise in a given field
_____ decision making expertise
_____ problem-solving and creative thinking expertise
_____ interpersonal communication expertise
_____ management expertise

45. Which of the following best describes your understanding of the relationship between instructional development and consulting?

_____ An attempt to plan together effective instruction for designated learners
_____ Consulting with an expert who will assist you in determining what has to be done

PLEASE RESPOND TO THE FOLLOWING DEMOGRAPHIC ITEMS.

1. Grade presently teaching K 1 2 3 4 5 6
2. Teaching experience _____ years
3. Teaching certificate _____
4. Program of studies P E H
5. Degrees obtained _____
6. If M.Ed., what area _____
7. Learning resources diploma Yes No
8. Completed Ed. 6521 (Instructional Development) Yes No